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Teaching in Real Time

A Pedagogical Analysis of the Dynamic
Structuring of Interactive Subject Matter
Discourse in the Classrooms of Student
Teachers on Teaching Practice.

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Prefatory Note on Terms

Since the students studied were mainly female, the terms used throughout to refer to the student teacher in general are 'she' and 'her'.

'Student' is used consistently (though not in quotations from the writings of others) to refer to student <u>teachers</u>. The children they were teaching are called 'pupils'.

'Real time' is a term which arises from data processing to refer to a system where a computer is connected directly to a source of data and processes the data as it is generated. Consequently, the organization of information in the computer's data base is continuously being altered and updated. Here 'real time' is used to refer to the dynamic handling of improvised classroom discourse. Thus new items - statements, questions, or responses - are seen to reorganize the communicative understanding that is being achieved moment-by-moment. So students can be seen to seek to work with the moment - with whatever responses actually arise, or fail to arise, on a particular occasion - as they attempt to structure pedagogical discussion. In accordance with the convention for use of the term, it is hyphenated only when it is used as an adjective: e.g. 'real-time improvisation'.

CHAPTER 1 INTRODUCTION

1.1 The Complexity of Student Teaching

It would be difficult to overstate the complexity of the task a student teacher undertakes when she assumes responsibility for teaching her subject to a class during teaching practice. Yet, while issues surrounding teaching practice - such as the attitudes of trainees and their socialization - have frequently been studied (Zeichner, 1986a; Wragg,1982; Al-Hidabi, 1986), it is only recently that the actual classroom teaching of student teachers has attracted much sustained research attention (see, for example, Feiman-Nemser & Buchmann, 1986a, b, c; Leinhardt & Greeno, 1986; Borko & Livingstone, 1989). Consequently, little is known in detail about what students do, moment by moment, while engaging in the key practical component of their professional training.

Considering that teaching practice - variously called the practicum, field experience, professional experience, teaching rounds, and so on - plays an essential part in all schemes of training (Collins, 1982), that training institutions in general have tended to increase the proportion of time devoted to school experience (Furlong, et al., 1988) and that students have frequently been found to view the practicum as the most valuable aspect of their course (Feiman-Nemser, 1983; Turney et al., 1985), the fact that the teaching of student teachers has been so little studied appears somewhat anomalous.

This situation contrasts markedly with what is known about teaching in general from studies of experienced teachers. Research into the cognitive aspects of pedagogy has revealed something of the manifold complexities inherent in teaching. Thus the teacher may be viewed as a reflective professional who demonstrates 'knowledge-in- action' (Schon, 1983). Similar conceptions underlie perspectives which focus variously upon 'teacher decision making' (Calderhead, 1980), 'teacher's craft knowledge' (McNamara & Desforges, 1978; Desforges & MacNamara,1979), or 'the knowledge base for teaching' (Shulman, 1986a, 1987). Drawing from such overlapping viewpoints, a composite picture of teaching emerges.

Interacting with, say, thirty disparate individuals, who comprise the pupils in her care, the teacher engages in activities designed to illuminate her subject (Shulman, 1990). Her action is based on rapid and intricate discriminations among a multiplicity of overlapping events which often pass with bewildering speed (Doyle, 1986). She must simultaneously manage both the social order in the classroom and the development of academic work, and, where there is conflict between these twin goals, the former concern often seems to be accorded priority (Carter & Doyle, 1987).

Thus the teacher's action seems designed to ensure that orderly states of activity are initiated and sustained (Brown & McIntyre,1989). An additional aspect of the teacher's action, which pervades the classroom, is the way she

improvises pedagogical language, in an interactive setting, in an attempt to

disclose subject matter knowledge (Erickson, 1982). The teacher also

possesses an awareness of the differential abilities of pupils in the class and

seeks to involve them in appropriate ways (Calderhead, 1980). Yet all her

pedagogical action may be orchestrated into a seamless performance of such

skill that its intricacy can easily be overlooked by an observer (McNamara,

1980).

Thus it would appear that if teaching practice is conceived as an

opportunity for learning through attempting to emulate what experienced

teachers do, the student faces a central difficulty: much of the professional

activity teachers engage in is not directly observable (Feiman-Nemser &

Buchmann, 1986a, b, c). The student teacher may view the overt actions of a

co-operating teacher, but she is not privy to the professional discriminations

which inform these actions. Nor have teachers, in common with other

professionals, been found to be naturally able to be explicit about their

expertise in this regard (Berliner, 1986; McIntyre et al., 1988).

And the student suffers still other disadvantages. Salient among these is

the fact that she has to teach pupils she is barely acquainted with. Thus she

does not possess the knowledge of the class, built up over many dozens of

hours of interaction, that the co-operating teacher has, and so is likely to be

hesitant in interpreting pupil behaviour. Nor does she have the store of

knowledge, built up from years of exposure to other pupils and classes, that the experienced teacher may fall back on when she encounters a new class (Wragg & Wood, 1984).

Similarly, while she may be enthused by her subject, she does not have the pedagogical knowledge of the subject matter that the experienced teacher will have accumulated (Shulman,1987). For instance, she is unlikely to know accurately what may be expected of pupils of different ages and abilities. Nor will she be keenly aware of the common misunderstandings that may need to be guarded against when she introduces pupils to a particular topic. Neither will she possess a store of useful analogies for explaining certain concepts, and so on (see, Shulman, 1986a, 1990; Wilson, et al. 1986).

1.2 The Inevitability of Improvisation

Given that her situation is in so many ways disadvantageous, consider what happens as the student teacher seeks to teach a class. To guide her action, she will have a plan. Most likely, this plan will have been carefully prepared in a written version and will outline what is to be accomplished in the lesson. This plan may specify aims and objectives, teaching aids to be used, the activities which will be conducted at different stages of the lesson, the time to be spent on these, and so on (Cohen & Manion, 1983; Heywood, 1982; Cooper, 1986). Of course, the student will need to talk, and the talk is likely to involve some interactive discussion with pupils that is meant to

illuminate an aspect of the lesson topic. The student's plan may include an outline of the intended development of the topic through interactive discussion and it may even note key questions which will be asked.

However, as the student teacher seeks to engage in interaction – assuming that she has been successful in settling the class down and gaining their attention at the outset of the lesson – she is likely to encounter a host of unanticipated difficulties. Questions, whose answers seemed obvious to the student teacher while preparing the lesson, may be misconstrued, answered inappropriately, found baffling, or attract no answer at all. At this juncture the lesson plan is likely to provide negligible guidance about what to do next.

Yet, the situation is one of pressing urgency. Pauses of a few seconds loom large in the classroom since they seem to signal the possibility of imminent breakdown in the dialogue. If the student teacher is seen to be in difficulty here, then her authority in other areas may be challenged; and this consideration is likely to provoke anxiety (Hart, 1987; Merrett & Wheldall, 1993).

She has to act, and act quickly. She repeats, reformulates, and modifies questions. She breaks complex questions down into simpler ones. She hints answers, and cajoles the pupils. She supplies essential information the pupils appear to lack (Oakeshott, 1972). As a last resort she may tell the pupils the answer she requires, or abandon a question altogether to move onto

a different consideration. In short, the student teacher embarks on an immensely complex and highly volatile process of moment-by-moment improvisation as she seeks to maintain the momentum of discussion by seizing on whatever she can in her pupils answers and trying to turn it to her pedagogical advantage.[1]

1.3 The Centrality of Improvised Talk

The present research adopts an exploratory approach to student teaching.[2] Preliminary observation during teaching practice, and subsequent discussion of lessons with student teachers, indicated the central role of improvised talk in student teaching. All the student teachers observed in the preliminary phase of the research, as well as all those whose lessons were tape-recorded later, sought to create a dialogue with pupils about their subject, yet they frequently found this to be considerably more difficult than had been anticipated.

Discussion with the whole class formed a significant feature of almost every lesson observed, and sometimes was maintained for the whole period. More often, the class also spent some time working as individuals or in small groups, the student teacher then going round and continuing the discussion at a more intimate level. But whether dealing with the class or with individuals, the student teacher still finds herself forced to engage in conversations that were unforseen and, probably also,unforseeable.

The urgent need to improvise, it has been suggested, is linked to inevitable limitations in planning interactive conversation in advance. The student teacher is obliged to plan in something of a vacuum: she has neither the experience of classrooms nor pupils that would enable her to anticipate more exactly what it is that she is planning for (Shulman,1987). Paradoxically, having prepared a plan to guide her in leading the kind of discussion she wishes to have with the class, the student teacher finds herself engaged in talk that is unplanned, and could not have been planned (Sinclair & Coulthard, 1975). Nevertheless, as this talk is scrutinised, it appears far from random. Yet the educational research literature appears to have little to say about talk in the classrooms of student teachers, nor how students, given the manifold disadvantages in their situation previously described, go about creating pedagogical conversations with pupils.

1.4 Teaching in Real Time

The complexity of student teaching, noted initially, is seen to be linked, then, with the need to plan for a situation that possesses considerable indeterminacy, with the student's lack of relevant knowledge of pupils and pedagogy, and with the difficulties involved in making sense of the pedagogical discriminations being operated by co-operating teachers. Most crucial of all, however, it is seen to be linked with the need to engage in the real-time improvisation of pedagogical conversations with classes of pupils. This is because of the inherent impossibility of accurately anticipating, and

thus adequately preparing for, any discourse in which pupils are allowed to participate (Sinclair & Brazil, 1982).

This study, then, may be said to raise the question of the 'knowledge-in -action' that can be seen to be operated by student teachers as they set about disclosing their subject through moment-by-moment improvisation of interactive discussion with their pupils. It investigates the pedagogical structuring of talk by considering the ways in which topics are discussed. Moreover, the real-time processes of teaching are inspected as student teachers improvise discussion to take account of such responses as are given, and which frequently appear to differ from the answers that are being sought.

The approach adopted takes cognizance of the view that the student's subject specialism is likely to affect the sort of interaction which occurs (Wragg, 1972). This focus on the content of lessons has not often been found in British classroom research (McNamara, 1990), and has only recently become an issue in the United States where the absence of focus on subject matter has been termed the "missing paradigm" problem (Shulman, 1986a). Moreover, the study attempts to take seriously the real-time demands of teaching for the beginner as evidenced in the improvisation of talk to deal with the immediate context of situation at a particular time in a particular classroom. Thus, hesitations, reformulations, deletions, changes of direction in mid-word, and so on, are not regarded as chaff to be edited out, but as

evidence of discourse work (Phillips, 1984) that is potentially informative about the ongoing teaching process.

This thesis, then, investigates an area about which little is currently known, but which appears to be of crucial importance for student teaching. It does so by developing an approach which is unusual within the context of British classroom research. Finally, in seeking to provide a more accurate understanding of the dynamic aspects of student teaching, it is hoped to make a contribution that will not only advance research knowledge, but which may also lead to improvements in teacher education.

NOTES

1. See Chapter 6.6 following for a detailed discussion of an example of a student teacher engaging in a moment-by-moment improvisation of discourse with her class.
2. Chapter 5 – Conceptualization and Methods of Research – provides a comprehensive account of the approach to student teaching and how it evolved.

CHAPTER 2   REVIEW OF RESEARCH - PART ONE

Since the present enquiry is concerned with investigating the real-time improvisation of pedagogical discourse by student teachers, three main research areas have informed the conduct of the present study. Firstly, research in teacher education, particularly that which considers teaching practice and student teaching, is reviewed here.   Secondly, in Chapter 3 there is consideration of transcript-based pedagogical research that seeks to discover contextual units of interactive discourse in the classroom. Finally, relevant sociolinguistic research into the structure of spoken discourse is discussed in Chapter 4, so that a linguistically principled approach to classroom talk may be developed.

No claim is made to comprehensive coverage, or that relevant researches may not have been excluded. Rather, the aim is to provide a coherent account of research developments in areas which are of particular significance for the present study. This is done in order to support the contention that the research reported in this thesis identifies a significant gap in existing knowledge, is informed by what may be learnt from considering previous researches, and draws from different research methodologies in a principled fashion.

2.1 Research in Teacher Education

Unfortunately, a search of the literature on student teaching and teaching

practice did not prove as informative as had been hoped. The language of

student teaching and the dynamic improvisation of classroom discourse during

teaching practice were topics that hardly appeared to have received any

research attention. Since it is necessary, however, to set this study in the

context of research on student teaching, the present section proceeds by

providing a brief historical perspective, before considering recent

developments in teacher education research.

2.1.1 Early Studies

Reviews of research in teacher education tend to characterize studies

undertaken prior to the mid-sixties as being of poor quality (Peck & Tucker,

1973; Lanier & Little, 1986; Feiman-Nemser, 1983; Wragg, 1982). Thus

early studies are perceived as being marred by weaknesses in design,

execution and reporting, as well as by being conducted without reference to

any clearly articulated theoretical perspective.

In the absence of reliable guidance drawn from any substantial body of

research, teacher education was constrained to rely upon traditional wisdom.

Established practice, not empirical research, informed the training of

teachers. Indeed, the whole undertaking could be viewed as involving

somewhat haphazard procedures, as well as being marked by a deplorable lack

of any discernible intellectual coherence or rigour: "Teacher education can no

longer remain in a happily ignorant , ineffectual state consisting of

romanticized lectures, on the one hand, and fuzzy or unplanned 'practical' experience on the other" (Peck & Tucker, <u>op. cit.</u>, p. 971).

Teaching practice, while it remained the educational intervention that was believed to be of central importance in the training of prospective teachers (Feiman-Nemser, 1983; Collins, 1982), went almost entirely unscrutinized. Thus there was almost a complete absence of research on teaching practice and on the learning it engendered (Denemark & Macdonald, 1967).

2.1.2 Pragmatic Intervention

A major improvement in both the design and reporting of studies of teaching and teacher education that occurred by the mid sixties has been attributed to a substantial increase in funding for educational research, and the pioneering work of a small number of research teams led by outstanding individuals, in the United States (Getzels & Jackson, 1962; Peck & Tucker, <u>op. cit.</u>). Out of this research effort there arose newly developed, pragmatic interventions which sought to bring about improvements in training through the systematic introduction of generic models of 'good' teaching behaviour.

Thus the 'State of the Art, 1971', outlined by Peck and Tucker (<u>op. cit.</u>) consisted of newly developed approaches to teacher education which were informed by behaviourist psychology. Such training procedures adopted a cyclical approach incorporating a number of steps which included: 1) the clear

specification of behavioural objectives; 2) training in producing the desired

behaviour; 3) measurement of an individual's performance with reference to

the target behaviour; 4) the provision of accurate feedback; and, 5) the

repetition of this sequence from the second step onwards until the individual's

performance was deemed satisfactory. Among the approaches which followed

this pattern were the use of Flander's Interaction Analysis Categories - FIAC -

(Flanders, 1970) to provide training in 'indirect' teaching; and early forms of

microteaching (Allen & Ryan, 1969).

Despite considerable pragmatic success in altering teaching behaviour, the

hope that training involving the precise specification of desirable, overt

behaviours might provide a solution to the difficulties which beset teacher

education was dimmed, however, as a series of cogent criticisms suggested

that such training was based upon highly questionable assumptions. Firstly,

the decomposition of complex skills into simpler component parts, which

could be inculcated individually and then reassembled into a coherent and

sophisticated performance, was a technique developed successfully during

World War II for the training of radar technicians and aircraft mechanics

(Shulman, 1989). The application of such procedures to the training of

teachers involves the assumption that teaching may be viewed as akin to the

application of technical expertise engaged in by the aircraft technician. But

research was to suggest that teaching involves behaviour of an entirely

different order of complexity (Leinhardt & Greeno, 1986; Schon, 1983).

Secondly, cognitive processes in teaching are ignored (Zeichner, 1990) in favour of a focus on observable behaviour. Yet the inadequacy of behaviourism to explain complex, human learning (Chomsky, 1959) together with developments in cognitive psychology (Miller et al., 1960; Gard ner, 1986) have led to attention being focussed upon the importance of the "invisible world of teaching" (Feiman-Nemser & Buchmann, 1986b, p. 40). Thus recent research into teacher thinking highlights the complex discriminations that underlie teachers' visible actions (Berliner, 1987; Clark & Yinger, 1987; Calderhead, 1988).

Thirdly, these approaches are highly prescriptive: the elements of good teaching behaviour having been previously defined and identified for the student, her role is to learn to reproduce these. Besides providing a rather restricted model of teaching, this would also appear to devalue the importance of the student teacher reflecting on her own experience (Zeichner & Liston, 1987; Liston & Zeichner, 1990), since she is not led to explore what she needs to know, but is directed towards pre-specified behaviours.

Fourthly, the fact that teaching possesses content is ignored (Buchmann, 1982) by a focus upon generic skills, thus breaking the essential link between what is primary - something worthwhile to be taught - and the techniques to be used in teaching it (Feiman-Nemser,1983). The renewal of interest in pedagogy suggests that what counts as good teaching is intrinsically linked to the nature of the subject matter to be taught (Shulman, 1986a).

These, then, are some of the considerations why the training methods discussed above failed, ultimately, to realize the aims of those who hoped for a more scientific approach to teacher education. In contrast, other researchers engaged in investigating the area of initial teacher training, not by introducing pragmatic, new interventions, but by conducting studies which attempted to estimate the impact existing teacher education courses had on student teachers.

2.1.3 Socialization Studies

The most widely adopted approach to the study of teacher education to date has sought to investigate the changes in attitude that occur as students become socialized into the role of teacher (Wragg, 1982; Al-Hidabi, 1986). From this perspective, teaching is conceptualized as work (Lortie, 1973) and the focus of examination has usually been the general impact of teacher training upon attitudinal development (Feiman-Nemser, 1983).

In the U.K., for example, Butcher (1965) administered the Manchester Scales of opinions concerning education to student teachers in training and made a comparison with the opinions of experienced teachers. He found that an increase in 'liberal' or 'progressive' opinions occurred during training. In a replication of Butcher's study, McIntyre and Morrison (1967) also found a tendency favouring the development of less traditional attitudes during teacher education. However, it is far from clear what this observed trend

towards more progressive opinions signifies, since the tendency to adopt more liberal yiews appears to be short-lived. Both studies found it to be reversed once training is over and students enter full-time teaching.

The view that training has only a weak influence upon the development of student teachers' attitudes is supported by Lortie (1975) who argues that a major part of socialization into the role of teacher occurs well before teacher training commences, since any individual has considerable experience of observing teachers in action from the thousands of hours spent as a pupil - in effect, "an apprenticeship of observation". This early classroom experience provides an informal and intuitive understanding of the teacher's role that exerts a powerful, if often subconscious, influence that is likely to remain unchallenged by teacher training.

2.1.4 Teaching Practice - Socialization and Concerns

Since Denemark and Macdonald (1967) made their complaint over its unjustifiable neglect, teaching practice, and the role it plays in teacher education, have been investigated in numerous studies. Indeed, this appears to have become the most widely studied aspect of learning to teach (Feiman-Nemser, 1983). Not surprisingly, the focus on socialization, which has been noted to occur generally in studies of teacher training, is continued here.

In a review of what is known about learning to teach, Feiman-Nemser (op.

cit.), notes that while student teaching is commonly regarded as the most

valuable part of teacher education, studies of attitudinal and behavioural

changes among students suggest that they become more bureaucratic and

custodial by the end of school experience. Furthermore, this picture of the

deleterious effects of teaching practice tends to be confirmed by field studies

which show "how student teaching contributes to a utilitarian perspective

that conflicts with the expressed purposes of teacher education programs" (op.

cit., p. 156). Such studies indicate that going through the motions of teaching,

keeping the class busy and quiet, may become ends in themselves to the

neglect of more educational concerns (Tabachnick et al., 1978; Tabachnick &

Zeichner, 1984; Zeichner, 1981).

Adopting the role of a participant observer, Lacey (1977) immersed himself

in a one year post graduate teacher education programme, including teaching

practice. From this he develops an approach to describing the experience of

becoming a teacher from the postulants' viewpoint. Students are said to move

through three stages labelled honeymoon, search for materials and crisis,

which mark the student's development from an initial euphoric enthusiasm to a

feeling that things are slipping beyond her control. Interestingly, Lacey (op.

cit.) views the student's growing classroom difficulties as linked to an

inability to improvise appropriately.

While some studies find a tendency for students to become more controlling

and judgmental towards pupils as unintended consequences of teaching

practice (Hoy and Rees, 1977; Moser, 1982), others find student teaching to

have little impact on student teachers' perspectives (Zeichner & Grant, 1981;

Silvernail & Costello, 1983). This may be because teaching practice, as

currently conceived and executed, does little more than assimilate novices

into existing patterns of teaching (Goodman 1985).

Yet other researches have drawn attention to the role played by significant

relationships during teaching practice in the formation of student teachers'

attitudes. Mahan and Lacefield (1978), for example, indicate that student

teachers may be profoundly influenced by the values and attitudes of

co-operating teachers. Similarly, Zimpher et al. (1980) found student teachers

to identify very readily with the view of co-operating teachers that the

practical realities of the classroom are of paramount importance, whereas

theory is disposable, so lessening the potential impact of university

supervisors' advice. Thus the influence of teaching practice supervisors may

be seen to be relatively weak (Hogben & Lawson, 1983) when compared to that

of co-operating teachers.

Another approach to the study of the effects of teaching practice focusses

on the development of attitudes and identifies a series of stages of concern

that student teachers move through. This view adopts a personal development

perspective, and may draw upon psychiatric theory. Concerns tend to be

construed in terms of what it is the student teacher finds difficult or

problematic.

Thus Fuller et al. (1967) identify six stages of concern as the student

teacher moves from an initial concern with self-preservation and discipline to

an eventual concern with pupil learning. Such stages are proposed as forming

a pattern for intervention and the structure of teacher education programmes.

This research, then, provides a stage theory of role transition from student to

teacher, and proposes an alternative model of teacher education since:

> ... the path from knowledge of subject matter to communication of subject matter is not
> simple and direct but complex and devious. The proponents of scholarship alone as preparation
> for teaching are doomed to empirical embarrassment ... (Fuller et al., op. cit., p. 165).

Harrington and Sacks (1984) also identify six stages of concern, while the

view that student teachers move through a series of stages of development

during teaching practice finds general support in Taylor 's (1975) study of

students on a PGCE course and in other researches (see, for example, Evans,

1976;   Corcoran, 1981).

However, doubt appears to be cast upon the stage theory approach by

Austwick and Carter (1978), who find little change in student concerns after

teaching practice; and by Silvernail and Costello (1983) who not only find

attitude stability, but also that students' were mainly concerned, throughout

teaching practice, with effecting pupil growth. Scepticism may also be

expressed about the validity of a stage theory approach to student teaching on

the grounds that it seems to rely unduly upon a somewhat idealised account of the experience of teaching practice (Feiman-Nemser, 1983, p.163). Moreover, there is considerable variation among researches in terms of the stages that are actually identified (e. g. Fuller et al., 1967; Gibson, 1967; Harrington & Sacks, 1984; cf. Lacey, 1977). Perhaps the major contribution of this sort of research may have been to indicate "the tremendous psychological complexity of... student teaching" which is said to be so great that it "almost defies description" (Fuller et al., op cit., p. 157).

Generally, research on socialization and concerns seeks to establish that certain changes in student teachers' perspectives occur as a consequence of training or teaching practice, whilst leaving aside the questions of how and why. Yet it is the latter questions which would appear to be more significant for teacher educators. That is, certain changes in attitude are found to occur in predictable fashion yet, seemingly, there is little attempt to investigate the dynamics of the processes which appear to work in such a regular way. Though this aspect appears to have been neglected, there are signs that it may be beginning to be addressed.

Hoy and Woolfolk (1990), for example, following Doyle's (1986) emphasis upon the importance of the teacher establishing order in the classroom, conduct a socialization study which regards classroom management as a particularly troublesome area for student teachers. Supervision is found

frequently to focus upon the student's performance in managing the class.

Moreover, schools are viewed as tending to value highly the ability to control

pupils, an emphasis that is likely to be mediated through the co-operating

teacher. Additionally, student teachers are seen to be particularly vulnerable

as they are likely to experience a 'reality shock' (Corcoran, 1981; Veenman,

1984; Weinstein, 1988) on commencing teaching. If they are subjected to

pressure from experienced teachers to behave in a more controlling fashion, it

is argued, student teachers will find themselves enmeshed in a conflict

between the views of education which inform their training and those which

operate in school: "Neophytes are confronted with a set of organizational

norms and values that are usually at variance with those espoused by their

college professors" (Hoy & Woolfolk, op. cit., p. 254). However, this outline of

the processes that may be at work in student socialization is highly

speculative. Again, there is no observation of what actually transpires in the

classes of student teachers, and thus no description of how such changes are

mediated through concrete experience during teaching practice.

Furthermore, a dissenting note is struck by a number of studies which

suggest that if most students react to teaching practice by developing

instrumental coping strategies, a notable minority decline to be socialized in

typical fashion (Goodman, 1985, 1987; Tabachnick & Zeichner, 1984; Zeichner

& Grant, 1981; Zeichner & Tabachnick, 1985). These students do not become

overwhelmed by difficulties in their situation and possess a more

experimental approach to teaching practice. Such students may be supported

by an inquiry-based teacher education programme (Tabachnick & Zeichner,

1984), or by co-operating teachers with more liberal perspectives (Zeichner &

Grant, 1981). Goodman (1987) calls these proactive student teachers, that is,

they aspire to transcend the boundaries of normal school practice, are

innovative, and not merely concerned with adapting to traditional school

culture. That such students are found to exist casts considerable doubt on the

practice of examining student teaching solely in terms of the effects it may

have upon students in general.

While Hoy and Woolfolk (1990) argue for a greater sophistication in the

conceptualization and execution of socialization studies to extend our

knowledge of the effects of teaching practice, arguing, for example, that the

characteristics of training programmes and schools should be incorporated

into the analysis; others have felt that the approach is so flawed it is best

abandoned. Thus Zeichner (1986a, b) doubts that the continuation of such

approaches will prove more fruitful in future, and Feiman-Nemser and

Buchmann (1986b, c) regard the transformation of the highly personal

meanings developed during teaching practice into effects upon the average

student as a serious flaw.

2.2 Focus on Student Teaching - Querying the Practicum

Whilst there are many areas of disagreement concerning the desirable

features that ought to be incorporated into initial teacher training programmes, there appears to be complete agreement that it is essential that students practice teaching in real classrooms (Collins, 1982), and that such experience needs to be of high quality (Zeichner, 1986a). Nevertheless, considerable doubts have been raised about the efficacy of the practicum as presently conceived (Zeichner, 1986a & b; Feiman-Nemser & Buchmann, 1986a, b, c) One response has been for those concerned with teacher education to seek to remedy perceived deficiencies by introducing corrective measures, which often involve the explicit identification of teaching experience as the central element in training.

2.2.1 Pragmatic Reactions to Perceived Weaknesses

Reacting to the lack of detailed specification concerning what, exactly, teaching practice is meant to achieve, Turney et al. (1985) in Australia, for example, have developed a practicum curriculum which starts by considering the sorts of learning that practicum experiences ought to engender. Subsequently, the sequence of carefully graduated learning experiences student teachers should encounter as they progress through their training year is specified in detail. The classroom is envisaged as the central focus of training with theoretical perspectives being integrated into consideration of the developing pattern of classroom experiences. The complexity of the teacher's role is encountered through the incorporation of experience not only within the classroom, but also the school and community domains. Thus there

is a deliberate attempt to involve the trainee progressively in the teacher's role in all its manifold aspects. This, then, provides a curriculum development approach to reforming teaching practice.

A similar concern with improving the practical training provided in teacher education is found in the proposals of the Holmes group (The Holmes Group, 1986). This group of American University Deans suggest the setting up of professional development schools, which are centres of excellence, where student teachers could spend an 'internship' analogous to the way medical students are educated by teaching hospitals.

In Britain, too, it has been argued that teaching practice must be so designed and executed that student teachers are enabled to see how theory may inform practice at every stage, rather than remaining remote from classroom realities (Stones, 1986; Furlong et al.,1988). Here, also, the traditional separation of education courses into theory and methods components is seen as a major stumblingblock to student progress. Stones (op. cit.) argues for a greater emphasis upon the problematic nature of pedagogy, and for an overall approach to teaching practice where it is recognized that theory and practice being linked dialectically, ought to be united in a systemic, psychopedagogical approach .

The attempt to integrate theory with practice is seen to be linked to the

quality of supervision that students receive, since those responsible for

student supervision often appear to have little training~~for this role~~and are frequently

little qualified to make theoretical connexions to practical experiences

(Stones, 1984). Though if supervisors are found to engage in 'patchwork

pedagogy' (Mansfield, 1986) rather than in any systematic coverage, this may

also be due to the lack of any clear developmental framework for discussing

students' pedagogical progress.

2.2.2 Exploring Teachers' Craft Knowlege

A central aim of teaching practice is to allow student teachers to learn

from the wisdom of experience possessed by co-operating teachers who are

skilled in the craft of the classroom. Accordingly, some researchers have

sought to explore what exactly teachers may be said to 'know' about teaching

that derives not from training, but from experiential learning on the job, and

the implicit theories that they use to guide their teaching (Desforges &

McNamara, 1979; Zeichner et al., 1987). If it were possible to conceptualize

and articulate such knowledge, benefits might accrue for initial teacher

training.

One such approach to the study of teacher knowledge has been pursued in a

collaboration between Oxford University Department of Educational Studies

and the Scottish Council for Research in Education (Brown et al., 1987;

McIntyre et al.1988; Brown et al., 1988; Brown & McIntyre, 1989). In earlier

work in this area Desforges and McNamara (1977, 1979; and McNamara &

Desforges 1978) found teachers unable or unwilling to articulate their craft

knowledge, nevertheless McIntyre and his co-workers are able to utilize a

conceptual framework that derives from their approach. Craft knowledge is

defined as "that part of teachers' professional knowledge which is acquired

primarily through their practical experience, is brought to bear spontaneously

and routinely on their teaching, and so guides their day-to-day actions in

classrooms" (Brown et al., 1988, p.1). Such craft knowledge is presumed to be

akin to Schon's (1983) 'knowledge-in-action' that is patently demonstrable in

performance, but which professionals typically find difficult to explain.

The research was mainly conducted in mixed ability classrooms in the first

two years of secondary education, though some primary teaching was also

involved. Teachers were selected on the basis of pupil nomination, pupils

having also indicated what they liked about their teaching. Each teacher was

observed conducting a group of linked lessons that were conducted over 2 to 6

hours. All sessions were recorded on audiotape and shortly after each lesson

teachers were interviewed about the aspects of their teaching that had

pleased them. Later, follow-up interviews were conducted using taped

excerpts from audiotapes to stimulate recall of such aspects. Precautions

were taken throughout the interviews to avoid the introduction of researchers

concepts, and transcripts of interviews provided the data for analysis. The

framework that emerged was tested by reference to each of the 16 teachers,

and their response was found to be highly favourable.

FIGURE 2.1 Model of concepts teachers use to evaluate their own teaching
(Adapted from Brown & McIntyre, 1989, p. 46)
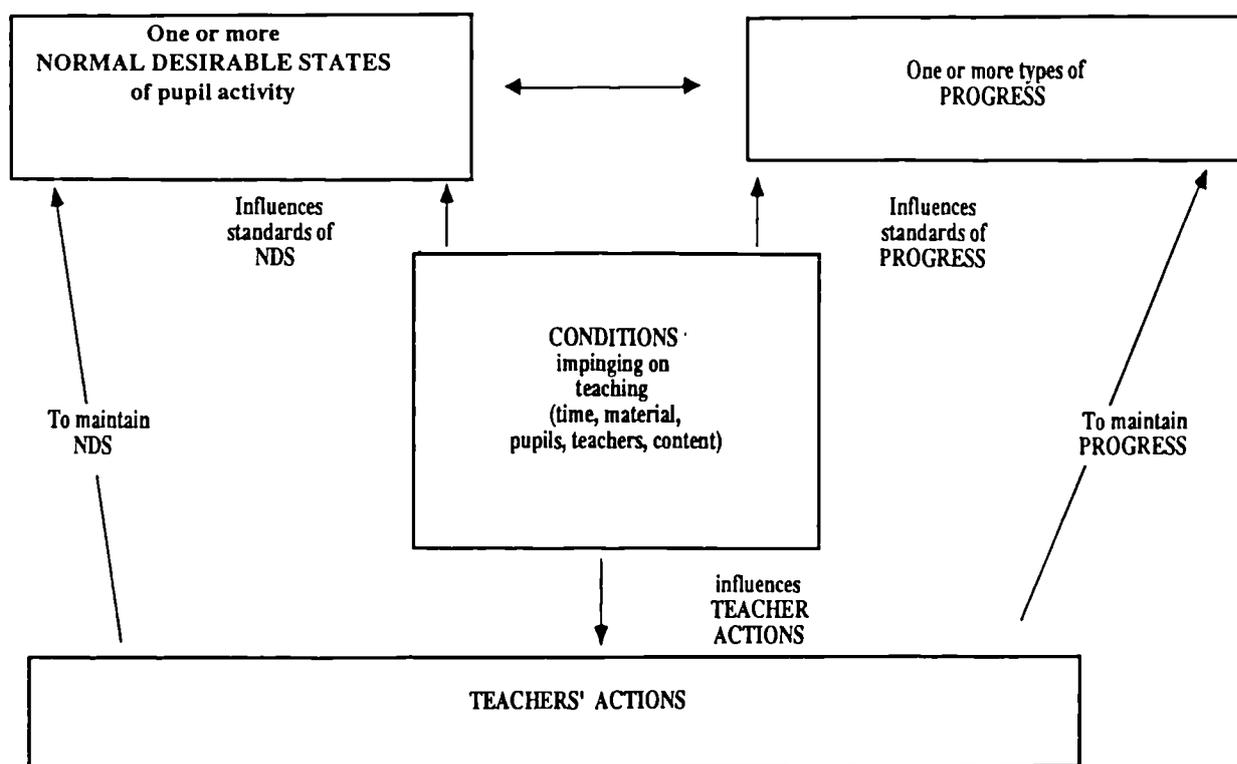
The conceptualization teachers held of their own classroom teaching is

shown in Figure 2.1. When asked what had pleased them about a particular

lesson teachers primarily responded by referring to pupil activities. A main

priority for teachers was found to be "establishing and maintaining what we

call a Normal Desirable State of Pupil Activity (NDS) in the classroom" (op.

cit., p.31). The NDSs for secondary teaching were of two kinds: those relating

to whole class teaching, and those where pupils worked independently.[1] In the

former case, several NDSs might be identified for a lesson, joined in a some

logical sequence. In the latter case, NDSs were highly variable and depended

upon the particular task and the particular teacher.

Supplementing their concern for maintaining NDSs, teachers were sometimes found to evaluate their lessons in terms of certain kinds of Progress. The maintenance of particular NDSs, or the encouragement of certain sorts of Progress, were seen to depend upon Teachers' Actions. Viewed as impinging upon all of this there are the Conditions of teaching. Conditions were found to fall into 5 categories: pupils - their enduring characteristics, or their behaviour on the day; time - particularly the time of day when a lesson occurred, since less was expected of pupils in late afternoon than in the early morning; content - the nature of what has to be covered; material - environmental factors such as resources and class size; and teacher - unintended aspects of teacher behaviour such as over-prolonging an activity.

Perhaps the most striking feature of this framework is its divergence from the model that guides curriculum planning and teacher education, namely, that teachers start with aims and objectives and then seek to engage pupils in activities that are carefully calculated to lead to the fulfilment of pre-planned learning goals. A second, dynamic, strand of the research, which sought to gain access to teachers' mental processes as they engaged in the act of teaching, is reported as having failed. Subsequently, the research approach has been replicated in Australia (Batten, 1990) with similar results, suggesting that the view of teaching elucidated might be widespread in the English speaking world.

Brown et al. (1987) deplore the fact that there is, as yet, no effective apprenticeship scheme for beginning teachers. While students are supposed to learn from experienced teachers, it is unclear, exactly, what and how they are so to learn. Moreover, teachers may decline to act as teacher educators since, on the one hand, they view their classroom actions as commonplace and undeserving of comment and, on the other hand, they have difficulty in making explicit the discriminations which guide their actions. Thus student teachers have to labour, as it were, to reinvent the pedagogical wheel:

> If teachers could be helped and persuaded to make explicit the knowledge which they implicitly use in their day to day work, teacher education could begin to achieve something of the practical relevance and the theory-practice integration which it is still accused of lacking (op. cit., p. 73).

Accordingly, a series of studies were instituted which sought to explore whether student teachers could be trained to use a simplified version of the techniques developed to investigate teachers' craft knowledge, and whether this would prove of practical benefit (McIntyre, et al., 1988). A member of the research team demonstrated that it was possible to gain access to teachers' craft knowledge using simple observation followed by extended conversation. Piloting this approach with various groups of student teachers led to the development of training materials, including a videotape, and the procedures developed were examined in the context of a scheme where they formed an integral part of the work in teacher education.

The results of these researches are somewhat mixed. Both teachers and student teachers showed resistance to behaving in what might be construed as

'researcherly' ways. Student teachers tended not to focus on the elucidation of specific incidents, but wanted to be given general tips. Teachers concurred with students that this was sensible and provided generalized responses. When students were encouraged to conduct and tape formal interviews, this suggested procedure was largely ignored. On the other hand, students appeared to have grasped the importance of framing positive questions, and most of them conceded that it was valuable to talk with teachers in this way.

It seems possible to have reservations about the use of pupil nominations to locate examples of good practice. The researchers readily admit that other means of selection would probably have led to collaboration with different groups of individuals. Moreover, others, have doubted that pupils' intuitions about good teaching, particularly the intuitions of those who aspire to become teachers, can be viewed as possessing much in the way of pedagogical insight (Lortie, 1975; Buchman, 1982; Feiman-Nemser, 1983). Neither does the research succeed in illuminating the cognitive processes of teachers as they engage in making rapid discriminations of the sort implied by the model. Thus it does little to explicate the dynamics of teaching processes. Yet this is an area which, were it to be elucidated, might lead to new insights on teaching and so to developments in teacher education.

What all the approaches identified as querying the practicum have in common is an attempt to modify teaching practice, in pragmatic fashion,

through clear specification of procedures, introduction of new elements, amelioration of deficiencies, the elimination of undesirable features, and, often, the advocacy of structural change which would allow training to be organized around classroom experience. However, some researchers have developed a more fundamental critique of the practicum by seeking to investigate exactly what it is students actually do learn during teaching practice. That is, it is seen as essential to scrutinize the nature of student teachers' experiential learning, before seeking to effect significant improvements in the lessons that they learn.

2.3 Investigating Experiential Learning during Teaching Practice

In the mid-eighties, Doyle (1985) had identified research on how students learn to teach as a major new direction in teacher education research. A major focus of this approach, as evidenced in a series of researches conducted by Zeichner and colleagues at the University of Wisconsin (Zeichner, 1986a & b; Liston & Zeichner, 1990) and in studies conducted at Michigan State University by Feiman-Nemser and Buchmann (Feiman-Nemser & Buchmann, 1986a, b & c), has been to scrutinize the personal learning that student teachers gain from their practical classroom experience while on teaching practice in schools. Both groups of researchers reach the same disturbing conclusion - while teaching practice provides the opportunity for emotionally powerful and personally significant learning that is rooted in real classroom experience, much that is so learned must be regarded as teacher miseducation

Because student teaching comes at the end of formal preparation and because it is experiential, it is a source of impressive, cathected learnings, regardless of the merits of the lessons learned (Feiman-Nemser & Buchmann, 1986c, p.39).

... For student teaching to be teacher education, it must go beyond survival or extended practice in the outward forms of teaching to sort out appropriate from inappropriate lessons from experience (op. cit., p 41).

There is substantial evidence that a great deal of what prospective teachers learn during the clinical portions of their teacher education programs is miseducative in nature and often in conflict with the intentions of teacher educators" (Liston & Zeichner, 1990, p. 235).

Both the Wisconsin and Michigan researchers are critical of traditional approaches to teaching practice. Using such sources as studies of teacher socialization, research on teacher education, and autobiographical accounts of teaching experiences, for example, Feiman-Nemser (1983) constructs a comprehensive picture of what is known about learning to teach. She argues that though the question of how a person learns to teach and to improve over time is rarely addressed directly, there is a considerable disjunction between the formal approaches adopted in teacher training and the knowledge that is available concerning how teachers learn to teach. Furthermore, informal influences which appear to possess considerable power seem to be insufficiently challenged by formal training:

When teachers describe former teachers, for example, they rarely alter the assessments they made when they were younger. Their favorite teacher still represents good teaching. Formal training does not mark a separation between the perceptions of naive laypersons and the informed judgment of professionals.

It is clear that students remember their teachers, but there is little basis for assuming that they can place teachers' actions within a pedagogical framework. As Lortie writes (1975), "What student teachers learn about teaching is intuitive and imitative, rather than explicit and analytical; it is based on individual personalities rather than 'pedagogical principles" (p. 62) (op. cit., p. 153).

Thus fostering the development of learning teachers will involve changing not only established practices, but also the ways in which we think about

learning to teach. It may be unrealistic to regard preservice training as a full preparation for teaching - the informal influences are too strong, the time available too short, and preparation for teaching continues on the job - but to focus instead on developing a <u>beginning</u> competence and laying a foundation for learning and teaching (Feiman-Nemser, <u>op. cit.</u>).

Teacher education is also seen as having relied disproportionately upon skill and performance models of teaching, whilst neglecting the essential fact that teaching must necessarily possess content (Buchmann, 1982). Teaching is viewed as being "conditional upon the presence of educational content in teaching activities, and the activities of teaching are conditional upon the content knowledge of teachers" (<u>op. cit.</u>, p. 65). There is scepticism about placing too much trust in practice teaching, since content knowledge is viewed as being inherently unamenable to experiential learning. There is a danger that student teachers will learn to conduct 'managerial performances' rather than to foster learning, to demonstrate 'custodianship' rather than the communication of ideas (<u>op. cit.</u>, p. 67).

Both groups of researchers regard the tendency for teaching practice to be investigated in rather simplistic fashion in terms of its effect, as one undifferentiated treatment, upon the average student, as a central weakness in the research. As Zeichner (1986b) puts it, "The dominant practice of attempting to explain the socializing role of the practicum <u>in general</u>, for the

average student who works in an unknown setting has not been very productive

to date; nor is it likely to become so in the future" (p.14, original emphases).

Yet if the early literature is open to criticism, it nevertheless indicates that

there may be serious obstacles to learning associated with all practicum

experiences (Zeichner,1986b). In order that teaching practice research may

become more productive, investigations must pay close attention to the

particularities of teaching practice for individual students, that is, the

crucial role played by ecological factors needs to be recognized (Zeichner,

1986b; Feiman-Nemser & Buchmann 1986b).

Attention is drawn to the marked differences between placement sites for

teaching practice. Not only do schools differ from each other in terms of their

surrounding social circumstances and prevailing ethos, there are differences

between the classrooms of individual teachers and between different classes

of pupils. Furthermore, the nature of the teacher learning experience that will

ensue is linked to the persons involved. Each student teacher brings to

teaching practice her individual experience, preconceptions, and the learning

she may have derived from a particular training programme. Cooperating

teachers, too, bring their own experience and expectations to bear upon the

encounter with a student teacher and may variously interpret the role that

they will play. Thus, in contrast to the more generalized view provided by

traditional socialization studies, the ecological approach serves to emphasize

the highly individualistic nature of teaching practice.

The nature of the research that is developed from such ideas is indicated

with reference to the Michigan studies which proceed by analyzing cases of

student teachers in training. The focus is upon the multi-dimensional nature

of learning to teach and consideration is given to the key influence of

participants, settings and programmes (Feiman-Nemser & Buchmann, 1986b).

Participants primarily refers to the student teachers, who differ in their

skills and expectations, in the distinctive ways in which they approach the

teaching experience and their capacities to learn. The setting refers to the

particular classrooms in which student teachers engage in experiential

learning. Here the intellectual and affective tone is set by co-operating

teachers, whose conception and implementation of their role as teacher

educators also shapes the learning of student teachers. Finally, the particular

teacher education programme needs to be considered. What the course

programme intended to teach may have little connection with what students

actually learnt.[2]

Feiman-Nemser and Buchmann present a framework for research in teacher

education and findings from its application. The framework seeks to provide a

descriptive analytical study of teacher education for "without systematic

descriptions of what is taught and learned in formal preparation and field

experiences we cannot understand what professional education contributes to

teachers' learning or the ways that learning can best be fostered" (Feiman-

Nemser & Buchmann,1986c, p.1). Through observation and interviews the thinking of student teachers is explored in relation to the content of the preservice curriculum and the context of schools. Thus they seek to illuminate the influence of teacher education programmes, settings and people as these interact over time.

The framework is claimed to rest on a conception of the central tasks of teaching based on the distinctive work teachers do, rather than on any particular ideology. A major goal for preservice preparation is proposed, that is, helping prospective teachers make a transition to "pedagogical thinking" (op. cit., p. 3). Such thinking, it is indicated, looks beyond the acquisition of subject matter knowledge and technical skills. It is said to be "strategic, imaginative and grounded in knowledge of self, children, and subject matter"(Feiman-Nemser & Buchmann,1986a, p.239). The difference is between going through the motions of teaching and connecting to pupil learning over time. Accordingly, the major challenge to teacher educators is viewed as being to help prospective teachers make a complex conceptual shift from commonsense to professional views of teaching. It is only thus that students may be enabled to grasp the significance of the "invisible world of teaching" (Feiman-Nemser & Buchmann,1986b, p. 40), which is necessarily hidden from sight because teachers cannot observe learning directly, but they can learn to see "signs of understanding or confusion, feigned interest and genuine absorption" (Feiman-Nemser & Buchmann, 1986a., p. 239) and make connections

with things that are worthwhile learning.

The case studies focus upon eight teacher education students over two years as they participate in university courses and teaching practice. Four of the students are enrolled in an Academic Learning Programme, which emphasizes the importance of subject matter knowledge and delays classroom experience; while four are in a Decision Making Programme, which emphasizes the role of teacher as decision maker, the knowledge to be gleaned from research on teaching, and provides early field experience in classrooms.

Examination of the data indicates the influence of the individual's life history, formal preparation and teaching practice experience in helping or hindering the transition to professional thinking. Thinking pedagogically, the case study evidence demonstrates, is not something that naturally evolves out of teaching experience. A student's preconceptions influence radically the nature of the opportunity for learning to teach that teaching practice is able to provide. While some students make considerable progress in learning to think pedagogically, others may strenuously resist changing their common-sense views of teaching. There is also a tendency among students to rely on very limited personal experiences, and personal meaning is often found to be inextricably linked with mislearning.

Students are also found to tend to exhibit weaknesses in knowledge of their

subject and its pedagogy - that is, how it is taught and learned. They may set inappropriately difficult tasks, thereby causing themselves disciplinary difficulties, and confuse this with pupil lack of respect; or they may set tasks that lack educational value and merely keep the class busy. Before teaching practice is completed, students are found to have stopped learning, to be complacent because they have found they can survive in the classroom, and not to realize the opportunities in their situation for extending their own learning or improving the learning of their pupils.

The sense a student makes of professional courses is also affected by the preconceptions she brings to her training. Indeed a student may distort the intended message of an education programme so that it reinforces existing prejudices and her stereotypes are both deepened and lent a new legitimacy (Feiman-Nemser & Buchmann,1986c; cf. Zeichner et al., 1987). Similarly, if a programme fosters unrealistic views about how educational research and theory may aid beginning teachers[3], it may unwittingly strengthen student teachers' tendency to reject formal knowledge and rely on first hand experience. General guidance derived from methods courses is found insufficient to help students deal with the specific teaching problems they encounter, and yet the specialized approaches they need are not provided (Feiman-Nemser & Buchmann, op. cit.).

The setting may also systematically limit student learning. If a school is

dominated by concern about control, and teachers treat pupils in a somewhat

dehumanized fashion, it may prove difficult for student teachers to behave

differently. But even where the setting does not impede development, and

where the co-operating teacher is a good role model, students with

"fundamental knowledge of teaching and learning may not find the necessary

help to connect to pedagogical thinking and acting" (Feiman-Nemser &

Buchmann, 1986b, p. 36). While co-operating teachers may be fulsome in their

praise, "the case studies dramatize the failure of co-operating teachers to act

as teacher educators" (op. cit., p. 41). Indeed, perhaps the most salient thing

each student appears to learn is how hard it can be for a novice to take charge

of someone else's classroom, since pupils recognize and react to inexperience.

The research, then, presents a swingeing critique of traditional teacher

education practices. While teaching is in some sense an everyday activity, the

case studies demonstrate that thinking pedagogically is not inevitable and

does not arise naturally from experience of classrooms. Thus there is a

crucial need for teacher education to help novices see and understand the

limitations and pitfalls of personal experience in learning to teach. Teacher

educators are exhorted to heed their own advice to beginning teachers and pay

attention to what is going on in the minds of their students in order to

identify and correct misconceptions.

Neither first hand experience nor university instruction can be left to work themselves out by
themselves. Without help in learning . . ., teacher candidates are likely to maintain
conventional beliefs and incorporate new and puzzling information into old frameworks. Our
thesis has implications for the charge that teachers are conservative and individualistic The lack

of explicit teaching in teacher education, not unalterable facts about teachers, may explain these features of teacher thinking (Feiman-Nemser & Buchmann,1986a, p. 255, original emphasis).

This research, then, serves to highlight the dynamic interaction of influences at work during student teaching. However, it would appear advisable to exercise caution in extrapolating from these case studies, particularly as only student teachers training to work in elementary schools were studied. Nevertheless, the credibility of these studies is enhanced by independent research into teaching practice conducted at Wisconsin, and which is broadly supportive of the Michigan analysis.

Zeichner (1986a) attributes the largely unsatisfactory nature of research on teaching practice to a failure to consider the content of the teacher education programme and the context of the placement site as significant variables affecting student learning. In a review of 16 representative studies of the role of student teaching in teacher development (Zeichner, 1985b), he showed that none provided any information about the content of the teacher education programme being followed, tending to focus instead upon number of hours.

Previously, he had developed a typology (Zeichner, 1983) which distinguishes the instructional orientation of student teaching programmes according to four paradigms of teacher education: Behaviouristic, Personalistic, Traditional Craft and Inquiry Oriented. The usefulness of this categorisation, it is readily admitted, is limited by the great differences which are frequently to be found between teacher education programmes

within the same overall orientation.[4] It is important, however, when

considering the effect of a particular teacher education programme to go

beyond consideration of the instructional plan of a course to focus on its

actual 'curriculum in use' (Zeichner, 1986a, p. 10) since there are likely to be

considerable divergences between the two.

The reality of student teaching is "complex, dynamic and multidimensional"

(op. cit., p. 6), thus "research must reflect in its conceptualization and

methodology the dynamic and multidimensional nature of the event being

studied" (op. cit., p. 19). Moreover there is a need to consider the "specific

constraints and opportunities present in specific classrooms" (ibid.).

It is noted that earlier studies had attempted to measure the development

of student teachers using a single dimension, namely, attitude (Zeichner,

1986b; cf. Wragg,1982; Feiman-Nemser, 1983). Similarly, although teaching

practice was regarded, at least for research purposes, as a single undifferen-

tiated treatment that was accorded equivalence for all students, the reality

was far different. Indeed, it would be more accurate to regard teacher

education programmes as so replete with anomalous messages and

contradictions in curriculum and practices, throughout all their phases, as to

allow student teachers considerable leeway to interpret them in idiosyncratic

fashion (Zeichner, op. cit.).

2.4 Teacher Thinking and Reflective Teaching Practice

Recent approaches to teacher education have sought to give more consideration to the realities of school experience. Field experience may be identified as the central element of the course (Turney et al., 1985) with college or university seeking to provide theoretical studies which are integrated with the student teaching experience so that theory is always seen as closely supportive of practice.

Furlong et al. (1988), in a study of PGCE courses, argue that implicit in such new approaches is an altered model of professional performance. Drawing upon Schon's (1983) The Reflective Practitioner to provide a conceptual framework for analysis, they suggest that traditional PGCE courses consist of compartmentalized theory and practice elements. Here students are provided with foundation knowledge about education which they are supposed to work out for themselves how to apply on teaching practice. This approach is viewed as assuming a model of professional behaviour that Schon (op. cit.) designates technical rationality. The distinguishing feature of technical rationality is held to be the assumption that professional expertise rests upon possession of a body of specialized knowledge which may be scientifically applied to particular situations in a rule-governed fashion. Newer PGCE courses which involve a move to school-based training are seen to reject this epistemological framework and, implicitly at least, to embrace a conceptualization of teaching as reflective action.

Schon (op. cit.) argues that professional expertise resembles art more than science. Each situation has unique properties which make the deterministic following of rules impossible. Rather, professionals possess a repertoire of possibilities built up from all the cases they have dealt with. A new situation is dealt with by defining it as possessing key similarities to a previously known situation, thus permitting action. As professionals act they enter into dialogue with the situation, which is changed by the action taken to encompass it, and so 'speaks back', thus requiring further definition and further action. The attempt to encompass any new situation is characterized as reflection-in-action, that is, it is throughout a reflective process involving definition, action, monitoring and evaluating intended and unintended consequences, leading to re-interpretation, and so on. The rationality of professional activity is thus seen to rely upon a reflectiveness which is regarded as an intrinsic property of the action itself, and which should not be viewed as discrete or prior to action, nor need it be available to conscious introspection.

Furlong et al. (op. cit.) distinguish 4 levels of training that are regarded as contributing to the development of knowledge and skills in student teachers. Firstly there is direct practice - at this level training consists of first hand experience in classrooms. Indirect practice involves workshops, simulations, etc. so that training of practical understanding is the focus, but the location is outwith the school. Thirdly, there are practical principles - work here is

concerned with the scrutiny of the principles which underlie practice.

Finally, <u>disciplinary theory</u> - involves drawing upon the foundation disciplines

of philosophy, psychology and sociology to query implicit value judgments and

to promote students' capacity to analyze and reflect.

In traditional PGCE courses, it is claimed, these levels were not system-

atically integrated and so there arose a perceived gap between theory and

practice. Integration was something left to the individual student to achieve,

not an aim of the overall course. However, an advantage that accrues to

school-based training courses is that they are seen to possess the potential

to integrate work at various levels so as "to develop increasingly more

informed critical reflection and through that, progressively more effective

professional practice" (<u>op. cit.</u>, p. 203).

The advocacy of training which centres around reflective practice has

gained wide currency (Calderhead, 1990; McNamara, 1990), and various

programmes which adopt such a model have been developed (Wubbels &

Korthagen, 1990). Perhaps the most extensive body of research on the

training of student teachers to reflect has been conducted by Zeichner and his

colleagues (Zeichner & Tabachnik, 1982; Tabachnik & Zeichner, 1984;

Zeichner & Liston, 1985 & 1987; Liston & Zeichner, 1990).

Zeichner & Liston (1987) describe an attempt to move away from the

traditional apprenticeship model using a concept of reflective teaching.

Drawing upon Dewey's (1933) distinction between <u>reflective action</u> which is guided by sustained critical scrutiny, and <u>routine action</u> which is informed by tradition and external authority, student teachers are encouraged to be open-minded and to take responsibility for self-directed growth. The programme seeks to prepare students to be aware of the socially constructed and problematic nature of both knowledge and situations, and to regard their curriculum as negotiable. The core model informing the programme is of the teacher as a moral craftsperson (see Tom, 1984).

In practical terms, students complete an action research project, ethnographic study, or curriculum analysis project based on their teaching practice, and they are also required to keep a journal. Supervisors follow the clinical supervision format. A deliberate attempt is made during supervisory conferences to seek to help students overcome the limits of firsthand experience. Thus there is a focus upon four key areas: 1) student teachers' intentions and beliefs, and not just their observable actions; 2) the problematic social context of education; 3) the content of what is taught, and not just an analysis of teaching processes; 4) the analysis of unanticipated outcomes and the hidden curriculum.

A number of studies investigate different aspects of this attempt to teach student teachers to reflect. Tabachnik & Zeichner (1984) examined the development of teacher perspectives and found that student teaching did not significantly alter student teachers' views concerning teaching. Instead they

became more skilled at articulating their pre-existing perspectives. While the programme did not appear to foster the development of teachers who saw themselves as moral craftspersons, at least not by the end of teaching practice, students did tend to avoid custodial behaviour. The need for long-term follow-up of teachers so trained is stressed.

In studies of supervision in the programme Zeichner and Tabachnik (1982) found that supervisors were not promoting the specified programme perspective. An examination of the discourse occurring between student teachers and supervisors in post lesson conferences (Zeichner & Liston, 1985) found four types of discourse to occur - factual, prudential, justificatory and critical discourse. Only 19.6% of discourse appeared to deal with appropriate reflection. However, students appeared to exert a marked influence on the quality of the discourse: the higher their conceptual ability, the more frequently reflective discussion of teaching occurred.

A number of factors are identified as impeding the realization of programme goals (Zeichner & Liston, 1987). First of all there is the prevalent, commonsense view of student teaching as an apprenticeship, which makes it difficult to convince students and teachers to promote a radically different approach. Similarly, the student teacher's understandable desire to produce an impression of competence in the classroom appears to militate against a more enquiry oriented approach. The 15 week practicum may also be too short to overcome students' prior expectations since "much unlearning has

to go on before most students are willing to accept the need for a more

reflective approach to teaching"(op. cit., p. 42).

Additional factors which are held to undermine the programme include the

paucity of supervision it is possible to provide, and the formal nature of the

relationship with co-operating teachers which discourages students from

asking questions about classroom practices or striking out in alternative

directions, since such behaviour might be perceived as criticism. Further-

more, the fact that co-operating teachers are not given the institutional

support required to fulfil their obligations as teacher educators - such as a

reduced teaching load - means they have little incentive to be supportive of

the programme. Schooling, as currently conceived, is viewed as highly

resistant to change and it may be that to promote changes in teaching will

require concomitant changes in social structures.

Although, it is conceded that "programmatic gaps, conceptual weaknesses,

and internal and external contradictions exist in regard to the program"

(Zeichner & Liston, op. cit., p. 44), the main difficulty is perceived to be

institutionalized resistance to change in teaching. Thus it is doubted whether

much progress can be achieved in establishing radically new approaches to

teacher training, in the absence of wider structural reforms (Zeichner, 1990).

Others have also found programmes designed to encourage student teachers to

adopt an inquiry-oriented approach to be rather unsuccessful in promoting the

kind of reflective behaviour envisaged, at least by the end of teaching

practice (Korthagen, 1988; Wubbels & Korthagen, 1990).   .

2.5 Studies of Expert – Novice Differences in Teaching

Educational researchers have recently begun to conduct studies of expert-

novice differences in teaching (e. g. Berliner, 1986 & 1987; Leinhardt &

Brown, 1985; Leinhardt & Greeno, 1986; Borko & Livingstone, 1989).

Berliner (1987) identifies two reasons why such research, already well-

established in other fields, has only recently been conducted in education.

Firstly, educational phenomena have been considered too ill defined to allow

study of changes engendered by experience. Secondly, there is the almost

insurmountable difficulty, particular to the field of teaching, of providing

reliable criteria for the unequivocal identification of expert performance.

Yet such research contains the possibility of expanding fundamental

knowledge about teaching by illuminating both the ways in which experience

alters the thinking and actions of teachers, and the nature of teaching

expertise (Berliner, 1987; Evans, 1990).

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Arising from developments in cognitive psychology (see, for example,

Gard ner, 1986), research has been prosecuted into the development of 'expert

systems' which contain the 'knowledge base' for expert performance in a given

field, such as medical diagnosis, or chess. The knowledge base "refers to the

set of rules, definitions, and strategies needed by a computer to perform as

an expert would in a given task environment" (Wilson, et al., 1987, p.105-6).

Thus a computer programme may allow a new doctor to make accurate

diagnoses in cases where his experience and knowledge are severely limited. The knowledge base is derived from the scrutiny of human expertise, and the set of rules so elucidated tends to be highly specific to the particular area of expertise under consideration. Despite the difficulties alluded to previously, some educational researchers have begun to investigate the knowledge base for teaching.

Leinhardt & Greeno (1986) regard teaching as a complex skill that may be elucidated in similar fashion to other skills analyzed by cognitive science. Teaching, like medical diagnosis and chess, is a skill performed in ill-structured, dynamic, and unstable environments where changes occur that are not completely controllable. Moreover, teaching goals and techniques for solving problems cannot be completely specified, and there is a constant need to adjust performance in terms of the information that arises during teaching. Thus teaching is seen to be clearly differentiated from simpler problem solving tasks.

Teaching skill is regarded as relying on knowledge of <u>lesson structure</u> and of <u>subject matter.</u> Such knowledge is viewed as being organized in terms of <u>schemata</u> - which may be defined as abstract knowledge structures summarizing information about many particular cases and the relationships among them.[5] The skilled teacher, then, is seen as possessing a set of schemata for differing teaching activities. Knowledge for complex cognitive performance, following Sacerdoti (1977), is held to depend upon schemata at

different levels of generality which integrate high-level goals and actions (such as conducting a homework review which simultaneously checks who has done the work and which problems are causing difficulty, whilst also informing the teaching that is yet to occur) with lower level components - such as distributing materials to the class.

The data from Leinhardt & Greeno's (op. cit.) study derives from observation over 15 weeks of the maths classes of 8 highly experienced teachers and 4 student teachers in their final semester of training. The participants were observed during about 25% of their classes. For each participant the researchers took field notes, taped pre- and post lesson interviews for each lesson observed over 3 separate days of teaching, and also video-taped 3 to 5 lessons. Post lesson interviews for the video-taped sessions also involved stimulated recall based upon viewing the tapes. The data was analyzed by constructing action records which identified and labelled each segment according to the activity engaged in by teacher and pupils.

Contrasting the activity segments of expert and novice teachers, it was found that expert teachers regularly used routines - repertoires of activities that were fluently conducted because teachers and pupils had shared knowledge of the schemata involved. But the novice teachers did not work in this habitual way. They used constantly changing patterns in carrying out teaching activities, consequently pupils had to be continuously instructed in

their roles.

Expert teachers seemed to have a script in mind that involved a sequence of activities during which pupils were gradually given increased responsibility. Lessons started with a review, or a presentation of new material, which involved pupils in a focussed discussion. Then they moved through a segment where pupils shared in working out problems, followed by interactive seatwork. Finally, there could be a segment of independent seatwork. The commencement and termination of different lesson segments was clearly signalled. Presentations were usually short, and efficient routines were deployed to monitor work in guided practice. Throughout lessons, experts sought and noted information about the progress of pupils and understanding of subject matter whilst simultaneously carrying out particular lesson activities.

Novices, however, seemed less able to extract and retain salient information as they were teaching. Moreover, they had difficulty carrying out activities with multiple goals. In conducting a homework review, for example, a student teacher, studied in detail, took longer than experts yet achieved less. The experienced teachers carried out the same activity with great economy: correcting homework whilst also checking who had not completed the work; noting items that were causing difficulty and might require additional instruction; and checking which pupils were having trouble dealing with the work. In contrast, for the student teacher going through the homework seemed to be an end in itself. She did not succeed in finding out who had

failed to complete the work, nor which items were causing difficulty.

The importance of highly developed routines in teaching is attributed to the fact that they allow low-level activities to be carried out with economy, thus reducing cognitive load, whilst expanding the teacher's capacity to focus on the more significant aspects of teaching, or on unforseen occurrences. In addition, Leinhardt & Greeno (op. cit.) hypothesize that there are information schemata for teaching which allow the expert teacher, amidst conducting an ongoing activity, to seek out and note information that will be utilized later.

> The knowledge base for skilled teaching includes the kind of information needed for the various activities of teaching, and provisions for acquiring that information are included in the schemata for activities in which the information is conveniently available. The information schema allows skilled teachers to deal with interactions between disparate goals and activities, a significant source of difficulty in complex domains (Leinhardt & Greeno, op. cit., p. 76).

Thus the orchestration of a lesson is seen to be based upon a working plan, or agenda. As well as including the traditional concept of the lesson plan, the agenda also includes "activity structures and operational routines that are specific versions of schemata in the teacher's general knowledge base . . . [together with] decision elements that permit continuous updating and revision of the agenda itself" (op. cit., p. 76).

A similar account of expert-novice differences is provided in Borko and Livingston's (1989) study of co-operating teachers and high achieving student teachers. Three pairs are studied, and differences between the thinking and actions of the expert and beginning teachers are noted. Marked differences

are found in the area of lesson planning. Although the lesson agendas planned by experienced teachers and student teachers were similar,·the way these were derived revealed differences. The expert teachers planned with facility and situated their agenda for a particular lesson in relation to long term plans. However, the student teachers were constrained by the agenda of their cooperating teachers and could only develop short term plans. Still, they found planning onerous and had difficulty in predicting where pupils would find things difficult. Moreover, they attempted to limit the scope of discussion in an attempt to maintain control over their teaching by ensuring more predictable pupil responses.

During classroom interaction, the expert teachers demonstrated considerable flexibility. They were able to respond appropriately to pupil contributions to discussion, to keep the lesson on track, individualize instruction, think of suitable examples, and think out details of their overall planning during an on-going lesson. In contrast, the novice teachers found difficulty both in translating plans into action and in keeping the lesson on track, and were sometimes in trouble because they lacked relevant knowledge.

Interviewed after teaching, the novices reflections tended to be diffuse and unfocussed, and they talked mainly about overt aspects of their own performance; whereas the expert teachers were highly selective and showed most concern with pupil understanding and activities. Again, the differences between the performance of expert and novice teachers is explained in terms

of the former's possession of more highly developed schemata for lesson performance.

An alternative approach to the exploration of expert-novice differences is adopted by Berliner (1987) who uses standardized tasks to investigate the cognitive differences in the ways in which information about teaching is processed by three groups of individuals. The first consists of 'experienced /expert' [6] teachers who have a minimum of 5 years experience. The second contains highly rated student teachers and new teachers in their first year - they are designated novices and regarded as minimally experienced teachers. Finally, there is a group of postulants, that is, scientists from industry and research who wish to teach, but do not want to undergo teacher training.

The performance of these groups is scrutinized as they undertake tasks such as viewing slides and videos of lessons in order to compare the ways in which they process information. Another task involves simulated planning and seeks to investigate the ways in which the different groups think about taking over a new class. Thus nine experts, six novices and six postulants were observed individually as they were given 40 minutes to prepare to take over a class whose teacher had left in mid-term. The subjects were provided with a note book and grade book left by the previous teacher, together with pupil information cards containing teacher's comments, and corrected test and homework assignments. The subjects had to plan what to do in the first two days lessons with the class, and were interviewed immediately

afterwards.

The simulated planning task revealed marked differences between the three groups. Experts were found to focus upon building up an overall impression of the class and fitting it into a framework of experience. Thus they found the class to be much as they would expect and almost appeared to 'know' the pupils in advance. In contrast, both novices and postulants paid much more attention to remembering specific details in the information provided. Postulants set about categorizing pupils without querying the previous teacher's judgments. Novices, however, although possessing a vague sense that they ought not to prejudge pupils, lacked the experts' sense of pedagogical priority in seizing the overall picture. Moreover, experts were not only wary of the previous teacher's judgments, but also tended to be critical of things she had done.

If novices and postulants remembered more individual pieces of information than experts, the information they had garnered was both divorced from any instructional plan and detached from other pieces of information. Experts were much more discriminating and noted information that had instructional significance, like the number of pupils in the class, whilst ignoring other specifics. They extracted from pupils' work information about what content needed to be focussed upon and which concepts were causing difficulty. They appeared to have established procedures for starting off with a new class and were intent upon beginning afresh, deriving their own personal sense of the pupils, establishing a working relationship, getting the

class organized by providing groundrules and deciding upon the content of instruction. Whereas experts planned to question pupils and set work that would allow them to estimate the pupils' knowledge, postulants tended to rely on where the pupils had reached in the textbook as an index of knowledge. Novices planned to have the pupils tell them what they had covered and give some review exercises, but did not perceive the need for probing pupils' understanding. While the expert appears to discriminate clearly what is significant from what is not, "a characteristic of the novice is this lack of ability to separate important from unimportant events" (op. cit., p. 68).

Expert teachers are found to differ from novices in 'profound' ways, experience in the classroom having led to changes in perception, memory and thought in ways that seem more sophisticated, efficient and useful. They see pupils differently because they possess rich schemata for typical pupils that are based upon a multiplicity of particular cases which are the source of their personal knowledge. They use their sophisticated schemas regarding pupils, their large store of episodic knowledge, and their unique memory to analyze pupil tasks and homework differently. The same cognitive processes are used to develop plans for instruction that also differ noticeably.

But this general picture has to be qualified. A few postulants did not seem ignorant of classroom realities and behaved as if they were more experienced in classrooms than they in fact were. Considerable overlap was also found between novices and experts. On some tasks, expert teachers did not seem to

be at any advantage. Some experienced teachers did not always behave as expected while some novices showed very sophisticated patterns of thinking. Berliner notes: "Experience does not teach everyone equally well" (op. cit., p. 76).

Experts are noted often to have difficulty in articulating the basis for their own skill and expertise, due to lack of consciousness of scripts for perform-ance. Similarly, it is postulated that an understanding of the complexity of automated behavioural routines may also be unavailable to consciousness. There appears to be an overwhelming need for the development of a language that would enable teachers to talk about such things if it is desired to facilitate the learning of beginning teachers. As Berliner concludes:

> Automatization of behavioral routines along with clarity in one's mental script about how things should occur is not expertise, but these factors probably constitute a great deal of the necessary conditions for the development of expertise (op. cit., p. 61)

2.6 Investigating the Development of Expertise in Learning to Teach

Whilst expert-novice studies give an indication of the nature of teaching expertise, and of the differences between beginners and experienced professionals, they provide little indication of how one develops into the other, or how the gap between beginning practitioner and consummate performer may best be bridged. The progression may not be linear (Evans, 1990) and there may be areas where novices are at an advantage (Berliner, 1987). Moreover the hazards of experiential learning in teaching are well documented (Feiman-Nemser & Buchmann, 1986a, b & c).

For these reasons, it may be thought most appropriate, if the aim is to help

student teachers, to investigate how expertise develops, rather than to point

out the differences between those who possess it and those who do not; that

is, to document how teachers learn from experience how to improve over

time. Such an approach is advocated by Shulman (1986; 1987; 1990) who

studies the development of student teachers on teaching practice, and as they

commence their careers as high school teachers.

Shulman (1986), like others (see, e. g., Buchmann, 1982; Peters, 1977),

emphasizes the central importance of the subject in learning to teach. This

is an aspect of the classroom that even those who claim to focus on ecology

tend to overlook, and which has been woefully neglected in educational

research (Shulman, 1990). By way of illustration, Shulman (op. cit.) draws

attention to the process-product paradigm of educational research that is

elucidated in Dunkin and Biddle's (1974) monumental study of research on

teaching.   In that volume, there is little focus upon the relation of subject

matter to teaching processes, and it appears to be tacitly assumed that the

processes and products of teaching may be viewed similarly for all subjects

and all grade levels.[7]

Shulman's approach makes reference to Schwab's (1964) structure of the

disciplines. Teaching in different subject areas is held to be distinguished

because the underlying subject disciplines pay attention to different phenom-

ena, ask different sorts of questions, have their own ways of determining

significance, possess particular procedures for establishing truth, assessing

new knowledge, and so on. If the disciplines are regarded as distinctive ways

of human knowing, it must be recognized that they are so by virtue of oper-

ating a highly selective approach to reality: they rigorously exclude certain

questions, methods, and so on, as belonging outside their purview. Thus,

teaching inevitably differs from subject to subject insofar as the teacher,

whether she is conscious of it or not, is introducing pupils into the particular

ways of knowing appropriate to a specific discipline[8] (Shulman, 1990).

Pursuing this approach the Stanford research (Shulman, 1986; 1990;

Wilson et al. 1987) examines how student teachers strive to communicate

what is essential about their subject in ways which connect with their

pupils' experience, interests and prior understandings. The research involves

longitudinal case studies of knowledge growth in teaching. Thus 21 students

in their final year of training as teachers of biology, social studies,

mathematics and English were studied in their final year of training. 12 of

these were followed through into the first year of their teaching career. The

project began by seeking to elucidate the participants knowledge of their

subject and, in particular, the substantive and syntactic 'structure of the

disciplines' (Schwab, 1964).

Teachers must have knowledge of the substantive structures - the ways in which the
fundamental principles of a discipline are organized. In addition, they must have knowledge
of the syntactic structure of a discipline - the canons of evidence and proof that guide inquiry
in the field (Wilson et al. 1987, p. 113-4).

However, it was felt unwise to rely solely upon participants' self-reports

of what they <u>thought</u> they knew, and a variety of tasks specific to each

subject were allocated to reveal participants' knowledge of the field. Thus,

for example, history teachers were asked to reflect upon a historical

document, and English teachers to analyze a piece of literature.

Additionally, teachers were interviewed before they taught a particular

topic, to illuminate what they knew about it and the content they wished

their pupils to learn. Subsequently the lesson was observed and, after the

lesson, participants were interviewed to determine changes in subject matter

knowledge and pedagogy, and how such changes had been effected. In

contradistinction to research which suggests beginning teachers are

preoccupied with survival to the relative neglect of subject matter concerns

(Fuller & Brown, 1975), the Stanford research indicates that wrestling with

ways of explaining instructional content to pupils is as inevitably a concern

of beginning teachers as is classroom management.

The findings suggest that student teachers are forced to interrogate their

own understanding of a topic in order to be able to represent it to pupils.

Moreover, in the process of attempting to teach, students may discover that

there are essential aspects of their own subject which they have understood

intuitively, and which they have difficulty in making explicit.

In making the transition from student to pedagogue, novice teachers struggle with finding

ways to explain the content of their disciplines to High School students. In their struggle to communicate understanding, they are forced to examine their personal understanding of the content. Subsequently, they generate representations of the subject matter that will facilitate the development of understanding in their students. These representations or transformations of subject matter take many forms - metaphors, analogies, illustrations, examples, in-class activities, and homework assignments"(Wilson et al., 1987, p.112)

Experienced teachers are viewed, ideally, as possessing a 'representational repertoire' for their subject. Starting with a favoured way of communicating a topic, it is hypothesized that the teacher learns through experience to develop alternative ways of representing it that may be fruitfully used with a wide variety of students. This developing knowledge of subject matter in terms of pedagogical purposes enriches the teacher's own understanding of the subject. A logical model of the components of the professional knowledge base for teaching that shows the kinds of knowledge teachers draw upon when planning the content of their courses is suggested. This model links pedagogy with knowledge of subject matter, though exactly how these items interrelate is not yet known.

Figure 2.2 Components of the Professional Knowledge Base of Teaching
(Adapted from Wilson et al., 1987, p. 113)

Knowledge of curriculum

Knowledge of subject matter

Knowledge of learners

Pedagogical content knowledge

Knowledge of educational aims

Knowledge of other content

General pedagogical knowledge
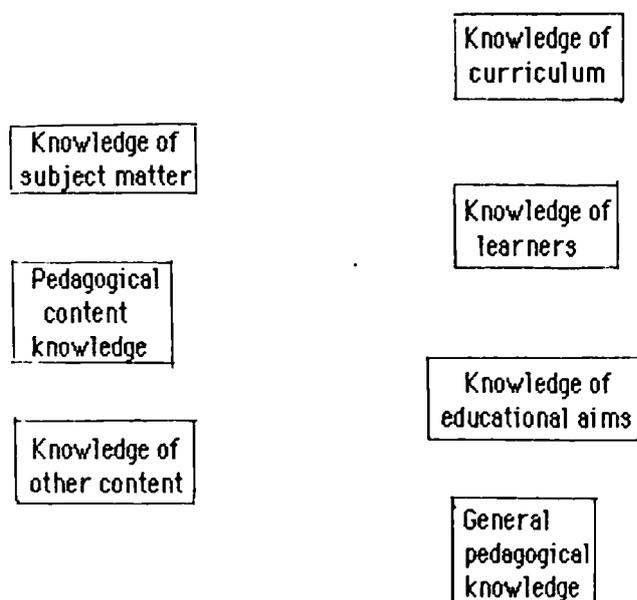
Teachers are seen to require <u>subject matter knowledge</u> that includes the facts and concepts of a field, their interrelationship, and the ways in which new knowledge is validated and encompassed by the discipline. <u>Knowledge of other content</u> is salient because teachers are found frequently to refer to knowledge that lies outwith their discipline. Teachers also require <u>knowledge of curriculum</u> including programmes and materials. <u>Knowledge of learners,</u> of their characteristics, motivation and development is also essential. They require <u>knowledge of educational aims</u> that includes particular aims nested within a group of aims that are more all-embracing. <u>General pedagogical knowledge</u> signifies knowledge of generic principles and approaches, not delimited by subject area. Lastly, there is a need for <u>pedagogical content knowledge</u> which the Stanford researchers have identified as a new type of content knowledge. It refers to

...the particular form of content knowledge that embodies the aspects of content most germane to its teachability.

Within the category of pedagogical content knowledge I include, for the most regularly taught topics in one's subject area, the most useful forms of representation of these ideas, the most powerful analogies, illustrations, examples, explanations and demonstrations - in a word, the ways of representing and formulating the subject that make it comprehensible to others. Since there are no single most powerful forms of representation, the teacher must have at hand a veritable armamentarium, of alternative forms of representation, some of which derive from research whereas others originate in the wisdom of practice.

Pedagogical content knowledge also includes an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of those most frequently taught topics and lessons. If those preconceptions are misconceptions, which they so often are, teachers need to know of the strategies most likely to be fruitful in reorganizing the understanding of learners... (Shulman, 1986a, pp. 9-10).

Lest it be though that pedagogical content knowledge is to be regarded as merely a repository of alternative representations, it is emphasized that it

must be viewed as inextricably linked to pedagogical thinking (Feiman-Nemser & Buchmann, 1986a). A case study of a novice English teacher, George, serves to indicate the complexity of such thinking. Asked how he will teach the concept of 'theme', he plans initially to have his pupils write what they understand by the term. This will be followed by an attempt to demonstrate a theme in some short stories, supplemented by an example of theme and counterpoint in a piece of music.

However, dissatisfied with his original idea he seeks to clarify his conceptualization and writes a definition of theme in his journal. Although he had been required to write analyses of themes in his undergraduate literature course, he had never needed to define the concept explicitly. Consequent upon providing an explicit definition, he revises his teaching plan and decides to introduce the concept using an analogy with the pattern of innings in a baseball game. However this approach proves unsuccessful when implemented and George seeks a new way of explaining the concept in a way that might connect with the interest and understanding of his pupils. Thus he uses a new analogy – this time of a hunter tracking a wounded animal by reading traces that it leaves. It is in this struggle to make subject matter meaningful to pupils that the student's knowledge grows.

> Through the process of planning, teaching, adapting the instruction, and reflecting on classroom experiences, George slowly acquires new types of knowledge. He knows more about teaching the concept of theme; he has a more refined understanding of the use of analogies for instruction; he knows more about some difficulties students have with this concept.
> ...Our novice teachers are learning to think pedagogically about the subject matter. We believe that pedagogical reasoning is as important to successful teaching as observable performance (Wilson et al., 1987, p.117).

Guiding the research is a model of the pedagogical reasoning process, as

shown in Figure 2.3.

Figure 2.3   Model of Pedagogical Reasoning (Adapted from Wilson et al.,
             1987, p. 119)

Transformation:
-critical
   interpretation
-representation
-adaptation
-tailoring

Comprehension

Instruction

New
comprehension

Evaluation

Reflection
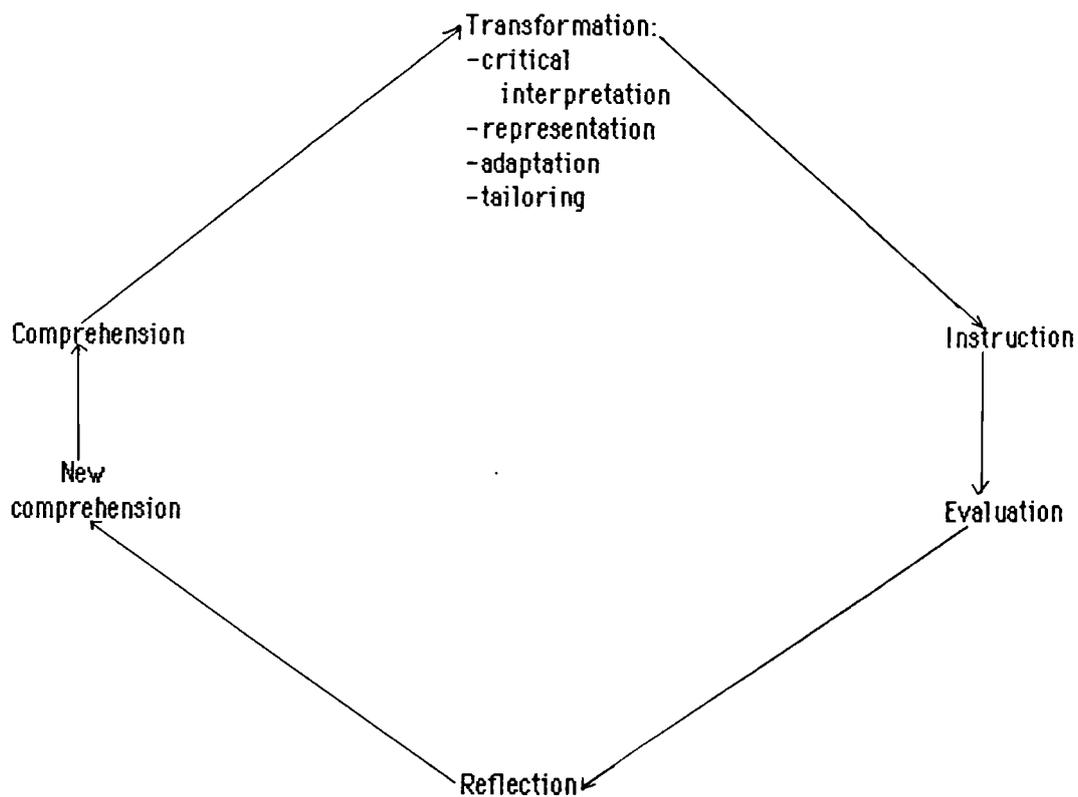
The model given is cyclical, but pedagogical reasoning is said to begin with

comprehension. The critical understanding of a topic, both substantively

and syntactically, is necessary for teaching. That is, an English teacher, say,

whilst she ought to be able to scrutinize the themes, characters, language and

imagery of a literary work, needs also to be able to place that work in

relation to developments in the literary tradition and to its social context.

Transformation is viewed in terms of 4 components. Critical

<u>interpretation</u> encompasses scrutiny and evaluation of teaching materials.

<u>Representation</u> involves consideration of different possibilities for

transforming the content for pedagogical purposes. <u>Adaptation</u> includes

ensuring that the transformation fits general student characteristics as well

as taking account of typical misconceptions. <u>Tailoring</u> is a more precise

adaptation that refers to achieving a close fit between material and what is

known about pupils in a particular class. Combined, the 4 components of

transformation lead to the development of the teacher's operating plan.

Instruction refers to the observable aspects of teachers' classroom

performance.[9] **Evaluation** includes informal monitoring of pupil

understanding during teaching, as well as the formal tests and exams which

are set. In **reflection** the teacher is concerned with evaluating her own

teaching. This process is seen to involve the mental reconstruction of a

lesson and it is here that learning is culled from experience. Reflection feeds

into **new comprehension** as the teacher's understanding of subject, self,

pupils and teaching is enriched and deepened.

This research suggests that the interrelationships between subject matter

knowledge and teaching are both complex and dynamic. Certainly, it indicates

that earlier research which attempted to correlate class of degree, or scores

on standardized tests, with teachers' performance was doomed to fail

because it relied upon an over simplistic conceptualization of the role

subject matter knowledge might play in teaching. While a beginning has been

made in unravelling the processes involved in how an individual improves at teaching over time, there is much that remains unclear. In particular, it is not known whether the relationship between subject matter knowledge and teaching in the primary school may be viewed similarly.

2.7 Overview of Research on Teaching Practice and Learning to Teach

It is noteworthy that teaching practice appears to have been traditionally regarded as both indispensable and, at least as far as research was concerned, unremarkable. Teacher educators and their students seemed to share agreement that experience of classroom teaching was the key practical intervention that pre-service training should provide. Yet during this intervention university tutors were largely absent and the achievement of desirable learning outcomes appears to have been entrusted mainly to chance. Attempts to link the theory learnt in university courses with classroom practice were rather haphazard.

A review of the literature indicates, however, that longstanding weaknesses of the practicum are now being energetically addressed, although this sometimes involves the development of pragmatic proposals for improvement. Thus, there has been an attempt to specify the graduated sequence of learning experiences that student teachers should progress through during the course of their training year (Turney, et al., 1985). Similarly, in the United States, the Holmes Group (The Holmes Group, 1986)

has advocated the setting up of professional development schools which

would fulfil a training role anlagous to that of teaching hospitals. In the

United Kingdom Stones (1990) has also drawn attention to the failure to

integrate theoretical and practical elements in teacher training. Thus he

argues for a radical restructuring of the traditional apprenticeship model in

favour of a systemic psychopedagogical approach in which greater attention

is paid to the detailed implications of relevant theory for particular

classroom situations (Stones, 1990).

Along with such calls for restructuring, there has been a growing research

interest in teaching practice and its fundamental role in professional training

that is linked to more general research into how professionals think and learn

(Schon, 1983; 1987). Thus, there have been numerous researches in teacher

education which draw attention to the cognitive aspects of classroom

professionalism. Studies of expert-novice differences, for example, take a

cognitive science perspective and seek to elucidate the nature of expertise in

teaching. This, notwithstanding a particular difficulty with respect to the

field of teaching in clearly differentiating expertise from mere extended

experience (Berliner, 1987), and doubt expressed by some that the term

'expert' can ever be legitimately applied to teaching (Buchmann, 1991).

Such studies emphasize the importance of the experienced teacher's

possession of scripts for different types of lesson, and for sub-units of

lessons (Borko & Livingstone, 1989; Leinhardt & Greeno, 1986). Knowledge of these scripts is, to some degree, shared with pupils, thus allowing great economy of effort. Besides lesson structure knowledge, the differences in the actions of expert teachers are attributed to their possession of highly developed schemata for typical pupils and their responses, and for gathering information.

This research approach emphasizes the importance of dynamic considerations for understanding teaching processes. The recognition that teaching involves acting in an unstable and unpredictable environment where there is a continuous need to adjust performance as information arises, also introduces a real-time perspective into the study of teaching. Still, the notable smoothness of the expert teacher's performance is largely seen in terms of the highly efficient ways in which she handles routine matters, thereby reducing cognitive load and allowing for attention to be concentrated on areas of greater pedagogical significance.

Interesting as this research is, however, in indicating the differences between expert and novice teaching performance, it provides little information about how such expertise develops in the first place, nor how the transition from inexperience to consummate expertise might best be encouraged (Evans, 1990). Moreover, if the capacity for dealing with new situations is seen to rest upon a synthesis of knowledge drawn from many

hundreds of individual cases encountered, particular instances of the

operation of such knowledge, involving the dynamic handling of new

situations in real time, tend not to be discussed.

An approach which does seek to enable a transfer of expertise to student

teachers is the attempt to elucidate the craft knowledge that experienced

teachers use in the classroom, but appear unable to articulate. If such

knowledge could be made explicit, then benefits might accrue for student

teachers. An obvious difficulty in such an approach, which still awaits

satisfactory resolution, is how teachers are to be encouraged to be

perspicacious informants concerning matters in which they appear to lack

conscious awareness. While it has proved possible to elucidate teachers'

conceptualization of their own performance in terms of the maintenance of

Normally Desirable States (Brown et al., 1987, 1988), the dynamic features of

teaching remain unclear due to problems in gaining access to teachers'

real-time cognitive activity. Attempts to encourage conversations between

students and co-operating teachers which would enable the sharing of craft

knowledge have, so far, provided equivocal results (McIntyre et al., 1988).

While research involving expert-novice differences and studies of teachers'

craft knowledge seeks to explore the nature of the expertise that beginning

teachers lack, other researches have started with student teachers'

themselves and investigated their learning during classroom experience.

Working within a pedagogical framework such studies focus on the ecology of teaching practice. The evidence here is drawn from case studies of student teaching (Feiman-Nemser & Buchmann 1986, a, b, & c; Zeichner, 1980; 1986 a & b) and indicates that trusting, largely, to chance classroom experience to provide appropriate learning for prospective teachers is an entirely inadequate strategy. The failure of co-operating teachers to act as teacher educators, the fact that university tutors are mainly absent, the preconceptions that students bring to teaching, the pressures upon them to display competence and conform to existing school practices; all these tend to conspire to produce a narrowing of experience so that student teachers learn to 'go through the motions' of instruction, rather than to engage in a wider exploration of the possibilities of teaching. In addition, students are likely to flounder when they find there is little detailed support available to help them solve the particular teaching problems they encounter, and when they discover, often in front of pupils, their own lack of relevant subject matter, and pedagogical, knowledge. Again, while such researches provide graphic evidence of the weaknesses of traditional teaching practice, there is less focus upon the dynamic aspects of student mislearning, and how it is mediated through particular experiences.

One response to such findings has been to seek to develop student teachers into reflective practitioners. Thus research has sought to uncover the cognitive processes that teaching involves (Calderhead, 1987) and teacher

educators have sought to develop reflective models of teaching practice. The work in this area to date (see, for example, Zeichner & Liston, 1987; Liston & Zeichner 1990; Wubbels & Korthagen, 1990) suggests that training student teachers to reflect has only limited success, at least by the end of teaching practice itself, though, since there is a lack of longitudinal studies, it is not known what benefits may accrue to teachers so trained over the longer term. Moreover, doubts have been expressed about the concept of 'reflective teaching', since various groups of researchers appear to conceive what is meant by this term rather differently, and to implement rather various programmes centred around it (Calderhead, 1990; McNamara, 1990).

Yet another research approach undertakes longitudinal studies of the development of teaching expertise over time (Wilson et al., 1987), and so includes a dynamic perspective, albeit, a long term one. Thus the way in which students develop knowledge about teaching becomes the focus of enquiry. This research adopts a subject-specific approach and investigates how individuals learn to teach their subject specialism to high school pupils (Shulman, 1990). Preliminary results suggest that there is a considerable disjunction between knowing a subject well enough to obtain a university degree in it, and knowing it pedagogically: that is, in ways which allow the essential features of the discipline to be articulated for, and understood by, various groups of high school pupils. A newly discovered type of teacher knowledge, pedagogical content knowledge, is indicated by this research and

refers to knowledge relating to the teachability of particular subject matter,

including common pupil misconceptions that must be guarded against

(Shulman, 1986a). Whilst this research approach has been criticized for

adopting too narrow a view of education (Sockett, 1987), it has nevertheless

focussed attention upon the essential fact, often overlooked by research, that

teaching possesses content and that content intimately affects the teaching

processes which occur (McNamara, 1990; Buchmann, 1983).

The variety of approaches that is now to be found in teacher education

research, stands in marked contrast to the ubiquitous socialization approach

of early researches which adopted survey methods in pursuit of a stereo-

typical model of professional development in teaching. Certain broad

tendencies, however, may be indicated. The cognitive complexity of teaching

is now explicitly recognised. Researchers no longer seek to study teaching in

general terms while remaining outside the classroom, and they make

recordings (both audio and video) for later analysis, and also conduct

interviews to seek participants' viewpoints. The teaching of particular

individuals tends to be addressed using a case-study approach which provides

transcript citation of spoken events. Teaching practice is no longer taken for

granted but regarded as highly problematic, and the learning that occurs

during it is likely to be subjected to a careful critique. A tendency to focus

more closely on particulars has led to studies which are subject specific.

Moreover, the dynamic aspect of teaching is also likely to be recognised. Thus

the Stanford research, for example, inspects the evolution of student

teachers' successive attempts to explain subject matter.

However, if the importance of the dynamic aspects of teaching is

recognised, there is still little serious attention paid to the real-time nature

of student teaching through moment-by-moment investigation of student

teachers' classroom activity. Nor can there be said to be much focus on

language and how it is used by student teachers. Indeed, though linguistic

evidence features widely in the researches discussed, language seems to be

taken entirely for granted. Thus there does not appear to be any explicit

awareness of the differences between written and spoken language, nor of the

considerable theoretical problems raised by the attempt to provide a written

account of spoken events. None of the researches, for instance, provides an

account of the methodology used in transcription though this is a fundamental

matter. It will be argued, in a later chapter[10], that it is doubtful whether

research which pursues knowledge about teaching through the analysis of

transcript evidence may continue to rely upon commonsense views of

language.

NOTES

1. Genuine groupwork was found to be a rare occurrence in the classrooms studied.
2. Zeichner (1986a) also makes a distinction between the curriculum of a particular teacher education programme as it is given in course documentation and , what he calls, its 'curriculum in use'.

3. This comment is made with regard to the Decision Making Programme, see Feiman-Nemser & Buchmann, 1986a, p. 253).

4. Calderhead (1990, pp.154-5) suggests that Zeichner's four paradigms, besides being far from discrete, may all be differentially appropriate to teacher learning according to different aspects of the teacher's context, experience, or work.

5. This particular formulation is adapted from Evans (1990).

6. The use of the description 'experienced/expert' teachers throughout reflects difficulty in distinguishing beween expertise and experience in teaching.

7. Shulman (1990) indicates the absurdity to which such an undifferentiated approach may lead by referring to the advocacy of direct teaching (Rosenshine, 1986) as a generally applicable improvement in education. Direct instruction is largely based upon process-product studies of mathematics and physics, and there is little overt recognition that a pedagogical model which involves reviewing problem sets, and then learning new rules, which are next applied under guided practice, may be inappropriate to subjects (e. g. Literature, History, Language) which do not readily lend themselves to the operation of algorithms (Shulman, 1990). While it is essential for research purposes to introduce simplifications in order to render teaching processes analyzable to some degree, it is seen to be important not to simplify away key determinants of these processes. But this is precisely what educational researchers have done by creating "generic content-independent pedagogical models that ride roughshod over important, entrenched, essential differences among the ways of knowing in the different domains of knowledge" (Shulman, op. cit., p11).

8. There may also be competing ways of conceiving of the same subject. Biology is cited as an example. American High Schools teach biology from one of three differing perspectives: 1) the traditional approach follows an organism centred structure-function approach; 2) an alternative way of conceiving of the subject is to follow a reductive-analytic approach based on the cell, since all living things consist of cells; and 3) it is possible to teach biology utilizing an ecological perspective that focusses upon organisms in the context of an evolutionary environment. Shulman goes on to point out that those engaged in research in teaching and teacher education chose among a similar set of paradigmatic choices. "Some .. look to the abilities, knowledge and skills of the teacher as the determinants of quality. Others examine the social conditions and organizational climates of schools to explain variations in the effectiveness of teachers. Still others examine the teaching learning situation and interactions themselves" (Shulman, 1990, p. 13).

9. It is noted that it is at this point "that the corpus of research on teacher knowledge intersects with the literature on teacher effectiveness" (Wilson et al., p.120).

10. See Chapter 6.3 - Transcription- for further discussion of this issue.

CHAPTER 3   REVIEW OF RESEARCH - PART TWO

3.1 Transcript Based Approaches and the Search for Sequential Patterns in

the Language of Teaching

A review of the research literature on teaching practice, as reported in the

previous chapter, failed to provide satisfactory guidance about how to

proceed in an investigation of the real-time aspects of student teaching.

Thus attention turned to classroom research which sought to use transcript

evidence in a search for contextual units of interactive discourse in the

classroom. Perhaps the scrutiny of such earlier research might prove

instructive.

Several such studies are identified in The Study of Teaching (Dunkin &

Biddle 1974). They attempt to identify contextual units of discourse within

which the individual verbal acts of teaching may be seen to have meaning, and

they demonstrated that it was possible to study the cognitive aspects of

teaching at a time when most research focussed on "the more easily coded

affective variables" (Rosenshine, 1970, p. 109). These studies took advan-

tage of the development of portable tape recorders to make a record of all

that was said in class sessions. Tapes were then transcribed and analyses

carried out upon the transcript record of speech.[1]

Although few in number (Smith & Meux, 1962; Nuthall & Lawrence, 1965;

Taba, 1966; Bellack et al., 1966; Smith et al., 1967) they are marked by

considerable complexity. The discussion here then, in the interest of

economy, summarizes these briefly from the viewpoint of what they indicate

about the nature of pedagogical discourse and how it might be analyzed.

Moreover, guidance is drawn from this previous research experience about

which approaches might be most useful to follow, and which ought to be

avoided. These pioneering researches followed no well-established

procedures and investigated areas that are both intricately complex and

where there is little guidance how to proceed. They are marked by much

reliance on intuitive judgments, a high level of improvisation, and some

curiosities. They are inspected in terms of conceptualization, assumptions,

the ways in which analytic units are selected and deployed, approaches to

dealing with the realities of spoken discourse, and unresolved difficulties.

3.1.1 Smith, B. O. & Meux, M. O. (1962): A Study of the Logic of Teaching[2]

B. Othanel Smith is credited with pioneering the 'tapescript' approach to

the study of teaching (Taba, 1966), that is, research which is based on

analysis of typed transcripts derived from audiotaped records of classroom

lessons. A complex set of assumptions about teaching appear to underpin the

development of this approach:

> In order to investigate what teaching is and how it can be described it is necessary to clear
> away notions about the relationship of teaching and learning or to philosophy and
> psychology, and to reject the view that teaching can be carried on without talking or that it
> may be described by recourse to treatises on teaching methods. Actual teaching is so
> varied, so complex, so fluid as almost to defy any description whatever... "(p. 3).

Since teaching is almost completely unexplored, primitive descriptive studies are required which accurately map its contours. And since teaching itself is highly complex, the researcher has no choice but to be prepared to engage himself in complexities:

Since verbal behaviour perishes as it occurs and is too complex to be observed and analyzed immediately, it is necessary to record it. Only when it is recorded and can thus be repeatedly observed, can it be used as a source of data for the analysis of teaching (p. 9).

It is based upon such a conceptual background that Smith and his assoc-iates at the University of Illinois conducted research into teaching for around a decade. Two main reports were produced: the first of these, on the logic of teaching, is considered here while the second, on the strategies of teaching (Smith et al., 1967), is considered later.

The key task of this research programme is outlined as follows:

As one observes teaching behaviour he sees a variety of activities. The teacher asks questions and listens to and appraises answers; listens and responds to students' questions; and reprimands, approves, or reacts neutrally to students. He tells them how to do something or shows how it is done. He listens to students tell how to do something or observes their efforts to do it. All of these activities take place in an orderly fashion, and yet they exhibit no readily observable pattern of development. To identify operations within which such elements of teaching behaviour have meaning is one of the main tasks of research" (p. 2, original emphases).

Since the elements of teaching behaviour are held to have meaning in relation to the pattern of operations to which they belong, the procedure followed is first to seek to identify a contextual unit of classroom discourse, and then to attempt to analyze the logical principles which govern its construction.

The sample of classroom discourse used in the analysis consists of tapes of 5 consecutive lessons with each of 14 teachers in Senior High Schools and their 9th., 10th., and 12th. grade classes. The subject areas being taught were Mathematics, Science, History, English, Sociology and Core Programme. Along with the project member operating the recording equipment, another researcher sat in the classroom making a record of such features as: the room layout, including the seating arrangement; books, handouts and audio-visual materials used; laboratory equipment used in experiments; whatever was put up on the blackboard; whatever was referred to or pointed to without being named; and the sources of non-verbal sounds and noises that would appear on the tape.

Prior to making the recordings, it had been thought that analysis could be based solely on listening to the tapes. But the complexity of the logical structure of discussion, the need for researchers to discuss specific details of the discourse, and the pervasive background noise that occurred in classrooms, made it necessary to prepare transcriptions. A team member listened to the same segment of tape repeatedly and sought to make an accurate record of the words and phrases spoken. Where words and phrases were unintelligible the transcriber tried to guess what was being said, putting the guess in brackets. This draft transcript was edited by a researcher who had been present at the class session, and who listened to the tape recording, checking for accuracy. He also supplied details of whatever

was being referred to in the classroom whenever this was not clear from the tape, and inserted references to items in the observer's record for the benefit of the analyst.

Teaching is conceptualized as an activity consisting of an agent, a situation and an end in view. The means of teaching is conceived in terms of subject matter that is to be taught and instructional procedures for communicating that subject matter. The first of these is called material means and the second procedural means. It is with the procedural means of instruction that the two Illinois studies are concerned: "The procedural means have two aspects: large-scale maneuvers which we call strategies, and smaller movements, constituting tactical elements of strategies, which we call logical operations" (p. 3).

The tactical unit identified is called the episode. This is defined as "a unit of discourse beginning with an expression which triggers a verbal exchange about a topic and ending with a completion of the discussion of that topic" (p. 10). Thus the episode is a unit in which discourse is constructed by two or more speakers engaging in one or more exchanges to realize a completed verbal transaction. While it is maintained that a key feature of any unit into which discourse is to be divided must be that it is "significantly related to instruction" (p. 10), there is no empirical evidence that the episode meets this criteria, only the researchers' intuition.

Another unit of discourse is also found in classroom transcripts: a single

speaker unit called the monologue which arises, say, when the teacher

lectures or a pupil presents a report to the class. Analysis begins by dividing

a transcript into episodes and monologues, a process which "exhausts the

discourse" (p. 14), since the end of one unit marks the beginning of the next.

Because the research concentrates on uncovering the logical operations that

may be found in classroom interaction, all monologues are excluded from

analysis.

Two basic patterns of episodic discourse are distinguished in classroom

interaction - the reciprocating and the co-ordinate. In reciprocating

episodes the discussion evolves through three phases: a point is raised in an

entry (opening phase); a reply is ventured, judged or the like (continuing

phase); the exchanges may then be sustained further, or dropped by the

teacher's conventional acknowledging remark (closing phase). An example of

the reciprocating pattern is given in Figure 3.1.

FIGURE 3.1   Three reciprocating episodes (Adapted from Smith & Meux,
1962, p.15)

T: Now who do you know who was the first person who discovered the Hawaiian Islands?
     Steve?
Steve: Was it Captain Cook?
T: That's right. // Do you know about what time it was, Steve?
Steve: 1670 something?
T: No it's not that early. Come down about a hundered years.
Steve: 1770?
T: Yes. It was 1778, actually during the time of our American Revolution. // And do you
     know what he called the islands? They weren't Hawaii at the time. Anybody know?
     Oh, I think this is an easy name to remember -- especially around noon. Steve?
Steve: Cook Islands?

T: No. They weren't Cook Islands. That's a good guess, but that doesn't happen to be it. The Sandwich Islands.

Steve: Oh.

T: Do you eat sandwiches at noon, too? //

Note: The entries are underlined. 'T' is the abbreviation used for teacher. // indicates the breaks between episodes. -- indicates a pause or hesitation.

While this example shows episodes which progress through all three phases, episodes are frequently found to be truncated. Lacking a closing comment or assent, they are tacitly closed by the advent of a new entry. Thus the closing phase of an episode is seen to be an optional feature in real classroom discourse.

In the co-ordinate pattern of episode each pupil responds to the entry rather than to what his classmates have said. Thus a series of utterances are related because they all address the same point, but there is no direct verbal exchange between teacher and pupil, or pupil and pupil as is found in the reciprocating pattern. An example of a co-ordinate episode is given in Figure 3.2. The discussion centres on what pupils think about a novelist using his fiction to make propaganda for a particular viewpoint.

FIGURE 3.2   A co-ordinate episode (Adapted from Smith & Meux, 1962, pp. 16-17)

T: All right, now, as Carol pointed out, Alan Paton is pleading for the alternative solution -- that of brotherly love or peaceful co-existence between the races. Now, what do you think of a novelist who tries to preach a lesson or to promote his point of view through the medium of fiction? You think of that. Mary?

Mary: I was just going to say that I think it's the type of novel. I mean it's the way that it is presented that moves us. He could present it in different ways if he wanted to. Not necessarily the -- novel or -- oh, something that teaches you a moral lesson.

T: All right, just as we discussed, it's a short story. Some stories do have a moral lesson to preach and then they become parables rather than just generalized short stories. And others simply are entertaining. Denny?

Denny: Well, I think that more people would be interested in the fiction form of the novel than in just a pamphlet giving specific reasons why the two races should live together in brotherhood. I think it would attract more attention and be more interesting.

Judy: Well, since it's -- When people read it, it's more parallel to everyday life. You might be able to understand it a lot better in a novel and so on. Otherwise, you just see these facts and you wouldn't associate yourself and how you would feel and react to it.

T: All right. // Well, now, the chief function of any kind of fiction is to entertain, isn't it? Do you feel that in this book, Cry the Beloved Country, the author is actually entertaining you?

Finally, examples are found where both co-ordinate and reciprocating patterns of development are mixed within the same episode. Figure 3.3 contains an example of such a mixed episode. As in the discussion in Figure 3.2 the class are dealing with Alan Paton's Cry, the Beloved Country, this time focussing on a particular character, John Kumalo.

FIGURE 3.3   A mixed episode (Adapted from Smith & Meux, 1962, p. 18)

T: What is his particular talent that is being used in this organization? Mary?

Mary: His lion's voice?

T: His lion's voice? Was that it?

Mary: Well, he had a real booming voice.

T: Bill?

Bill: He had his -- I was thinking about when they -- you know -- get them all shook up or something like that and then they -- [A boy breaks in: "Oh! I'm all shook up!" laughter from class.] You know what I mean, well -- you know like -- well, I don't know how you explain to a --

T: I know what you mean, but I can't say it.

Lydia: He had the power to agitate -- to get people -- to kind of-- he appealed mostly to their emotions and he'd get them so far, then he'd just sort of -- just some way -- decide to -- that they're hungry and some people would say -- for food and he -- more and more and he got -- putting into propositions the -- natural way -- keep them from doing it.

T: At one point, isn't his voice called "old Grundage" -- isn't that one of the descriptions Paton uses? And his particular talent of leadership of the group that he's working with is to be an impassioned speaker -- you can just picture him on a street corner getting everybody all riled up.

Smith & Meux note that the instrument exists in only a tentative state.

This is partly due to the fact it requires refinement, but also because:

> ... it is not likely that any set of criteria could be developed which would account for any and every item of verbal behaviour that may occur in discussion. For language is as infinitely varied in its forms as the human activity of which it is a part. (p. 26).

Coefficients of inter-marker agreement for identifying episodes are given. Seven transcripts, three in History and four in English, were each divided into episodes by pairs of judges using the criteria developed. The coefficients range from 0.62 to 0.73, with a median of 0.70.[3]

Various sources of error in identifying episodes are discussed. Firstly, vague or ambiguous utterances occur, thus rendering it difficult to decide which criterion applies. Secondly, it was found impossible to specify a rule to guide judges to help them distinguish between a new aspect of the same topic or clarification or amplification of some point in the existing topic. Thirdly, there was some difficulty with lengthy prefatory material in judging whether it might be legitimately considered part of an entry, or whether it should be viewed as a monologue. The moderately high reliability coefficients obtained are regarded as satisfactory for research purposes, considering the rather tentative state of the criteria.

The classification of episodes is undertaken on the basis of the logical character of the entry since it tends to shape the kind of responses which are

given. This approach was adopted after several other attempts to categorize

episodes on the basis of their entries had to be abandoned as unworkable.[4]

It is curiously difficult to make an overall assessment of <u>The Logic of</u>

<u>Teaching</u>: if the research indicates that logical operations do indeed occur in

teaching, the 'logic' of the classroom appears to operate in puzzlingly

different fashion from ideal models of logical processes. While considerable

progress is made in illuminating certain aspects of teaching, the research

also becomes enmeshed in unresolved difficulties. Yet the development of a

method for using carefully prepared transcripts derived from tape recordings

of class sessions to scrutinize teaching, marked a notable advance in

research technique at that time.

Since this is a pioneering effort to open up a highly complex area of

investigation it is not surprising that, as the researchers readily admit, there

are central difficulties they have been unable to resolve. The most crucial of

these is that not all classroom discourse appears to be equally amenable to

the kind of episodic analysis the researchers develop. There are problems

with identifying episodes reliably, and it is found impossible to formulate

procedures which would obviate the difficulties. Whereas classroom

discourse sometimes seems to be readily broken into episodes with precision,

sometimes the boundaries of episodes are not easy to discern and the

identification criteria provided are of little help.

A particularly vexed question appears to have been how to deal with the indeterminacy of discourse: whereas the analysis is based on the mutually exclusive categories of formal logic, the entries to episodes sometimes seem to indicate more than one category, or none of the categories at all. Thus it appears that the system of analysis developed demands an unequivocal clarity of classroom discourse that, in reality, it frequently lacks. Having discerned the episodic pattern occurring in some segments of classroom talk, an attempt is made to view all interaction between teacher and pupils in terms of clearly identifiable episodes, but this would seem to demand considerable idealization of the data in order to operate the system.

Perhaps the most important insight developed in this research is that teachers' questions or demands do not only specify a topic to be addressed, but that frequently they also indicate, as an overt feature of the discourse, a particular response schema for the answer. It is thus that the teacher is seen to be directing thinking in the classroom. Moreover, it is tentatively suggested that the ways in which the teacher seeks to guide discussion by indicating within a question the cognitive format of the answer required may be linked to the particular subject being taught.

Finally, the system for analyzing the use of interactive discourse in teaching that Smith and Meux develop must be regarded more as an heuristic device for the exploration of hitherto unknown features of teaching, than as

an observation system that others might use. Despite the fact that the research leaves many problematic issues unresolved, it provides a fascinating, if sometimes perplexing, account of selected aspects of classroom talk and suggests the difficulties that are likely to be faced by any who seek to investigate the pedagogical patterning of extended verbal sequences.

3.1.2 Nuthall & Lawrence (1965): Thinking in the Classroom

This study was undertaken at Univ. of Christchurch and seeks to apply Smith and Meux's (1962) categories[5] to the analysis of teaching in the New Zealand context. The Christchurch study is in no sense a matched replication of the Illinois study undertaken in another country, "since the classrooms varied [from those studied by Smith & Meux] in numbers and ages of pupils, teaching techniques, subjects being taught, and educational setting" (p. 10). Also it is a much smaller study. 18 lessons (7 lessons each in arithmetic and in language, 4 lessons in spelling and social studies) taken by 8 experienced teachers in two junior high schools were tape recorded and transcribed. The pupils involved were aged 11- 13 years. The reasons for observing most teachers over only two sessions, for choosing to deal with pupils considerably younger than those in the Illinois study, and for selecting the subject areas in this study of classroom thinking, are not entirely clear.

An example of an episode from an arithmetic lesson is given in Figure 3.4.

FIGURE 3.4 <u>An episode from Form 2 Arithmetic</u> (Adapted from Nuthall &
Lawrence, 1965, p. 10)

TEACHER: <u>What do these things have in common</u> ... <u>a square and a</u>
            <u>rectangle</u> ... <u>What do they have in common?</u>
BOY: Two sides equal.
TEACHER: Yes ... and something else, though ...
GIRL: Four corners.
TEACHER: What sort of corners?
GIRL: Square corners.
TEACHER: Square corners or what's the correct word for square corners...
            (Teacher draws two lines at right angles on blackboard) Yes?
BOY: Right angles.
TEACHER: Right angles ... <u>Right.</u>

<u>Note:</u> The entry and the closing acknowledgment are given in italic script. A pause is indicated
    by ...

The number of distinct episodes per lesson in the Christchurch study varied

from 8 to 60 (median 18) and the size of episodes showed even greater

variation: from 2 to 96 utterances, the median number of utterances per

episode being 9. It is concluded that there is great diversity in the pedagogic

structure of lessons for different subjects and different teachers.

Nuthall and Lawrence propose a modified unit, called the <u>incident,</u> to

replace the episode. This unit contains all the interaction that arises

following a question until that question is answered. Thus the need to

distinguish between questions which occur in entries and those which occur

in the continuing phases of episodes, is dispensed with. It is noted that

teacher questions are frequently not fully answered by the first response and

that the teacher subsequently guides pupils to a more acceptable response by

making comments or demands, or by asking subsidiary questions.

Thus there is an attempt to provide an analysis in terms of stimulus-response units of the series of verbal moves that occur following an initial question or demand until that initial question or demand is satisfied or ceases to be dealt with. Any introductory remarks that precede the initial question or terminal comments following the last response are also regarded as part of the incident. A lesson is seen as a series of "interdependent verbal situations" or "incidents" that the teacher is responsible for initiating and steering, each question and response contributing to "a more or less clearly defined scheme followed by a teacher" (p. 20).

An analysis based upon questions would seem to offer the possibility of achieving higher inter-coder reliabilities than one using topic units, since questions are probably easier to identify than topics. However, the incident also includes introductory remarks prior to a question and terminal comments following the final response. This would seem to reintroduce some of the ambiguity that was found to complicate the identification of episodes: namely, how does the analyst tell when remarks are genuinely preliminary or concluding and so a legitimate part of the contextual unit, and how may he tell when they are not? Similarly, it is possible to conceive of judges differing as to where a question or demand finally ceases to be dealt with. Unfortunately, the New Zealand research fails to include information on inter-marker reliability for the identification of their contextual unit, so that it is impossible to determine whether the incident may be a more

reliable unit than the episode.

A set of verbal moves is provided to identify and describe incidents as

given in Figure 3.5.

FIGURE 3.5 <u>Verbal moves in incidents</u> (Nuthall & Lawrence, 1965, pp.
20-21)

1. VERBAL MOVES MADE BY THE TEACHER

1.1 Introductory comments which provide information or orientation leading up to a demand.

1.2 Questions, directives, or other verbal moves which, by meaning or tone of voice, require a response from the listener.

1.31 Simple comments which indicate briefly the correctness or appropriateness of a preceding verbal move.

1.32 Complex comments which provide information concerning the original question or a response to the original question. Rhetorical questions or verbal moves which repeat the original question with similar wording or emphasis are included in this category.

1.4 Verbal moves which designate who should speak, or give permission for a pupil to speak.

1.5 Responses to pupil questions.

1.6 Verbal moves in which the teacher indicates that the previous response was inaudible, unintelligible, or otherwise in need of repetition.

2. VERBAL MOVES MADE BY THE PUPILS

2.1 Verbal moves made in response to a request or demand from the teacher, or other pupil.

2.2 Verbal moves in which the pupil requests or provides the occasion for a response from the teacher.

2.3 Comments made by pupils which are not requested or demanded by the teacher or other pupil.[6]

Incidents were found to be either <u>simple</u> or <u>complex</u>. <u>Simple</u> incidents

involved answering a single question or demand, whereas <u>complex</u> incidents

involved the answering of subsidiary questions within the context of

answering an initial question. It was found possible to examine subsidiary

question units occurring within complex incidents as individual units in their

own right, and such units were labelled <u>subsidiary</u> incidents. An example of a

complex incident which contains a categorization of verbal moves is given in

Figure 3.6.

<u>FIGURE 3.6</u>   A complex incident (Nuthall & Lawrence, 1965, p. 21-22)

		CATEGORY
TEACHER:	What does direct speech do to a story ... Susan?	1.2
SUSAN:	It arouses your interest in it.	2.1
TEACHER:	It does ... I think we could be a little more specific than that.	1.31 1.32
BRIAN:	Puts more life in it.	2.1
TEACHER:	Yes ... more life ... I think I could describe a little bit more ... a little more detail than that. Joanne?	1.31 1.32
JOANNE:	It lets you know the characters sir, in direct speech ... You know what they are .. what they are like .. and .. a .. things like that.	2.1
TEACHER:	How can you get the character of the person more clearly stated through direct speech than just ... describing him ...?	1.2b
JOHN: ·	By what he says .. the way he reacts .. and .. says something.	2.1b
TEACHER:	The way he reacts and says something ... Can you enlarge on that a little?	1.31b 1.2c
JOHN:	Well .. the way he .. um .. says something and gives you his ideas about things.	2.1c
TEACHER:	Yes .. We'll see what Robert has to say.	1.31c 1.4
ROBERT:	Well ... if you just talk of a person .. well they um .. (part of statement obscured by coughing) than putting what he says .. like if it's ... um a solemn person .. they might answer just yes or no.	2.1
TEACHER:	That's a very good answer Robert ... I think Robert's put his finger on .. the essence of using direct speech ... You can give a fairly clear picture of the type of speech and the type of thinking that person indulges in ... (etc.)	1.31 (1.32)*

<u>Note:</u>   ... indicates a longer pause than .. The category numbers refer to those given in
      Figure 3.5.
      *This category identification is not given in the original text, probably due to an oversight.

An attempt is made to provide an analysis of Explanation incidents, but the

results are pronounced to be tentative. There is difficulty due to the vague

formulation of many classroom questions, and even when there is precise

formulation the same question may have alternative meanings. It is noted

that there appear to be different types of explanation which are character-

istic of different subject areas so that "through sequences of incidents the

teacher demonstrates to the class how to go about the process of explaining

in the particular context being considered (i.e., arithmetic)" (p. 39).

The investigators next turn their attention to the analysis of explanatory

incidents where pupils' responses were rejected as wrong or inadequate, and

find both teachers and pupils to be at fault. Teachers tend to leave key

assumptions unstated and may fail to make clear what it is, exactly, that

they are asking. Pupils, on the other hand, are found to treat questions in an

almost cavalier fashion.[7] Major errors were found to be mainly caused by

pupils' "failure to hear, attend to, or understand the essential point of the

question; wrong, inappropriate, or inefficient procedure or action even

although the question is understood; incomplete or inadequate description;

misuse of evidence; lack of explicitness; avoidance of explanation and

substitution of particularly relevant association" (p. 51). Many of the

teacher's subsidiary questions are thus seen to be attempts to correct pupil

distortion of the teacher's intent and to make plain what is really being

asked.

The incident arises out of an attempt to simplify the episode by focussing on teachers' questions. At the same time, it seeks to engage with the realities of classroom discourse by pursuing how these questions are, in fact, answered. Thus, whereas episodic analysis according to the characteristics of entries reveals something of the ways in which teachers attempt to pre-specify the cognitive pattern they require of an answer, it also tends to leave analysis poised at the threshold of a topic unit without adequate consideration of whether the teacher's specifications are met, and if they are not, how this is dealt with.

In other words, the dynamics of the development of an episode are largely excluded in favour of an ideal description, on the basis of an entry, of the kind of pattern an episode ought to follow if pupil responses turn out to be appropriate. Although some attempt is made to describe the way discussion develops in reality, Smith and Meux (1962) report only limited success in investigating the ways in which episodes actually evolve.

An apparent advantage of the incident is that it allows for the fact that teachers' questions may not attract congruent responses, and by categorizing continuant questions seeks to deal with what actually occurs, as well as allowing judgment of what ought to occur. However, the Christchurch researchers, like their counterparts from Illinois, find certain features of classroom discourse intractable. Questions may lack clarity, making them

difficult to categorize, and even when they are expressed clearly they may

legitimately allow alternative interpretations. This would appear to milit-

ate against any system which seeks to operate by attributing questions to

mutually exclusive logical categories.

Although the Christchurch study is based upon the Illinois research, and the

two systems of observation developed are obviously related, a chasm of

conceptual and procedural difference appears to separate the episode and the

incident, rendering it impossible to tell exactly how the two units compare in

practice. However, Nuthall and Lawrence's suggestion that a lesson may be

regarded as "a series of models through which the teacher demonstrates

(consciously or unconsciously) to his pupils how specific patterns of thinking

may be handled" (p. 47), and that these patterns of thinking appear to vary

from subject to subject, is generally supportive of the findings of the Illinois

research.

3.1.3 Taba (1966): Teaching Strategies and Cognitive Functioning in Elementary School Children

This study was conducted in conjunction with a curriculum development

project that was designed to enhance pupil thinking. A key assumption is that

teachers could be trained to foster the development of thinking processes in

children by focussing on the systematic intellectual skills required to

process information, instead of requiring pupils to master information

pre-processed by others.

Teaching is conceptualized as "a vastly complicated process requiring an

infinite number of decisions, each of which must, in turn, meet many criteria"

(p. 43). Considerations the teacher must manipulate as this highly complex

decision-making activity is engaged in include: the nature and structure of

the content to be taught, the objectives to be attained, differences between

individual learners, and so on, as indicated in the model shown in Figure 3.7.

Cognitive tasks are seen as being hierarchical both in terms of the

processes they involve, and the content with which they deal. Thus pupil

progress may be evidenced in two ways: either by an ability to engage in

more complex and abstract cognitive processes or to apply these to more

complex and abstract content.

FIGURE 3.7 Considerations in Making Decisions About Teaching (From
Taba, 1966, p. 21)

The learning process

Objectives and the structure
of the processes involved

Decision
on Teaching
Strategy

Learners and variations in
their capacities and readiness

Content and
its structure

Personal teaching style
of the teacher

The institutional setting
and its requirements
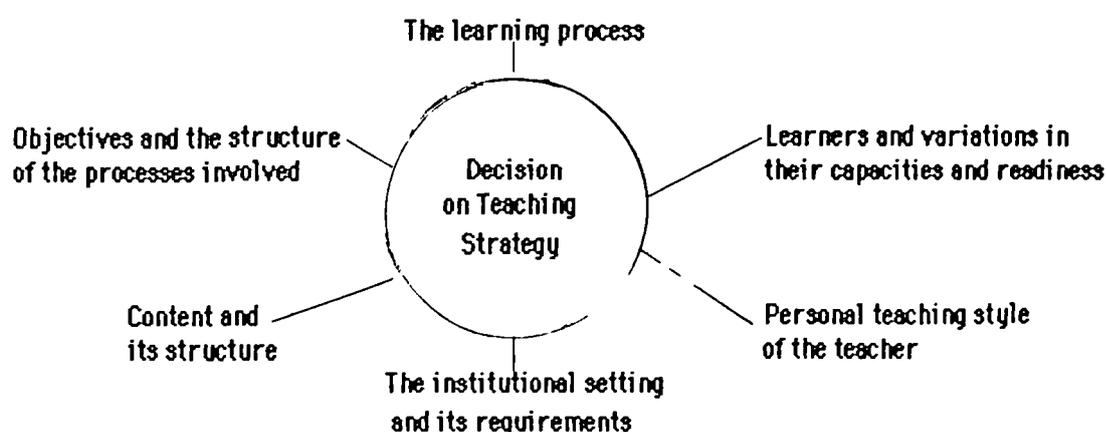
The research focusses on three cognitive tasks: 1) concept formation, 2)

generalizing and inferring, and 3) the application of principles to predict new

phenomena. Models of sequences of operations required to engage in such

tasks were developed and teachers who volunteered to take part in the study

were given ten days training to help them clarify cognitive maps of the

content to be taught and the nature of the thought processes involved.

The data for the study consists of transcripts of audiotapes of lessons, and

four sessions, each one hour long, were recorded in the classrooms of 24

teachers, as they engaged with the three cognitive tasks. The researcher

recorded each session and, using a seating chart, as each child spoke wrote

their name and a key word of what was said. A record was kept of non-aural

activities such as pointing at a map or writing on the board. Verbatim

transcripts were prepared which the researcher compared with the tape

recording before coding commenced.

Transcripts are first divided into thought units, a procedure which had been

developed in a previous study (Taba et al., 1964). These are intended to

preserve the contextual meaning of utterances. The thought unit is defined as

"a remark or series of remarks which expressed a more or less complete idea,

served a specific function, and could be classified by a level of thought"

(p.134). This, of course, leads to units of highly variable length, since a

thought unit may consist of a single word, or an entire paragraph, and to

reliability difficulties in coding.

Once identified, thought units are categorized using three different sets of

codes in order to achieve an adequate description simultaneously of teaching-

learning acts and the levels of pupil thinking displayed. This threefold

classification is in terms of 1) Identification of Source, 2) Pedagogical

Function, and 3) Thought Level.

Identification of Source is concerned with whether a given thought unit

originates with a teacher (T) or child (C), and whether the speaker is giving

(G) or seeking (S) information. Thus a teacher's question could be coded as

TS, with a pupil's response being coded CG.

Pedagogical Function is intended to indicate the effect of an utterance.

When applied to teacher utterances these codes describe teaching acts. A

distinction is made between teaching acts which are managerial and those

which are thought related or substantive. Managerial thought units do not

serve to promote thinking and so are not coded for thought level. The cod-

ings which are made for these managerial functions in the classroom are:

Agreement or Approval (A); Disagreement or Disapproval (D); Classroom

Management (CM); and, Discussion Management (DM).

Thought related or substantive pedagogical functions are related to

generating thought and the classifications used are: Reiteration (R), where

there is a restatement of what has already been said; Extension (X), where an

idea is continued or extended; Control (C), where a teacher controls ideas by

doing pupils' thinking for them; Reiteration Control (RC), where a teacher

rewords a pupil's contribution and alters it in a controlling way; and,

Specification (Sp) where a speaker cites or demands instances of a general

statement.

The codes for Thought Level are given in Figure 3.8.

Figure 3.8 Thought Level Codes (Adapted from Taba, 1966, pp. 140-150; and Dunkin & Biddle, 1974, pp. 260-261)

COGNITIVE TASK 1: CONCEPT FORMATION

I Enumeration

TS I	Teacher seeks enumeration.
10	Incorrect enumeration of specifics.
11	Correct enumeration of specifics.
12	Correct enumeration of specifics with clarification, amplification, and/or giving comparative data without making an inference.
13	Correct enumeration with reason or explanation.

II Grouping

TS II	Teacher seeks grouping.
20	Incorrect grouping.
21	Correct grouping.
22	Correct grouping with clarification, amplification, and/or giving comparative data without making an inference.
23	Correct grouping with reason or explanation.

III Labeling (Categorizing) and subsuming on a Single Basis or on a Multiple Basis

TS III	Teacher seeks categorization (labels for groups).
30	Incorrect subsuming.
31	Correct subsuming.
32	Correct subsuming with clarification, amplification, and/or giving comparative data without making an inference.
33	Correct subsuming with reason or explanation.
40	Incorrect categorizing of a single item in more than one category.
41	Correct categorizing of a single item in more than one category.
42	Correct categorizing of a single item on multiple bases, with amplification, and/or giving comparative data.
43	Correct categorizing of a single item on multiple bases, with reason or explanation.

COGNITIVE TASK 2: INFERRING AND GENERALIZING

I Identifying points, Giving information

TS I	Teacher seeks information without specifying the level.
0	Incorrect information in the thought unit.
1	Giving specific units of data.
2	Relating, comparing, contrasting units of data.

II Explaining

TS II	Teacher seeks explanation (without specifying whether factual or inferential).
3	Providing a factual explanation.
5	Providing an inferential explanation.

III Making Inferences, Generalizing

TS III	Teacher seeks inference, generalization, or principle without specifying a particular level.
4	Giving inference from units of data.
6	Giving an inference that is a generalization upon generalizations, drawing analogies.
7	Giving the logical relationship between inferences.

COGNITIVE TASK 3: APPLICATION OF PRINCIPLES

I Predicting

4P	A prediction based upon simple inference, that is, at thought level 4.
6P	A prediction based upon compound inference, that is, at thought level 6.
1Cp	Changing the given parameters, or giving hypothetical and/or irrelevant parameters at thought level 1.
2Cp	Changing the given parameters, or giving hypothetical and/or irrelevant parameters at thought level 2.
3Cp	Changing the given parameters, or giving hypothetical and/or irrelevant parameters at thought level 3.
4P2	A prediction, generated by a Cp based upon a simple inference, that is, at thought level 4.

II Explaining and Supporting Predictions

1F, 2F, 3F	Factual support for a prediction at thought level 1, 2, or 3.
5I, 6I	Inferential support for a prediction at thought level 5, or 6.

III Verifying the Predictions by Logical Inference

1LO, 2LO,	Logical conditional support at thought level 1, 2,
4LO, 6LO	4, or 6.

Note: The enumeration is said to represent the hierarchical ordering of cognitive processes within each task, higher numbers generally designating the more complex thought processes.

The intricacies of the coding scheme are held to be necesssary to reflect

the "complexities of thought in the classroom and the intricacies of teaching

strategies appropriate to stimulating thought" (p.155). And yet, it was found

impossible to include consideration of the level and validity of the content

upon which the pupils are operating in the analysis, although it is

acknowledged that content has a significant influence on the nature of

thought processes that are evoked. A sample of coded transcript is given in

Figure 3.9.

FIGURE 3.9 Sample coding. Cognitive Task 1: Concept Formation (From
Taba, 1966, p. 151)

	Child No.	Code
T: A, would it be all right if I put the letter A for all		
the things that go together with A? All right, let's begin/		TG DM
You want to start with the things that have to do with police?		TG 21R
All right./ Anne, why don't you start with that side and put		
a big A there on things that you think have to do with police/		TG CM
Does anyone else see any other items here which would come		
under another group. Another group. Carol, do you see		TS II
another group?		

Carol: Well, the architecture could be with the cities and the		CG 21
houses./ They're all architecture.	53	CG 31

T: I see. Would you like to put a B in front of all the things that		
you think go together? All right. As you wish, if you think it		
goes together, then while you are doing that we will read		
Anne's list./ Anne, you feel that all the things that go		TG 21
together would be, under A, would be different uniforms for		TSA
policemen, police departments, not as many policemen, any		
others that you might have missed? Jimmy? Sam.		

Sam: Lack of firearms could go with it./	05	CG 21

T: You think that goes with policemen./ Is there anything else		TG 21R
that you could, that you see, boys and girls, that might go		
under A, policemen, things having to do with policemen, John.		TS 21X

John: Wouldn't they be coming under, wouldn't they take their orders from		
government? They would be working under the		
government.	04	CG 32

T: All right./ You feel government is part of this group? O.K.,		TGA
can you show me where it is. John.		TG 21R

John: Right there (pointing to board).	04	_____

T: You feel the government is part of this group. Butch.   _____

Butch: Wouldn't hospital come under uniforms? They wear
         uniforms, huh?   10   CG 21

Several: Huh?   _____

Note: / indicates thought unit boundaries where these do not coincide with utterance boundaries.
       Question marks are omitted from several apparent queries. It is not clear why this is so,
       but the above text is faithful to the original in this regard.

The complexity of the coding introduced problems that could not be

resolved. Since professional judgments were required, the usual method of

determining inter-marker reliabilities was discarded. Instead each staff

member coded some typescripts individually and also reviewed those coded by

others. Disagreements are said to have been resolved by consensus. Thus the

exact details of procedures adopted to resolve difficulties remain tacit, so

making it unlikely that another researcher could duplicate Taba's approach.

Thus far the study has dealt with a strictly limited concept of sequence,

connecting the thought level of pupils' answers to teachers' demands, whilst

seeking "to identify the analytical elements of both teaching acts and thought

processes" (p. 229). While this was in accord with the original

conceptualization of the study, inspection of the data suggested the need for

considering more complex sequences that might reveal something of the

dynamics of teaching. Thus, whereas the original intention was to "identify

the specific elements of 1) the pedagogical function of various teaching acts,

and 2) the thought levels of specific units of verbal products", it began to

seem important "to examine the ways in which teaching acts were

combined, the order in which they occurred, and the flow and sequence of

students' thinking" (p. 229).

Two sequential concepts are developed to investigate these aspects of

teaching, namely, complex chains of reasoning and teaching modules, though

the attempt made to study such features is limited due to lack of time.

Complex chains of reasoning are defined as "logically coherent sequences of

thought units" (p. 175) produced by a pupil without intervening aid from the

teacher. Such phenomena are of interest because connected thought is held to

indicate a qualitative advance on the production of single thought units at

whatever level of sophistication. An example of such a complex chain is

given in Figure 3.10.

FIGURE 3.10 Example of a complex chain of reasoning (Taba, 1966, p. 175)

Well, part of the reasons (for differences in education) that this is so is that Brazil and Argentina, Costa Rica and Guatemala have had more stable governments than Haiti/. So the government has been able to spend its money on education/. But in Haiti the people have always tried to take over a dictatorship/. So they have not been able to spend as much time and money on education.

The concept of teaching modules arises from an attempt to describe the

dynamics of teaching in terms of sequences of interactive teaching acts.

Thus there is a focus on "the sequences of acts, the particular ways they

could be combined to meet the exigencies of a developing discussion

sequence, and the way they matched student responses" (p. 208).

Transcripts were scanned for short sequences of teacher behaviour that

seemed productive in bringing about high level thinking in pupils. First, pupil responses deemed to be high level were identified. Then the five pupil thought units preceding and succeding the signal response were examined. If in the 5 preceding pupil thought units there were one or more high level responses that could be considered part of a coherent sequence leading up to the signal, the whole segment of interaction was regarded as representing high level thinking. Similarly, if in the 5 succeding pupil thought units one or more responses gave factual support to the signal, that segment was also regarded as representing high level thinking.

Next, teacher-pupil sequences of thought units occurring in the high level thinking segments previously identified were inspected to see if underlying patterns of similar behaviour could be detected. This procedure, described as 'empirical, though highly subjective" (p. 212), led to the identification of four teaching modules. An example of such a module, occurring in a grade 5 class, is given in Figure 3.11.

FIGURE 3.11 Example of a teaching module (From Taba, 1966, pp. 213-4)

		Code
Steve:	Well, they are sure to have industry in this town.	CG 4 X Pz
T:	Industry, good. All right, Erin?	TG 4RPz/TGA
Erin:	If they did have a town,/ they'd need law.	CG 4R+Lo/ CG 4 X Py
T:	All right, why would they need a law there in this town?	TS II X
Erin:	With all this gold/ they might fight over it,/ and they would need law for that. / I mean you have to have law to protect people from others wanting what they don't have.	CG 1 R+ F CG 4XPy CG 3X F CG 6X I

While the concept of teaching modules as a sequenced pattern of

interactive moves between teacher and pupils that tends to lead to higher

level thinking is of considerable interest, the research fails to provide a

satisfactory account of the dynamic structuring associated with the

elicitation of almost 70% of the high level responses obtained. As Taba

indicates, her analysis does not reflect "significant aspects of the dynamics

of either the nature of thought processes or the teaching strategies

employed" (p. 158). Figure 3.12 presents a diagramatic representation of the

structure of the four types of teaching module identified.

FIGURE 3.12 A diagram of the sequencing of modules (From Taba, 1966, p. 216)
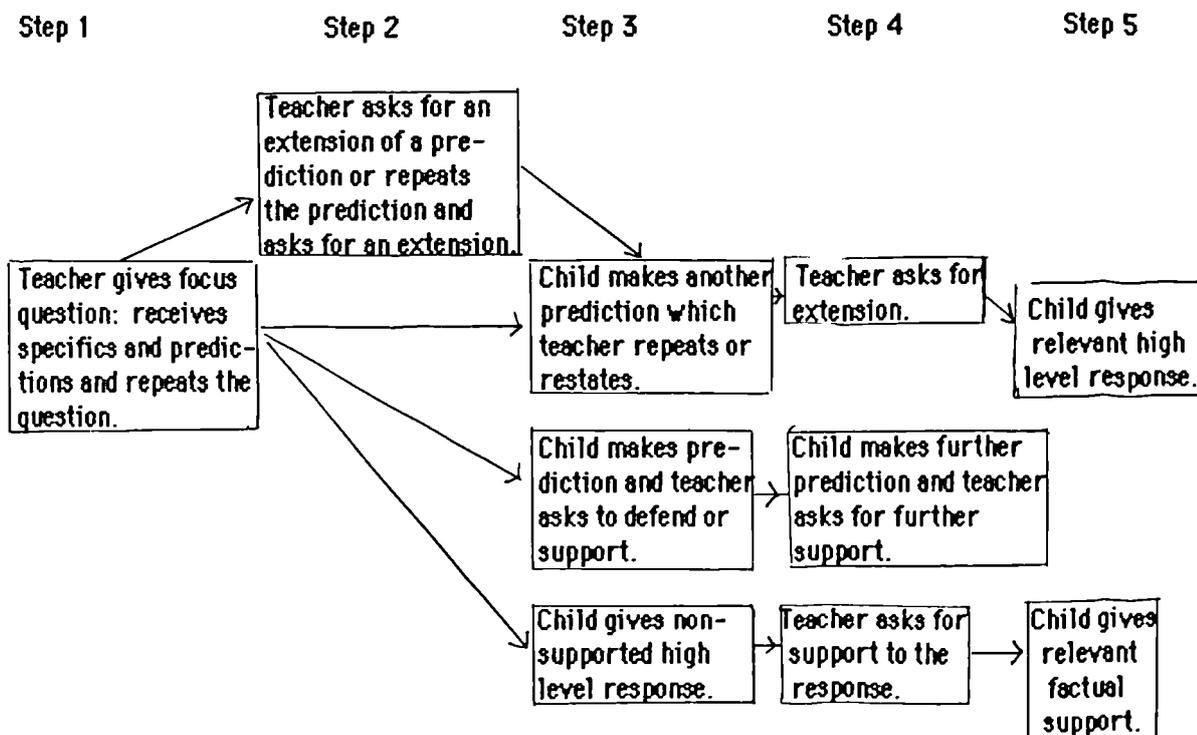
A key difficulty is that in training teachers to encourage high level

thinking, it was found to be impossible to prespecify a questioning sequence

in exact detail because each teaching act also must be based on unique, and unpredictable, responses to the preceding act. Teachers therefore were trained in outline patterns of questioning strategies, but had to devise intermediate procedures of their own to meet the exigencies of the particular situation encountered in a discussion. This required "a semi-intuitive and instantaneous evaluation of what students say or do" (p. 45). That is, training could not obviate the need for teachers to improvise according to the unique set of responses arising in each class. Taba found a great variety among her trained teachers in style and strategy in this regard, despite the fact that they were all pursuing common generic patterns of strategy. In other words, the real-time aspect of teaching is recognized here, because it appears to introduce an ineradicable variation in the way a curriculum development scheme is implemented by different teachers.

To sum up, then, this study attempts to adapt a method originally developed for looking at teaching act - pupil thought unit pairings to the longer sequences forced on the researcher's attention by the nature of the data. But teaching modules, though an interesting concept, do not explain the way high level pupil thought is linked to teaching strategy in a fully satisfactory manner. Modules fail to account for the majority of instances of pupil high level thought, and they are identified using rather arbitrary criteria.

There is a frank recognition of the shortcomings of the research approach.

These include the imbalanced sample, the necessity of recording class discussion at different points in the school year, that analysis in terms of thought units tended to favour classes that gave one word answers, and that the approach adopted made it impossible to distinguish whether teachers who consistently got what they sought might not be managing discussions in ways which avoided having the pupils engage with complex content. That the analysis of levels of cognitive operations failed to include a simultaneous measure of the level of difficulty and validity "of the content of the inferences, generalizations, predictions, and hypotheses" (p. 231) that pupils produced, is seen to be a main weakness.

There are several points of contact between Taba's study and that of Smith and Meux(1962). Both are concerned with cognitive operations in teaching, and regard teachers as being responsible, largely through their questioning, for determining the kinds of thinking engendered by classroom interaction. Similarly, both develop ways of analyzing pedagogical discourse that must be regarded more as heuristic devices, than as systematic observation techniques designed with other potential users in mind; though Taba's approach appears the more idiosyncratic. Both studies also encounter difficulties that cannot be solved.

In contrast, whereas Smith and Meux (1962) focus on teaching as a logical process in which teachers make use of particular properties of discourse;

Taba's study is based on a view of teaching as a highly complex decision

making process. Whereas the Illinois researchers adopt a descriptive app-

roach that seeks to delineate teaching as it is.[8] Taba is working within a

curriculum development programme concerned with raising the levels of

thought in the classroom, and so focusses upon how teaching ought to be.

Taba is insistent about the importance for teaching of the immediate

context of situation. Thus, only the outline patterns for developing thinking

may be pre-specified in generic fashion, the teacher assuming responsibility

for devising intervening strategies to suit the moment. This emphasis on the

importance of the individual teacher improvising discussion in the immediate

context of a unique classroom discussion, is a notable feature of Taba's study.

3.1.4 Bellack et al. (1966): The Language of the Classroom

Like the research of Smith & Meux (1962), Nuthall and Lawrence (1966), and

of Taba (1966), the research of Bellack and his associates at Columbia

University uses transcripts of classroom discourse to investigate the

processes of teaching. However, here the focus is not upon logic or thinking,

but on the analysis of distinctive linguistic aspects of teachers' and pupils'

classroom behaviour so as to try and provide a description of "the patterned

processes of verbal interaction that characterize classrooms in action" (p.1).

A central concern is with "searching for the meaning of what teachers and

students communicate in the classroom" (p.2). The study is based on tapes of

4 consecutive lessons in economics recorded in the classrooms of 15 senior

high school teachers with grade 10 and grade 12 pupils. Transcripts were

prepared and then revised by a second person. It is estimated that 3-4% of

classroom discussion was unable to be transcribed because of instances

where several pupils spoke simultaneously for very brief periods of time. In

order to allow the researchers to make comparisons between classes, all the

teachers were asked to base their teaching on the subject matter contained in

a pamphlet on international trade, with which they were provided. Teachers

were also given a guide to teaching the material in the pamphlet.

The categorization of the verbal activities of teachers and pupils that is

evolved from analyzing the tapescripts identifies four types of <u>pedagogical</u>

<u>moves</u> classified in terms of the pedagogical functions they perform in

classroom discourse, and is given in Figure 3.13.

FIGURE 3.13 <u>Pedagogical Moves in Classroom Discourse</u> (Adapted from
Bellack <u>et al.</u>, 1966, p. 4)

<u>Structuring.</u> [STR] Structuring moves serve the pedagogical function of setting the context for subsequent behaviour by either launching or halting-excluding interaction between students and teachers. For example, teachers frequently launch a class period with a structuring move in which they focus attention on the topic or problem to be discussed during that period.
<u>Soliciting.</u> [SOL] Moves in this category are designed to elicit a verbal response, to encourage persons addressed to attend to something, or to elicit a physical response. All questions are solicitations, as are commands, imperatives and requests.
<u>Responding.</u> [RES] These moves bear a reciprocal relationship to soliciting moves and occur only in relation to them. Their pedagogical function is to fulfil the expectation of soliciting moves; thus students' answers to teachers' questions are classified as responding moves.
<u>Reacting.</u> [REA] These moves are occasioned by a structuring, soliciting, responding, or prior reacting move, but are not directly elicited by them. Pedagogically these moves serve to modify (by clarifying, synthesizing, or expanding) and/or to rate (positively and negatively) what has been said previously. Reacting moves differ from responding moves: while a responding move is

always directly elicited by a solicitation, preceding moves serve only as the occasion for reactions. Rating of a student's response, for example, is designated a reacting move.

These four pedagogical moves provide the basic units into which classroom discourse is divided. Such a division is claimed to allow description of one dimension of meaning within the classroom - "meaning from the viewpoint of the pedagogical significance of what teachers and students communicate" (p. 5). To analyze classroom talk in terms of the content of communication, each pedagogical move was further categorized by content into 4 functionally different categories: see Figure 3.14.

FIGURE 3.14 Content Categories of Pedagogical Moves (Adapted from Bellack et al., 1966, p. 5 - 6.)

Substantive meanings concern the subject matter of the lesson, and the content code provided is based on the topics that should have been covered.
Substantive-logical meanings indicate the cognitive processes involved in dealing with the subject matter, such as defining, interpreting, explaining, fact-stating, opining, and justifying. The investigators note that their analysis here draws on the work of Smith and Meux (1962). Instructional meanings involved categories for assignments, materials, routine classroom procedures and so on. While it was found possible to attribute a substantive meaning to almost every move, only about 50% of moves could be coded for instructional meanings. Instructional-logical meanings refer to distinctively didactic verbal processes such as those involved in positive and negative rating, explaining procedures, and giving directions.

Coding was accomplished by first dividing the discourse into pedagogical moves. One or more such moves may occur within an utterance, which is defined as a complete statement by a teacher or a pupil at any one time in the discourse. Coding is done from the viewpoint of the observer, with pedagogical meaning inferred from the speaker's verbal behaviour. Coders listened to tape recordings of class sessions and also followed the transcribed protocols. The coding procedure is described in Figure 3.15.

FIGURE 3.15 <u>Coding of Pedagogical Moves</u> (Adapted from Bellack et al., 1966, p. 16, original emphases)

Each pedagogical move was coded for:

1. Speaker (Teacher, Pupil, or Audio-Visual device.)
2. Type of Pedagogical Move.
3. Substantive Meanings
4. Substantive-Logical Meanings
5. Number of lines in (3) and in (4)
6. Instructional Meanings
7. Instructional-Logical Meanings
8. Number of lines in (6) and in (7)

An example of a coded pedagogical move is:

T/ STR / IMX / XPL /4 / PRC / FAC / 2
(1)/ (2) / (3) / (4) /(5)/ (6) / (7) / (8)

This is interpreted as follows: a <u>teacher</u> makes a <u>structuring</u> move in which he <u>explains</u> something about <u>imports and exports</u> for <u>four</u> lines of transcript and also states <u>facts</u> about class <u>procedures</u> for <u>two</u> lines of transcript .

An excerpt from a coded protocol is given in Figure 3.16.

Figure 3.16 <u>Excerpt from a coded protocol</u> (Adapted from Bellack et al.,1966, pp. 267 - 268.)

T: However, to get back to our main point once more,
in talking about the U.S. role in all this international
trade. Our export trade is vital to us. Our import
trade is vital to us, and it would upset and shake
American economy [sic] to a tremendous extent
if we were to stop importing or stop exporting.   T/REA/IMX/XPL/5/PRC/FAC/1
Let's turn to American investments abroad.   T/STR/FOR/-/-/PRC/FAC/1
You suppose we do invest much money outside
of the U.S.?   T/SOL/FOR/FAC/1/-/-/-
P: Yes.   P/RES/FOR/FAC/1-/-/-

T: In what ways, in what fields? How would it be
done?   T/SOL/FOR/XPL/1/-/-/-
P: Well, a lot of the big companies here in the U.S.
will set up companies over in other countries, and
that way they can give the workers over there a
chance to work and to sell their products and
and the foreign countries can get the tax off
that.   P/RES/FOO/XPL/5/-/-/-
T: I think you put the most important thing last,
but that's true.   T/REA/FOO/-/-/STA/QAL/1
The branch office in a foreign country, which
involves the exportation of American capital,
is so often done to avoid paying what?   T/SOL/FOO/XPL/3/-/-/-
P: Taxes.   P/RES/FOO/XPL/1/-/-/-

T:	What kind of taxes?	T/SOL/FOD/FAC/1/-/-/-
P:	Import.	P/RES/FOD/FAC/1/-/-/-
T:	Why would a company open up a branch in England, or Germany or France or Italy?	T/SOL/FOD/XPL/2/-/-/-
P:	Corporation won't have to pay tax?	P/RES/FOD/XPL/1/-/-/-
T:	No, if its an American corporation it's still going to have a, have to pay corporation tax over here. It might save a little bit on the income earned by its branch office until it brings that income back to this country it is not taxed, but ultimately it would be. But it's a different kind of tax.	T/REA/FOD/XPL/6/STA/NEG/1
P:	The tariff.	P/RESOM3/FOD/XPL/1/-/-/-

Note The meanings of the abbreviations used are as follows: IMX = imports and exports; FOR = foreign investment; FOD = direct foreign investment; XPL = explaining; FAC = fact stating; PRC = procedure; STA = statement; QAL = qualifying; NEG = negative rating.

A complex checking procedure was followed during coding. Each typescript of a class session was initially coded by a team member working alone. This was reviewed by a second coder who noted his disagreements. Finally, there was arbitration by two further coders who were not involved in the original process.

The reliability of coding was checked by using two teams, each of two coders, to code twelve five-page segments of discourse randomly selected from the protocols of six different teachers. The coding is reported as being highly reliable with percentage agreement between teams ranging from 84% to 96%. However, there are some difficulties reported with coding. The structuring and reacting moves which frame the question-answer sequence did not always occur discretely as the system requires. A similar difficulty is encountered with substantive meanings: two or more of the major substantive topics, such as specialization or foreign investments, can be

contained within a single move. The policy adopted was to code in terms of the major context of the ongoing discourse. Such difficulties illustrate how the data needs to be idealized somewhat to fit the system.

Having identified moves as a basic feature of the formal structure of classroom interaction, the Columbia research then seeks to identify how these are assembled into larger patterns in classroom talk. It is noted that pedagogical moves occur in classroom discourse in certain cyclical patterns which are designated teaching cycles. A teaching cycle begins with a structuring or soliciting move, both of which are considered initiatory manoeuvres. Responding and reacting are considered reflexive in nature; they are either solicited or occasioned by a preceding move and therefore cannot begin a cycle.

A cycle frequently begins with a soliciting move by the teacher in the form of a question, continues with a responding move by the pupil addressed, and ends with an evaluative reaction by the teacher. This is the SOL/ RES/REA pattern. Twenty one types of formally ordered teaching cycles are possible on this model as indicated in Figure 3.17., twelve of these commencing with a Structuring move, and nine with a Soliciting move. Eight out of ten cycles were found to commence with SOL, thus STR appears to be an optional move that is frequently omitted.

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FIGURE 3.17 Patterns of teaching cycles (From Bellack et al., 1966, p. 195).

1. STR					
2. STR	SOL				
3. STR	REA				
4. STR	REA	REA ...			
5. STR	SOL	RES			
6. STR	SOL	RES	RES ...		
7. STR	SOL	REA			
8. STR	SOL	REA	REA ...		
9. STR	SOL	RES	REA		
10. STR	SOL	RES	REA	REA ...	
11. STR	SOL	RES	REA	RES ...	
12. STR	SOL	RES	REA	RES ...	REA ...
13.	SOL				
14.	SOL	RES			
15.	SOL	RES	RES ...		
16.	SOL	REA			
17.	SOL	REA	REA ...		
18.	SOL	RES	REA		
19.	SOL	RES	REA	REA ...	
20.	SOL	RES	REA	RES ...	
21.	SOL	RES	REA	RES ...	REA ...

Note: STR = Structuring; RES = Responding; SOL = Soliciting; REA = Reacting
... = one or more additional moves of the kind designated; e.g., "RES ..." means one or
more additional responding moves to the same soliciting move.

The lack of variability found in discourse patterns between classes in

terms of the percentage distribution of individual pedagogical moves, which

the researchers have noted previously, is largely confirmed by the analysis

of teaching cycles: teachers operate the same types of cycles in the same

proportions from class to class. Whilst teachers were encouraged to teach

in any fashion they chose for the purposes of the research project, the

subject matter of instruction was expressly delimited. Paradoxically,

however, it was found that "while teachers structured, solicited, and

reacted for about the same proportion of lines in every classroom ... the

data for the substantive meanings covered in the classroom reveal the

greatest veriability among teachers" (p. 68). Sometimes, indeed, it seemed

as if the teachers were teaching a different unit.

The Columbia researchers report a major shift in focus between the

planning of the research and its execution, due to the exigencies of dealing

with the actual data:

> The initial research plan called for an analysis of the content of classroom discourse in terms of substantive and substantive-logical meanings. At the outset it was assumed that the basis for this analysis would be the material presented in the pamphlet on international trade ... As the data were collected, however, two major problems became apparent: first ... a unit of discourse had to be defined; and, secondly, discussion related to classroom activities but substantively different from the specific subject matter of international trade was obviously present in the discourse and could not reasonable be omitted from the analysis (p. 12).

The approach adopted by Bellack and his colleagues to defining a contextual

unit of discourse, then, differs radically from that pursued by Smith and Meux

(1962). Whilst the Illinois research is based upon a consideration of topic,

that is, it rests upon an intuitive concept; the Columbia study focusses on

the formal properties of classroom discourse. Smith and Meux (op. cit.) divide

discourse into episodes, units whose coherence derives from the patterned

articulation of meaning. Teaching cycles, in contrast, derive their coherence

from the formal patterning of the pedagogical moves of which they are

constituted. If the Columbia research is relatively uninformative about the

substantive structure of classroom discourse which was the initial focus of

concern, it is highly informative about the social participation structure of

classroom interaction. Bellack and his associates may be regarded as having

provided an account of classroom language which anticipated later work in

discourse analysis that describes the features of interaction in status

marked settings (Sinclair and Coulthard,1975; Coulthard, 1977).

Further evidence of the linguistic prescience of the Columbia account of

classroom discourse may be indicated by considering their example of an

augmented teaching cycle shown in Figure 3.18

FIGURE 3.18 Example of a Type 1 augmented cycle (Adapted from
Bellack et al., 1966, p. 205)

P/SOL: Now these radios, they would have a quota on them, wouldn't they?
T/SOL: They'd have a what?
P/RES: A quota.
T/RES-M3: They might, I don't really know whether radios do or not – transistor
          radios.

NB: M3 indicates that this is a response to a question that occurred 3 moves previously.

Bellack notes that formally ordered teaching cycles would reconstruct

the above exchange as 2 SOL/RES cycles but that temporally ordered cycles

allow it to be viewed as one SOL RES cycle augmented by repeating moves.

In other words, the Columbia researchers are attempting to account here for

the real-time structuring of interaction. This feature of discourse, where

interaction is suspended to seek clarification before the interaction then

runs to completion, was later to be identified by linguists as a dynamic

discourse repair system [9] (see, Ventola, 1987).

3.1.5 Smith et al. (1967): A Study of the Strategies of Teaching

At the outset of their research programme, Smith and his colleagues at

the University of Illinois conceived of a second study that would extend the work undertaken in <u>The Logic of Teaching</u> (Smith & Meux, 1962): the earlier study would uncover the tactics of teaching, while the later would demonstrate how these tactics were assembled into strategies. It would appear that it had originally been thought that the strategic manouvres in teaching would be found to be built up from sequences of the tactical units which had already been investigated. Thus <u>episodes</u> would be found to be the constituents of somewhat more extended operations discernible in teaching discourse, rather as Bellack <u>et al.</u> (1966) discovered <u>pedagogical moves</u> to be the constituent units of <u>teaching cycles</u>.

However, this research plan appears to have proved impossible to implement as originally conceived. Episodes and the logical categorization of entries have largely disappeared from view in this second study, but the reasons for the abandonment of the episode are not made explicit. Thus it appears more appropriate to regard the second study as superseding the first, rather than as a development of it.

<u>A Study of the Strategies of Teaching</u> uses exactly the same transcripts as the previous Illinois study. This time, however, discourse is broken up into units known as <u>ventures</u>. These represent the large scale structuring of discussion teachers engage in as they seek to manipulate the content of instruction. A <u>venture</u> is defined as "a segment of discourse consisting of a

set of utterances dealing with a single topic and having a single overarching

content objective" (p. 6). The problem of dividing classroom discourse into

units, it is claimed, is solved by paying attention to the inherent structure of

classroom teaching activity. Transcripts of class sessions are said to

possess a very noticeable, and naturally occurring, topical organization that

ventures reflect.

There are difficulties in explaining precisely what is meant by the term

"venture". The researchers make much recourse to intuition, and the concept

is couched in rather vague language. Both of the key terms in the definition –

topic, and overarching content objective – are somewhat imprecise. Though

the concept of topic is familiar, it is found difficult to define it operationally

and the Illinois researchers rely on intuitive judgments:

> The term 'topic' cannot be defined to the point that either ambiguity or vagueness is
> completely avoided. In fact, a topic is more easily 'sensed' as one reads the discourse if he
> does not try to keep a definition of the term in mind (p. 5-6).

"Overarching content objective" is also found difficult to specify exactly,

and suffers additionally from being an unfamiliar concept. Pains are taken to

distinguish "content objective" from the more common term "instructional

objective", which is used to refer to what pupils will be able to do as a result

of the teaching. The content objective is the "primary cognitive meaning" (p.

293) of a venture, which is derived from the discourse as it actually occurs,

and "not from efforts to divine the intent or purpose of the teacher or the

effects of the venture upon the students" (ibid.). The concept appears to be an

attempt to characterize the overall thematic unity of an extended segment of

classroom interaction.

An example of a venture, which occurred in a sociology class considering

the problem of crime, is given in Figure 3.19.

FIGURE 3.19 <u>Example of a venture</u> (From Smith <u>et al.</u>, 1967, pp. 10-11)

S: If all of us had--parents had to pay for all the damage that a child did to somebody's property, what would that prove? Kids would keep on doing it even though the parents pay for it.

B: Would they?

T: What do you think about that?

B: Well, if--if the parents had to pay for it, I think they're--they'd keep the kids home, or--or at least knew where they were going. And, if the kids lied about where they were going, they wouldn't go out again for quite a while. They'd keep a little closer tabs on the kid.

G: Yeah, and the kids would think their parents were getting too strict and they'd start sneaking out and doing things behind their backs. You don't get anywhere.

B: Well, that would bring on more punishment.

G: Well, if they--you know-- [inaudible] a little and just [inaudible] or something. They had to pay for it, well, maybe they'd just put their foot down and make them work it out of their allowance and they wouldn't be so free to do anything.

B: I think that's probably what a lot--a lot--a--how--how it would work out in a lot of places. In a lot of homes, parents wouldn't pay it; kids would. I think that would be a better law than--well, you can't hardly, I guess--I guess you couldn't do that, though, because you couldn't make a minor pay for something he did.

T: Might make the parents a little more interested in the cases where the parents were at fault.

B: Uh-hum.

T: And, I believe that Mr. Hoover has, on one occasion, said that a great deal of our juvenile delinquency was parental delinquency and possibly making them legally responsible for actions of children and financially responsible, would cause them to be a little more anxious to see children get what they should.

B: I don't think that--I don't think that--just--the parents having an iron hand over the kids--that's--I don't think that's the answer to it. But, if you could get--if you could get a better understanding between the kids and the parents, so the kids would have more respect and have more respect for their own integrity, rather than just be afraid of what would happen if they did do something. I--I think that's the real answer to it but--

T: We all need to learn self-discipline, don't we? That is fairly necessary--in our society. We can't have policemen or other law-enforcement officers stationed at every place, to check up on everybody, all the time. And it's necessary that we have a nation of people who are law-abiding, willing to abide by the law even when they--know there isn't someone there watching, to catch them in case they fail to abide by the law.

B: Last night on television, it was just a cowboy serial is what it was, but there was a good point brought out in it. People get the law that they deserve. The kind of law that they

deserve.

T: What did--uh--?

B: Well, it was--this town was corrupt, it was run by one man--you know. And the marshal came in and they couldn't get anything done because all the jury was afraid of this one man, you know. And this one guy brought out the point--that people ought to get the law that they deserve.

T: If they had been willing to insist on better things, law enforcement would have taken effect.

B: Have better law men.

T: One of the reports yesterday said that we would have this problem as long as people are willing to put up with it. And when had all that they could stand for, then they would clear it up.

N.B. This venture is described thus: "The topic discussed in this venture is how juvenile delinquency might be decreased. The content element disclosed by the discussion as a whole is that making parents responsible for the damage done by their children, getting children to have respect for their own integrity, and having people refuse to put up with delinquency are the means of reducing the amount of juvenile delinquency. Note that all of the discussion in this venture is concerned with indicating what the means of reducing delinquency are, or else, with supporting or refuting a claim that something is a means of reducing delinquency" (p.12).

A test of the reliability with which ventures could be identified was carried out using the same procedure that was used previously (Smith & Meux, 1962) for assessing the reliability of episodes. The coefficients of inter-judge agreement derived, which are not commensurate with standard measures of reliability, range from 0.56 to 0.89, with a median of 0.70., and are said to compare favourably with those found for episodes.

A main factor in disagreements between judges was that in some cases the same section of transcript could be considered as containing 3 ventures, each with a single overarching objective; while, equally plausibly, the same section could be adjudged to be one venture, this venture, too, having a single overarching content objective. The problem appears to have been particularly acute in a physiology lesson dealing with structures in the brain: while one pair of judges regarded the discussion of each structure as

independent; the other pair tended to see these as subsidiary parts of a

larger system being discussed. It is suggested that inter-judge agreements

would have been higher if judges had been instructed, when in doubt, to mark

transcripts for the maximal number of ventures.[10]

Hitherto the overarching content objective has proved a rather nebulous

concept. But it is by development of this idea that it was found possible to

classify ventures:

Close examination of what seem to be paradigm cases of ventures suggest that it is possible to identify one element of content which is the central focus of discussion. That is to say, it is possible to identify a rule, concept, etc., which is explicated, established or set forth by the discussion of the topic as a whole. This element is called the objective of the unit or more descriptively, the overarching content objective (p. 8).

Analyzing the ventures they had identified, Smith and his co-workers found

they could be classified into 8 major categories on the basis of their

overarching content objective. The categorization of ventures is given in

Figure 3.20.

FIGURE 3.20 Categories of ventures (Adapted from Smith et al., 1967,
pp. 23-37, and 293-297.)

Causal Venture The discourse in this type of venture is concerned with establishing or refuting a claimed cause - effect relationship between particular events, or classes of events, and so forth.
Conceptual Venture The discourse in this type of venture focusses on disclosing a set of conditions or criteria, either governing, or implied by the use of a term. The term may be a single word such as 'imperialism', or an expression of two or more words such as "coefficient of expansion".
Evaluative Venture The discourse in this type of venture is concerned with the rating of an action, object, event, policy or practice with respect to its worth, correctness, usefulness, and the like.
Interpretative Venture The discourse in this type of venture centres on disclosing the literal or symbolic meaning, or the significance to be found in a set of words or a piece of text.

<u>Particular Venture</u> The discourse in this type of venture is concerned with the provision of information or evidence to clarify or amplify a specified topic or group of related topics. Questions such as, 'What happened?' 'When did it happen?' 'What did it do?' 'Who or what did it?' or 'What is it like?' are answered here.

<u>Procedural Venture</u> The discourse in this type of venture discloses a sequence of actions by which an end may be achieved, or provides a step-by-step description for carrying through a plan, or the like.

<u>Reason Venture</u> The discourse in this type of venture is concerned with exploring or identifying reasons for an action, event, or conclusion. The term 'reasons' here is used to indicate considerations which may be held to lead a person to perform an action, or which justify performing an action.

<u>Rule Venture</u> The discourse in this type of venture centres on either the making of decisions based on rules or identification and use of rules in the performance of an exercise or activity. A rule is considered to be a conventional guide or regulation for action, as in the rules of grammar or mathematics. A prescription stating what action is to be taken to achieve a given end is not considered to be a rule.

Using the same procedure for checking reliability as described previously, the reliabilities for allocating ventures to the various categories ranged from 0.67 to 1.00, with a median of 0.75. Causal and Reason ventures were found to be difficult to differentiate, perhaps, it is suggested, because the distinction noted here is not marked in ordinary speech.

The distribution of ventures, like that for episodes, is found to vary markedly from subject to subject. Dunkin and Biddle (1974) provide a table, derived from the Illinois data, showing the frequency with which different categories of venture occur in different subject areas, and this is given in Figure 3.21.

Science teaching appears to be mainly concerned with conceptual ventures; whereas Geometry teaching seems to emphasize rule ventures, and to a lesser degree, conceptual and procedural ventures. History and Social Studies teaching appears to consist mainly of particular ventures; while the major

focus of English teaching appears to be on interpretative ventures, a pattern

of discourse that hardly appears to occur elsewhere. The occurrence of

conceptual ventures throughout these subjects also seems noteworthy. While

it might be unwise to generalize solely from the distribution of ventures

found in this particular sample of lessons, it does seem possible that

analysis in terms of ventures may reveal differences in the structure of the

teaching discourse that occurs in different subject areas.

Figure 3.21 Approximate percentage frequencies of occurrence of types
of venture within subject areas (From Dunkin & Biddle, 1974,
p. 352, adapted from Smith et al.,
1967)

	Science(%)	Geometry(%)	History/Social Studies(%)	English(%)
Conceptual	64	26	13	15
Causal	19	0	16	1
Reason	0	0	12	3
Evaluative	2	0	8	11
Interpretative	0	0	2	43
Rule	1	53	1	14
Procedural	7	21	0	0
Particular	7	0	48	13

Next, the researchers focus their attention on the moves from which

ventures are constructed. Here the divergence from the two stage research

programme the Illinois team originally conceived is striking: each category

of venture is found to be composed of a unique set of tactical units.

Examining the moves found in each venture type in their sample, the

Illinois researchers find that moves within ventures may be grouped

according to their major characteristics, yielding a classification of major

types of moves within each venture and of subcategories of these. Thus,

for example, there are 15 moves found in Concept Ventures which may be

allocated to 4 main types - Descriptive Moves; Comparative Moves;

Instantial Moves; and Usage Moves. Similarly, there are 21 moves found in

Evaluative Ventures which may be allocated to 6 main types - Identification

Moves; Description Moves; Rating Moves; Criteria Moves; Relational Moves;

and Tangential Evidence Moves. And so on for all the other venture types.

For instance, there are ten moves identified in Interpretative Ventures,

as shown in Figure 3.22.

Figure 3.22 Moves in interpretative ventures (Adapted from Smith et al., 1967, pp 178-187, & 312 -313)

1. Texture Meaning Moves - these give the literal meaning of specified expressions occurring in the text under discussion.
2. Instrumental Meaning Moves - vocabulary not occurring in the text, but which has arisen during the discussion of the text is defined.
3. Symbolic Meaning Moves - the symbolic significance of an object, event, person, or action mentioned in the text is discussed.
4. Structure Meaning Moves - meanings which are drawn from a text as a whole are discussed.
5. Extrapolation Moves - inferences are made that go beyond what is explicitly stated in the text. These inferences may involve judgments about characters, events, action, and so on, or the giving of opinions as to why certain things in the text happen. Included here are inferences about the effects the literary work may have on a reader.
6. Factual Elucidation Moves - a factual account of events, or a state of affairs, or a person's situation, etc., is given without quoting or paraphrasing the text.
7. Citation Moves - the exact material under discussion is referred to by quotation, or indicated explicitly; or a person, event, or action to be interpreted is indicated.
8. Representation Moves - a person is cited as speaking or acting for a group or point of view, but in a real sense rather than symbolically.
9. Evidential Moves - evidence for or against a judgment, a particular meaning claimed for an expression or passage, etc., is given.
10. Meta Moves - literary devices occurring in the text are noted or named, or the genre a literary work belongs to is identified.

The moves given above are viewed as comprising five major types. The first four are considered Explicative Moves. Extrapolation Moves constitute a class by themselves. Moves 6, 7, and 8 are Informative Moves. Again, Evidential Moves and Meta Moves are each considered to comprise a class by themselves.

Typically, these moves are found to occur in certain sequences or patterns. Analysis of the sequence of moves in the sample of 59 Interpretative Ventures studied revealed that 45 ventures began with citation moves (Move 7), whilst 14 commenced with factual elucidation moves (Move 6). The second move in these ventures was most likely to be an extrapolation move (Move 5): this was the case for 53% of the ventures beginning with a move 7, and for all but one of the ventures initiated by a move 6. Thus most interpretative discourse is seen to involve "immediate extrapolation from given information from the text, either cited or given in class" (p.188).

Since interpretative ventures centre on deriving meaning and inference from a text "the logical requirements and possibilities of the derivation of meaning and inference from the material in the classroom are probably important in shaping the order of successive moves" (p. 187). Thus there is seen to be a logical necessity that an extrapolation move (move 5) can only follow a move 7 or a move 6, since "such moves must have something from

which to extrapolate before they can occur" (p.190).

Nearly half of the Interpretative ventures did not extend for more than two or three moves. Whilst those that were longer tended to consist of various combinations of moves 7, 5, 1, and 6. A sequence of 7-5-9 or 7-5-6 or 7 is noted as commonly used and held to evidence the logical imperatives of deriving meanings and inferences from text, as is the common use of the 7-1 or 2 sequence. Contrariwise it is noted that the 7-9 sequence does not occur.

An example of a <u>texture meaning move</u> from an interpretative venture is given in Figure 3.23.

Figure 3.23 <u>Example of a texture meaning move</u> (From Smith <u>et al</u>.,
1967, p.179)

T: Are sentiment and love synonomous terms?
S: No.
T: Well, what's the difference in sentiment and love?
S: Maybe one's stronger.
T: One's stronger.
S: Which one?
T: All right, we <u>feel</u> there's a difference between sentiment and love, don't we?
S: I think they're <u>both</u> kind of made out of the same material.
T: They're <u>both</u> a kind of sympathy or an understanding and a <u>positive</u> feeling toward.
   They're both emotions. <u>Love</u> may be more encompassing than sentiment. Sentiment
   may be just tfeeling, whereas --I don't know--
S: What is it? What is sentiment?
T: Sentiment means sympathy, doesn't it? But--this love is a kind of
   sentiment too. Maybe love is a <u>broader</u> term than sentiment.

<u>N.B.</u> The authors comment: "This move attempts to clear up the meaning of 'love' and
'sentiment' by disentangling them. There are many variations of this move. Thus, instead of
asking for the differences in the meanings of these terms, the teacher might simply have asked
for the meaning of 'sentiment' which was his primary concern anyway." (<u>ibid.</u>)

Unfortunately, the exact status of a move is more something the reader has to intuit from the examples given, than something that is explicitly defined. And while there are examples of each type of move given, there is no example provided of a venture being divided into moves to show how these are actually identified.

Examination of the moves cited and discussed by Smith and his associates tends to suggest that these are to be seen in the light of units of information, or subsidiary propositions, that are being made in relation to the overarching content objective of the venture, and that these elements may be jointly constructed through a process of interaction, or may be provided by an individual, usually the teacher, alone. For example, citation in interpretative ventures would appear to be usually accomplished as a solo move, as indicated in the example given in Figure 3.24.

Figure 3.24 An example of a citation move in an interpretative venture accomplished by the teacher alone (From Smith et al., 1967, p. 185)

T: He says, "Tallit is a small man. He is a Christian. Father Rank and other people go to his house. They say, 'If there's such a thing as an honest Syrian, then Tallit is the man.' Tallit's not very successful, and that looks just the same as honesty." (original emphasis)

However, it appears extraordinary that the discussion provided by the Illinois team lacks a more explicit consideration of what, exactly, constitutes a move, and how it may be identified.

As is the case with the previous Illinois study (Smith & Meux, 1962), there are difficulties in providing an overall integrated assessment of The Strategies of Teaching. The research contains much that is perspicacious, but there are also deficiencies. If a fascinating introduction is provided to the ways in which teachers structure the content of teaching, there is also a distinct lack of perspicuity concerning details of the analysis.

Among the problems that the research does not resolve are how, exactly, to define a topic, or a move. Yet the analysis of classroom discourse into ventures, and the finding that teaching in different high school subjects appears to involve discourse that is markedly different in terms of the qualitative principles that govern the structuring of discussion, seems to be of considerable potential significance. Thus this research suggests that there may be subject specific aspects of pedagogy, and this contrasts with the, then, dominant research tradition of seeking to explain teaching in terms of generic behaviours.

It should be noted, however, that the description of classroom discussion provided by venture analysis appears to be rather static. Though there is an attempt to deal with such features as "misfires", that is, occasions where a topic for discussion is proposed, but the ensuing discussion focusses on an entirely different topic; the system tends to take the point of view of an analyst looking back over a completed text, instead of examining the ways in

which preceding moves occasion those which follow. In other words, little

attention is paid to the real-time aspects of teaching.

This last criticism, however, may be a modern one that depends on

knowledge of approaches to discourse that had not been developed at the time

of the second Illinois study. Dunkin and Biddle (1974) consider The Strategies

of Teaching to be a work that is considerably ahead of its time. Certainly,

later work, developed independently by linguists, has focussed on topic in

discourse (see, Brown & Yule, 1983; Li, 1976) and on moves (Sinclair &

Coulthard, 1975) though these may be conceived rather differently.

Given that the pioneering work in discourse analysis had not yet been

undertaken within linguistics at the time Smith and his associates completed

their research, the oversights in their work may seem less surprizing than

the fact that they achieved some degree of success in investigating, what has

proved to be, the extraordinary complexity of discourse systems. Though the

study is flawed, it is also, in many ways, an admirable attempt to disentangle

aspects of the manifold complexities of human cognitive and linguistic

performance that are displayed in pedagogical discourse.

3.1.6   Overview of Transcript Based Research Identifying Contextual Units in the Language of Teaching

Bellack (1966) has spoken of the "extraordinary complexity that has

mitigated against research in classroom settings and has led scholars to

view educational problems either from a more philosophical position

relatively independent of controlled empirical investigations, or from the

perspective of highly artificial laboratory conditions" (p. 251). It may be seen

as a great virtue, therefore, of the transcript based researches discussed

previously, that they seek to engage directly in unravelling the complexities

of the classroom by preparing a record of all that is said, and dividing it into

analytic units. Furthermore, these studies also include a cognitive

perspective on classroom events. There is a striking boldness about the

entire investigative approach which thus undertakes the simultaneous

solution of multiple difficulties.

This tradition of pedagogical research arose in the late 1950's and appears

already to be in decline by the late 1960's. Perhaps the difficulties

encountered by these pioneering researchers convinced others that the

problems raised by attempting analytical studies of classroom discourse

were, in the then current state of knowledge, insoluble.

Each of these research groups tends to conceptualize the phenomena of

teaching in fundamentally different ways. Thus the same terms may be

applied by different research teams to describe quite distinct phenomena, as

is the case with the term 'move' in the Illinois and Columbia researches.

Similarly studies develop independent classifications of cognitive operations

in the classroom (e.g. Smith & Meux, 1962; Taba, 1966; Bellack, 1966). This

leads to the development of multiple systems for the description of the same sorts of phenomena, while the interrelationship between descriptions remains unclear.

That the attempt to provide a meaningful account of the patterning of classroom discourse is an inherently problematic undertaking may be illustrated by reference to the difficulties the various researchers seem to have had with pre-conceptualizing their research approach. Thus Bellack et al. (1966) report initially assuming classroom talk could be categorized in terms of substantive and substantive-logical meanings only, but being forced into a radically new conception of move structure because of the prevalence of other features in classroom talk the original conceptualization had overlooked. Taba (1966) begins by analyzing transcripts in terms of individual thought units, but is constrained by the nature of the data to search for larger units indicating sequential thinking. Similarly, Smith and his associates plan a two stage assault on the cognitive structure of classroom discourse, in which the second report (Smith et al., 1967) will consider the strategic units after the first research (Smith & Meux, 1962) has uncovered the tactical sub-units of strategies. However, it is found necessary to provide a completely new description of teaching in the second report.

This experience of Smith and his associates highlights another tendency: some of these researches appear to arise out of dissatisfaction with aspects

of a previous study. One reason for this may lie in Gallagher's (Gallagher, 1970, p. 38) observation with regard to the Aschner-Gallagher observation system (Aschner, Gallagher, et al., 1965) that: "As in most studies, the shortcomings of the measuring instruments were not fully revealed until the study itself was completed".

Another common theme is the way the data is found to be highly resistant to descriptive analysis so that human ingenuity appears to be somewhat strained trying to cope with it. Smith and Meux (1962), for example, report finding a way to classify episodes only after several other approaches have been exhausted.

Two consequences arise from the difficulties that appear inextricably linked to providing any accurate description of pedagogical discourse. The first of these is that systems of analysis can tend to become rather idiosyncratic as they are progressively adapted to capture elusive, yet important, aspects of teaching. This is true of Taba's (1966) development of teaching modules, for instance. In other words, it is sometimes found necessary to describe certain phenomena, the nature of which remained quite unforseen at the outset of research, and which therefore may not readily be encompassed by the descriptive system that has been evolved.

The second consequence is that analysts often seem to find themselves

handling the discourse in pragmatic, rather than principled, fashion; analyzing in ways that they know how to proceed, even when these procedures are not entirely consonant with their stated views. Thus though Smith and Meux (1962) explicitly eschew research which derives classroom realities from logical models, they find themselves constrained to proceed by comparing the structure of episodes with ideal models of logical processes. Similarly while Taba (1966) expresses strong reservations about the usefulness of providing simple frequency counts of different kinds of events, much of her data is presented in this format. Certainly, it does not seem that these researches are the place to look for a very high degree of consistency between stated initial aims and actual procedures, or between conceptualization and execution.

Whilst all these systems focus on language in the classroom and the cognitive aspects of teaching, they may be considered to exhibit two fundamentally different procedures for initiating the analysis of discourse. One approach is to begin by identifying pairings of reciprocal units as being at the heart of the discourse - such as Taba's TS/PG or Bellack's T/SOL P/RES - and then to try and derive larger structures in the discourse from assembling these into larger units.

The other approach begins by seeking to identify larger contextual units in the discourse and then inspecting the principles governing their construction.

Thus the Illinois studies can be seen as two different attempts to deploy this approach.

The systems which start from a larger contextual unit invoke some notion of topic which may be conceived in various ways (Smith & Meux, 1962; Smith et al., 1967; Nuthall & Lawrence, 1965). For example, Nuthall and Lawrence's (op. cit.) topic unit consists of all the discourse from the moment a question is asked until it is answered satisfactorily, and includes any structuring remarks that may precede the initiating question.

While none of these studies pays close attention to the dynamics of classroom discourse, some seek to maintain awareness that the transcripts represent spoken events. Inextricably linked to the question of the degree of attention that is paid to the text as spoken discourse, is the institution of transcription procedures that will result in a faithful record of what was said. The Illinois and Columbia researches appear more satisfactory than the others in this regard, adopting rigorous procedures for transcribing and checking transcripts. However, there appears to have been little awareness, at this time, of how great the differences between speech and writing may be. Thus, longer pauses are roughly indicated, and there is some representation of hesitation, repetition, and deletion phenomena. But there appears to be tacit agreement not to represent features that might occur below word level.

In some researches, though, it is not entirely clear who prepared transcripts or what exact procedures have been followed. It sometimes appears as though audiotypists have been employed to prepare transcripts. What degree of editing the texts of classroom discourse may have been subjected to is also often left unclear.

Despite the many shortcomings discussed above and, in particular, continuing problems with discerning analytic units that could be defined with precision and identified with high reliability, these researches did indicate the possibility of investigating the cognitive aspects of classroom interaction. They drew attention to the substantive features of class discussion, to the thinking that teaching engendered, and to the meanings that were being negotiated by teachers and pupils. Remarkable differences, that might be deemed worthy of further investigation, were found in the structuring of discussion in different subject areas (Smith & Meux, 1962; Smith et al., 1967; Nuthall & Lawrence, 1967), and in the content that was selected for discussion by teachers who were supposedly teaching an identical unit (Bellack et al., 1966).

Above all else, these studies linked the inescapable centrality of the understanding of spoken discourse to any consideration of the substantive aspects of interactive classroom teaching. That none of these researches solved all the problems of delineating accurately the significant contours of

classroom discussion, appears less surprizing than the progress that was

made in the description of pedagogical discourse, considering that much of

this work was undertaken almost a decade in advance of the pioneering

linguistic study of the structure of classroom discourse (Sinclair &

Coulthard, 1975).

Two of these studies, in particular, appear to have been considerably ahead

of their time (cf. Dunkin & Biddle, 1974, p. 354), namely, those conducted by

Bellack et al. (1966) and by Smith et al. (1967). Aspects of the work of

Bellack and his co-workers were later to make a contribution to linguistic

work in discourse analysis. Sinclair and Coulthard' (op. cit.) identify exchange

structure as the central feature of spoken discourse. One type of exchange,

the teaching exchange, corresponds to a subgroup of Bellack's teaching cycles,

namely, those that are composed of SOL, RES and REA. In addition, Sinclair

and Coulthard (op. cit.) derive the term move from Bellack and provide a

refined description of it. However, precisely because the Columbia research

is so successful in decoding the linguistic patterns of classroom interaction,

it fails to provide a convincing description of the substantive aspects of

discourse.

It would appear, then, that a focus on the content of class discussion may

only be prosecuted successfully on the basis of seeking to discriminate

topics, as Smith et al. (1967) do.

None of these researches, however, provide much guidance about dealing with the real-time aspect of teaching. Yet if the more dynamic features of the classroom remain unanalyzed, their significance is, nevertheless, noted:

When classroom interaction is viewed from a research perspective, it appears as a complex maze of interrelated phenomena. Twenty or thirty people are continually interacting in a variety of multi-determined ways, each action dynamically influencing subsequent events. The entire process rapidly and constantly changes while the researcher tries to identify meaningful dimensions of observation (Bellack et al., 1966, p. 251).

Bearing in mind, then, the considerable difficulties faced by those who pioneered this genre of educational research, it would appear to behove any who would seek to use transcripts in a pedagogical exploration of the structure of classroom discourse to proceed with extreme caution and to possess a thorough knowledge of the strengths and weaknesses of the relevant studies. However, a present day researcher also has access to advances in discourse analysis that were as yet unforseen when the typescript approach to classroom research was developed. An attempt to incorporate such advances into the pedagogical description of discourse would seem to hold the potential for yielding insights which might be of value for understanding teaching. Accordingly, it is to sociolinguistic work on the nature of discourse that attention now turns to search for guidance on how best to approach the real-time improvisation of pedagogical discourse.

NOTES

1. It is possible to regard such an approach as merely a variant of systematic observation technique, with observation being carried out by mechanical means (Dunkin & Biddle, 1974; McIntyre, 1980). But a key difference lies in the separation of data gathering from data coding. Thus, instead of the simultaneous coding adopted in direct observation systems, verbal behaviour is

frozen in time so that it may be repeatedly examined in "slow motion"(Aschner, 1963, p. 54). This procedure allows for much more complex aspects of classroom teaching to be investigated: it is possible, for example, to focus in detail on developmental sequences of ideas, or to investigate the structuring of content in classroom interaction. Thus more sophisticated coding schemes can be developed than would be possible under the constraints of real-time coding.

2. References to the work cited in the section title are identified by page number only.

3. The judges used in the determination of inter-marker reliabilities were four team members who had not been involved in the development of the criteria. After training, the judges identified episodes in the transcripts individually and then, working in pairs, reached team agreements. It is the numbers of episodes distinguished by pairs of judges that are used to calculate reliability coefficients. The use of pairs of judges is said to be due to the complexity both of the transcripts and the criteria.

4. Altogether, three previous approaches to classifying episodes by their entries were tried. These were to classify on the basis of: 1) the main verb in the entry; 2) the nouns appearing in entries; and 3) the stems of entries. Approaches 1) and 3) fail because there is found to be no simple connection between the linguistic form of questions and what it is they actually mean. And 2) is abandoned because the links between nouns appearing in an entry and logical categories were found to be tenuous at best.

5. While the difficulty of an outside researcher following the Illinois approach has been indicated, Nuthall's (1967) Ph.D. thesis was undertaken at the University of Illinois under the supervision of B. Othanel Smith.

6. While Smith's classification of verbal moves is credited with being the source from which this categorization is adapted, the division of the verbal domain into 10 categories, 7 of which are reserved for the teacher, would also seems to owe something to Flanders(1970) categorization of classroom talk.

7. Remedial action is suggested for both teachers and pupils. Teachers need to learn to pay greater attention both to the framing of explanatory questions, and to be aware of the different demands made by different types of explanation. Similarly, "pupils need specific guidance in recognizing what is implied in explanatory questions, and in becoming familiar with the linguistic or logical forms appropriate for different types of explanation" (Nuthall & Lawrence, 1965, p. 48).

8. The Illinois study also includes an aspiration to improve teaching, but this is revealed as a long term concern, not something that may be achieved immediately. By clarifying the epistemic rules governing the logical construction of classroom discourse, the researchers hope to encourage the development of a situation where teachers will be enabled to operate within the logical domain with greater certainty and confidence.

9. See Chapter 7 of this thesis for a discussion of Ventola's (1987) account of dynamic discourse repair systems.

10. Clearly, it is possible to construe the topical structure of certain segments of classroom discourse in more than one way.

CHAPTER 4 REVIEW OF RESEARCH - PART 3

This chapter is concerned with indicating how developments in the study of language have come to be seen to have important implications for educational researchers and the ways in which they investigate classroom talk. Changing perspectives on language which have arisen from work in linguistics, the philosophy of language, and sociolinguistics, and which have influenced the ways in which interactive talk is perceived, are each introduced in turn. Next the, largely, American approaches of Conversational Analysis and Ethnography of Communication are introduced together with some educational applications. Then Discourse Analysis, which arose out of the, mainly, British tradition of systemic linguistics, is introduced together with applications of this approach to the classroom. Finally, several studies which evolve heterogeneous methods of analyzing classroom discourse are discussed.

The approach adopted is necessarily selective: each of the aforementioned fields possesses a vast and rapidly expanding literature, and any attempt at completeness lies beyond the scope of this thesis. The aim is, rather, to trace developments in the analysis of interactive discourse with particular regard to the implications for the investigation of real-time events in student teaching.

4.1 Developments in Linguistics

A revolution that occurred in modern linguistics may be dated from

Chomsky's (1959) review of B. F. Skinner's Verbal Behaviour (1957). Skinner

argues, from a behaviourist viewpoint, that language acquisition occurs in

much the same way as any other learning, following a stimulus-response

model. But Chomsky challenges the behaviourist view of language acquisition

on the grounds that it ignores the essentially innovative and creative

character of the process. Far from learning the language in a stimulus-

response fashion, each child, in a sense, reinvents the language for herself,

saying new and, mostly, appropriate things that she has not heard and that no

adult would be likely to utter.

Thus a radically different explanation of the process of language

acquisition is proposed by Chomsky in the review (op. cit.) and developed later

(Chomsky, 1965). Human beings are regarded as being genetically predisposed

to learn language. The universal rules of language, those that are fundamental

to all languages, are built into the mind and form an integral part of the

child's inheritance. Thus arose the structural approach to linguistics known as

transformational generative grammar (Chomsky, 1968, 1969), which

stimulated a prodigious growth in linguistic research. It needs to be noted,

however, that Chomsky's approach is, in many ways, inimical to the study of

spoken discourse.

The concept of language that is adopted is both circumscribed and idealized

in various ways in order to facilitate analysis (Hymes, 1977). Thus Chomsky

makes a distinction between <u>competence</u> and <u>performance,</u>[1] and argues that

only the former constitutes the proper concern of linguistics. Competence is

defined as the ideal speaker-hearer's knowledge of her own language, thus

excluding from study what people actually say in real speech situations. It is

the grammatical structure of language that is to be investigated, not its

usage. The focus is on syntax, not semantics. The ideal speaker- hearer's

knowledge is usually found in practice by the linguist engaging in solitary

introspective examination of what she 'knows' about her own tongue. The size

of linguistic units examined is similarly circumscribed and analysis often

tends to be concerned with structure below the level of the sentence (Crystal,

1971).

In the 1970's, semantics, which had been neglected by linguists, perhaps

due to the dominance of Chomsky's ideas, again assumed importance as some

came to believe that the study of syntax is inseparable from the study of

meaning (Cole & Morgan, 1975). This marked a growing convergence between

the interests of linguists and those of philosophers of language concerned

with speech acts.

4.2 <u>Developments in the Philosophy of Language</u>

New approaches to language and meaning that began to be developed by

philosophers in the late 1950's were to have an impact on the development of

discourse analysis. For example, Grice (1957, 1969) proposes an approach to

meaning which gives central importance to the specific occasion on which a

particular utterance is made. Thus, he argues, if an utterance is to be

understood, it can only be by making reference to the contextual situation in

which the utterance occurred and to the intentions a speaker is signalling.

A similar challenge to traditional philosophical views of language was

presented by the development of 'speech act' theory. In his book, How to Do

Things with Words, Austin (1962) distinguishes between the literal meaning

of an utterance and it's illocutionary force. This concept draws attention to

the fact that there is often a discrepancy between what an utterance literally

says and how it is to be understood. The literal meaning of an utterance

Austin calls the locutionary force, and the response that is required is called

the perlocutionary effect.[2] This threefold categorization of what may be

accomplished by an utterance "brought a new clarity to analysis of the kinds

of work which language can perform" (Edwards & Westgate, 1987, pp. 18-19).

The concept of speech acts is brought within the scope of linguistic theory

by Searle (1965; 1969). He distinguishes different speech acts such as

'making statements, asking questions, issuing commands, giving reports,

greeting and warning', and challenges the idea, following Chomsky, that the

task of linguistics is to specify the rules that relate sound and meaning:

The purpose of language is communication. The unit of human communication in language is
the speech act, of the type called illocutionary act. The problem (or at least one important
problem) of the theory of language is to describe how we get from the sounds to the

illocutionary acts. What, so to speak, has to be added to the noises that come out of my mouth in order that their production should be a performance of the act of asking a question, or making a statement, or giving an order, etc. The rules enable us to get from the brute facts of making noises to the institutional facts of the performance of illocutionary acts of human communication (Searle, 1979, p.178).

Thus the focus has shifted from viewing language as an abstract, rule governed system, to regarding language primarily as a tool for human communication. It is what language does, rather than what language is, that is held to be of key importance.

The concept of illocutionary force that is central to speech act theory, together with Grice's (1975) concept of conversational implicature - which seeks to account for the indirect communication of meaning to be found in the case of hints, insinuations, irony, metaphor, and so on; and for the fact that the hearer can recognize such occurrences and interpret what is being said appropriately - proved seminal for the development of pragmatics, and hence for the analysis of discourse based upon consideration of how language is used in interactive situations in naturally occurring talk.

Pragmatics is a term arising from a threefold division of linguistics into syntax, semantics, and pragmatics, the last of these dealing with the aspects of language not covered by the other two (Levinson, 1983). "Pragmatics has as its topic those aspects of the meaning of utterances which cannot be accounted for by straightforward reference to the truth conditions of the sentences uttered" (Gazdar, 1979, p. 2). These 'aspects' are to be found in

considerations such as who is speaking to whom, on what particular occasion, about what topic, and the nature of the relationship between speaker and hearer, and so on. The emphasis does not lie on the relationship between one sentence or proposition and another, as would be the case in formal linguistic approaches, but on what speaker and hearer are doing: the references and presuppositions which are being made, and the implicatures and inferences that are being brought into play (Brown & Yule, 1983).

Such considerations would appear to have considerable releveance for those who would wish to investigate classroom language, since they enrich, and complicate, the concept of 'context of situation': instead of consisting of a miscellaneous assortment of background factors that the observer is aware of and thinks may be significant, this is now capable of being seen dynamic-ally in terms of ongoing social relationships which are being created and maintained through the talk itself (Edwards & Westgate, 1987).

4.3 Developments in Sociolinguistics

A key concept in sociolinguistics, which derives from the development of speech act theory, is that of communicative competence. This was advanced by Hymes (1972a) to draw attention to the fact that in order to use a language, a person needs not only mastery of its grammatical structure and the manifold possibilities that this provides in terms of constructing and comprehending utterances; a person also requires a no less complex

understanding of the rules governing social interaction before she can

communicate with others. Thus learning a language involves much more than

learning the structure of the language itself; rather, language is inextricably

interwoven with the social contexts in which it arises and has to be learned

within a particular culture and in terms of specific social contexts:

> We have to account for the fact that a normal child acquires knowledge of sentences, not only as grammatical, but also as appropriate. He or she acquires competence as to when to speak, when not, and as to what to talk about with whom, when, where, in what manner. In short, a child becomes able to accomplish a repertoire of speech acts, to take part in speech events, and to evaluate their accomplishment by others (op. cit., p. 277).

Communicative competence makes direct reference to Chomsky's concept

of linguistic competence, in an effort to extend some of the general

principles of formal grammatical analysis to the study of speech as a form of

social interaction: "Whereas linguistic competence covers the speaker's

ability to produce grammatically correct sentences, communicative

competence describes his ability to select from the totality of grammatically

correct expressions available to him, forms which appropriately reflect the

social norms governing behaviour in specific encounters" (Gumperz, 1972, p.

205).

Thus sociolinguistics marks the abandonment of a narrow grammatical

perspective, restricted to phonology and syntax, in favour of an analysis of

the pragmatic and communicative function of language. Consequently, a

central concern has been to move analysis beyond the level of the individual

sentence, to the utterance, and a connected series of utterances between two,

or more, parties.

4.3.1 A Sociolinguistic Study of Speech in a Community

Some indication of the empirical application of a sociolonguistic approach

to naturally occurring conversational sequences may be given by making

reference to a careful study undertaken by Blom and Gumperz (1972). Their

research takes into account that "it has been shown that the form of a verbal

message in any speech event is directly affected by a) the participants (ie.

speakers, addressees and audiences); b) the ecological surroundings; and c)

the topic or range of topics" (op. cit., p. 421). Data was collected in a small

town in northern Norway where the inhabitants speak a high status local

dialect as well as standard Norwegian.

The researchers distinguish between two kinds of language shift:

situational shifting, and metaphorical shifting. Situational shifting occurs

when "within the same setting the participants' definition of the social event

changes" (op. cit., p. 424). This change may be signalled by linguistic and

behavioural clues. For example, when the researchers approached a group of

locals in conversation, hands were removed from pockets, and their remarks

elicited a code shift from dialect to formal language accompanied by a

"change in channel cues (i.e., sentence speed, rhythm, more hesitation pauses,

etc.)" (ibid.)

Metaphorical switching can be seen to occur when residents approach a

clerk's desk. Greeting and talk about family affairs is exchanged in dialect,

but the business part of the transaction is carried on in the standard

language. There is no significant change here in the definition of

participants' mutual rights and obligations: "The language switch here

relates to particular kinds of topic and subject matters rather than to a

change in social situation" (op. cit., p. 425).[3]

The researchers note the importance of social (i.e., non-referential)

meaning for the study of language in society:

> Mere naturalistic observation of speech behaviour is not enough. In order to interpret what he
> hears, the investigator must have some background knowledge of the local culture and of the
> processes which generate social meaning (op. cit., p. 434).

To ensure adequate local cultural knowledge, this study uses a local

researcher, and in order to elicit the whole range of language behaviour, the

same speaker was recorded in a variety of different situations. In addition,

friendship groups were used to elicit natural talk.

An important finding for self-reporting of language behaviour, was that

informants'accounts of what they said they had done, and what actually

occurred, were found to differ substantially. For example, a group of

university students from the town, and who claimed to speak entirely in

dialect when they were at home, switched to using features of the standard

language when they wished to reinforce an argument by emphasizing their status as intellectuals. At first there was a tendency to doubt the researchers' account. Later, when the students heard the evidence of themselves on tape, they promised not to make such a 'mistake' again. However, in later taped conversations the same linguistic behaviour recurred. This led the researchers to conclude that certain sociolinguistic rules, like those of grammar, "operate below the level of consciousness and may be independent of the speaker's overt intentions" [4] (op. cit, p. 430).

This view of the subconscious nature of features of sociolinguistic behaviour is supported elsewhere (Labov, 1978), and suggests that researchers must exercise extreme caution before relying on what people say they are doing as being any guide to their actual language behaviour. This research also provides an example of the fundamental practical difficulty for sociolinguistic analysis, which is enshrined in Labov's 'observer's paradox' (Labov, 1972b): the fact that it is necessary to find out how people talk when they are not being systematically observed, yet such data can only be obtained by systematic observation.

4.3.2 Sociolinguistics and Educational Issues

In Britain, early sociolinguistic work in education was dominated by Bernstein and his colleagues at the University of London Sociological Research Unit (Bernstein, 1961; 1972a, b; 1973). This work focusses on

language and educability and seeks to provide a theoretical framework for explaining the well-established failure of working-class children to be as successful in schooling as the children of the middle-classes. Bernstein's research was widely and popularly construed to prove that working-class children were handicapped by a linguistic deficit[5] attributable to their social background when they had to function in the context of the more complex and refined middle-class language that lay at the heart of the educational process. However, Bernstein (1972b) himself has objected to the notion that some working class children are linguistically deprived. It is more appropriate therefore to regard Bernstein's work, not as querying the linguistic abilities of working class children, but as drawing attention to "their relative inexperience in using language for certain educationally relevant purposes" (Edwards, 1980).

4.3.3 Ethnography and Participation in Community and Classroom

Much of the work that has investigated classroom language and educational disadvantage in detail has been conducted by ethnographers of communication whose methods were evolved in the United States from the anthropological tradition. If, in Britain, class had tended to be seen as the key factor in educability, in American research the emphasis has been on ethnic background. Thus studies were conducted which focussed on such groups as Amerindian (John, 1972; Dumont, 1972), and Hawaian school children (Boggs, 1972); and the sociocultural context of black English was analyzed for

teachers (Kochman, 1972).

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In a noted study of Warm Springs Indian children , Philips (1972) seeks to account for the fact that "Indian children show a great deal of reluctance to talk in class, and that they participate less and less in verbal interaction as they go through the school" (op. cit., p.371), appearing not culturally oriented to the norms governing American schooling. Customarily, for example, they speak to each other in class and get up unbidden to walk across the room, they tend not to respond to direct questions, nor to wish to display recently acquired knowledge; all behaviours which a non-Indian teacher is inclined to construe unfavourably.

Philips coins the term <u>participant structures</u> to describe the ways in which the teacher organizes different types of verbal interaction with pupils, both to deal with different kinds of educational material, and to provide variety and sustain interest; such structures being defined and changed by the teacher at will. The participant structures upon which classroom activities are predicated are seen to be alien to the Indian children, who have learned to operate in terms of quite different participant structures in their own cultural context.

Gumperz (1981) has claimed that the work of Philips and subsequent ethnographers:

... highlights that childrens responses to school tasks are directly influenced by values and presuppositions learned in the home. It demonstrated, moreover, that classroom equipment, spatial arrangements, or social groupings of teachers and students are not the primary determinants of learning. What is important is what is communicated in the classroom as a result of complex processes of interaction among educational goals, background knowledge, and what various participants perceive over time as taking place (op. cit., p. 5, original emphasis).

There can be no doubting the importance for education of the finding that the rules governing conversational interaction among different cultural groups using the same language may be so great as to render them almost mutually unintelligible. Also, doubt is thereby cast on the notion that there might be universal rules governing conversational structure (Edwards, 1980). Such work, then, marked a turning away from cultural deprivation, linguistic deficit, or difference models, in favour of inspecting the role of classroom environments in affecting the educability of children.

4.4 Conversational Analysis

The work of the conversational analysts took place against the background of a more general interest in the sociological dimensions of interaction, with which it shared common perspectives. Thus Goffman (1959, 1964) documented the ways in which social structures are allocated through interaction. Later, Garfinkel (1967) coined the term ethnomethodology to describe the study of the interpretative processes fundamental to the achievement of communicative acts. For the ethnomethodologist, understanding is never achieved just through a process of recognizing shared content and rules, but "as a contingent accomplishment of socially organized

common practices" (Garfinkel, 1972, p.323). The basis of culture is regarded

as depending not so much on shared knowledge, but on common procedures for

interpretation. Understanding is achieved because it is assumed that other

people's words make sense, and a reasonable meaning is imputed even when

the data available is relatively 'degenerate'.

Working within such a sociolinguistic framework, conversational anal-

ysts have made progress in studying aspects of real conversations. Actual

speech occurs in real time and the recognition of this fact marks a sharp

break with the idealization of language practised by the grammatical

linguists. The first draft is also, as it were, the final performance and

contains slips, revisions, false starts, hesitations, and so on. Here there is

no possibility of producing the carefully polished final draft that can be

achieved when working in the written medium. This is why linguists have

tended to view conversational performance as 'degenerate', and unsuitable for

analysis. But hearers, typically, do not notice the 'defective' nature of much

of what they hear (Bell, 1976), unless of course, the speaker's difficulties are

so severe that they force themselves upon the hearer's attention. In order to

account for this phenomenon, Labov (1966) has proposed a number of editing

rules which explain how the hearer reformulates the utterances that are

spoken into the sentences intended by the speaker.

The importance of order in conversations has been clearly documented by

Schegloff (1972), whose research is concerned with the rules that govern

conversational openings. He aims to show, based on the analysis of tape-

recorded phone calls to and from the complaints desk of a police department,

that everyday conversational interaction can be subjected to rigorous

analysis. The focus is on one aspect of two party conversation: the ways in

which co-ordinated entry by two parties into an orderly sequence of

conversational turns is managed.

Sacks (1972) focusses on verbal exchanges between speakers and studies

the strategies by which speakers identify themselves or react to others. His

concerns overlap with those of linguists who try to explain how texts cohere,

that is, how sentences are heard as connected discourse and not as an

arbitrary list (Halliday & Hasan, 1976). He shows

> how listeners must utilize their own knowledge of the social system to interpret the
> juxtaposition of terms in conversation. Members are seen as having social knowledge in three
> ways - 1) to recognize certain strings of sentences as possible or valid instances of stories,
> descriptions, conversations, etc.; 2) to achieve certain social effects - to elicit a response, to
> get the floor, etc.; 3) to communicate affect - praise, criticism, humour, etc... Social norms
> to him are part of the communicative code which governs our peception of events in somewhat
> the same way as grammar governs our perceptions of speech (Gumperz & Hymes, 1972, pp.
> 326-7).

Thus, familiarity with all the alternatives that a speaker could utilize

in conveying a certain kind of message is required before it is possible to

weigh up the significance of a particular selection. For Sacks, culture fills

brains "so that they are alike in fine detail" (Sacks, 1972, p. 332). Conse-

quently, it is possible to provide 'viewers maxims' which describe how

members of a culture "provide some of the orderliness, and proper orderli-

ness, of the activities they observe" (<u>op. cit.</u>, p. 339).

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Sacks also demonstrates that certain activities can only be done at certain places in sequences of talk, for example, exchanging greetings, or commencing an anecdote. This leads to a distinction between <u>slot</u> and <u>item</u>, the former term designating an appropriate juncture in a sequence of talk for introducing a particular kind of speech activity, and the latter the speech activity which is introduced to fill a slot. In terms of two-party conversations, rules are seen to be operating which lead to question-answer chaining: a question asked by one party leads to an answer by the other; and the person who originally asked the question has the reserved right to talk again after she has been answered, and may ask another question.

The work of Schegloff and Sacks discussed above exemplifies the <u>adjacency-pair</u> approach developed in early conversational analysis. Though later work has shown that such a model, which accounts for the structure of conversations in terms of a concatenation of paired sequences, fails to account for conversations which contain, say, stretches of monologue, or assertions, which can be followed by almost anything (Goldberg,1983), it did establish that it is entirely possible to find regulating principles which underlie conversational structure.

If conversational analysts engaged with real conversations, and their

focus on turn-taking and adjacency pairs introduced dynamic considerations

into the study of talk, it is also true that their approach tends to focus only

on selected aspects of conversations. While the opening and closing sec-

tions of telephone conversations are closely scrutinized (Schegloff, 1972;

Schegloff & Sacks, 1974), little attention is paid to what occurs in between

these boundary sections, in the main body of the telephone conversation

itself (Ventola, 1987). Nor are the conversational patterns identified

integrated into an overall descriptive system (Phillips, 1984).

4.5 Ethnography of Communication and the Classroom

Ethnography of communication is the term used to describe an approach

in which the interests of anthropology and linguistics are merged (Hymes,

1971). The ethnographer studies speech events in different cultures with a

view to illuminating the relationships between linguistic forms and the

particular contexts in which they occur. This focus on the contextual

aspects of speech events and on what may be done through language links

ethnography of communication to conversational analysis, in that they both

share overlapping concerns (Edwards & Westgate, 1987).

Ethnographic methods have been adapted by classroom researchers in

order to study communication in the classroom (Wilkinson, 1982).[6] In a

review of research on teaching as a linguistic process, Green (1983)

describes ten American projects whose methodology derives from

anthropological approaches to communication.

The conceptual basis of these studies is seen to rest upon a common approach that is explained in terms of six constructs that are regarded as fundamental to understanding classroom communication: 1) face-to-face interaction is a rule-governed phenomenon that an observer may analyze to reveal the perspective of participants; 2) contexts are constructed as part of the activity of talk and there is a redundancy of cues provided about intended meanings; 3) meaning is context specific and preceding events constrain what may happen at any juncture in a conversation; 4) comprehending conversation involves complex inferencing by participants based on a wide range of cues which are also open to inspection by an observer; 5) the classroom is a distinctive environment for communication in which differentiated participation structures are called into play both across and within lessons; and, 6) the teacher occupies a central role in directing the communicative process by controlling participation, evaluating contributions, and signalling expectations for behaviour (op. cit., pp. 171-186).

4.5.1 Analyzing Communicative Intent in the Classroom Context

One of the research projects cited by Green (op. cit.) concerns the fine detail of the way communicative intent is signalled in the classroom. The way that misreadings and misunderstandings may occur due to different culturally learned conventions has been studied at the University of

Berkeley by Gumperz (1981) and his colleagues. Building on Grice's (1975)

work on conversational implicature, Gumperz uses the term

<u>contextualization</u> <u>convention</u> to refer to "some of the nonlexical and

nongrammatical, yet nevertheless linguistic, cues involved in

conversational inference" (Gumperz, <u>op.</u> <u>cit.</u>, p. 14). These conventions

function as yardsticks against which to apply Grice's maxims. Grice (1975)

had shown how implicature may arise, but does not indicate how the hearer

knows that the meaning she has derived is the only right one. Gumperz

proposes a model which addresses this problem:

We use our knowledge of grammar, lexicon, contextualization conventions, as well as whatever background information we have about settings and participants, to decide on what activity is being signaled or to establish likely communicative goals and outcome. We then build on these predictions to identify the communicative intent which underlies particular utterances...
Contextualization conventions channel interpretations in one direction or another. The basic assumption is that <u>something</u> is being communicated. What is at issue is <u>how</u> it is to be interpreted. The judgments involved are contingent judgments; they are either confirmed or disproved by what happens subsequently. If they are confirmed, our expectations are reinforced; if they are disconfirmed, we try to recode what we have heard and change our expectations of goals, outcomes, and speakers' intent.
A key characteristic of contextualization conventions is that they are not automatically learned along with grammar and phonology as a natural consequence of learning what the linguists would call <u>a language</u>. Speakers may show little or no difference when we examine their perceptions of grammaticality or appropriateness, but they may differ greatly in the way they contextualize talk. Contextualization conventions are acquired as a result of a speakers actual interactive experience, that is, as a result of an individual's participation in particular networks of relationship... Where these networks differ, as they do in ethnically mixed settings, or in interactions between children and adults, varying conventions arise. Contextualization conventions are thus subculturally specific, they have the characteristic of... 'conventions about language use' rather than conventions about language (Gumperz, 1981, pp.14-15,
original emphases).

To instance this approach, a section of transcript is provided in which a

second grade pupil has been asked to help a reluctant first grade pupil do

some reading. Initially, the first grade pupil appears somewhat unwilling to

cooperate.

FIGURE 4.1 Tutoring of First Grade Pupil in Reading by a Second Grader

(Gumperz, 1981, p. 15)

1. First Grader: Page thirty-three, where's thirty-three?
2. Tutor: Thirty-three.
3. FG: Thirty-three, is this thirty-three?
4. T: Thirty-three.
5. FG: Kay. Well, I was, I was over here.
6. FG: Come...
7. T: The...
8. FG: Ba... The? The? The...
9. T: Morning...
10. FG: Morning... is... coming?
11. T: Over.
12. FG: Over! The morning I....

Gumperz suggests that adults overhearing the above interaction would be likely to dismiss this as just word play. But based on a large sample of ethnographic observation, it is possible to note the children use their own contextualization conventions, "relying on stress, rhythm, and intonation to convey information that in adult talk is commonly put into words" (ibid.).

Accordingly, it is possible to fill in what is implied but left unsaid:

Thus, in line 2 and 4, the tutor uses a low-fall intonation to imply: "That's right, you know where it is. In line 6, the first grader uses a sustained, nonfalling intonation contour reflective of reading style to suggest: "I'm reading: come...". In line 7, the tutor copies his style as if to say: "the word is: the...". In line 8, the first grader first uses questioning intonation twice as if to say: "Did you really say: the?" and then goes on reading: "the". The tutor then affirms by using reading style to give the next word: "morning". An adult here might have acknowledged with "that's right". In line 10, the first grader goes on to read: "morning is coming". The last word given in questioning intonation indicates lack of certainty and the tutor in line 11 uses a high-fall intonation to correct. In line 12, the first grader copies her intonation to acknowledge the correction and goes on reading (op. cit., p.15-16).

Gumperz indicates that nothing about these contextualization techniques is totally unfamiliar to adults, rather it is the fact that they are used with such frequency and to carry such a high 'signalling load' that makes it unlikely that

adults will understand their significance. Adults using comparable

intonations would be likely to surround them with qualifying statements and

lexical acknowledgement.

In interaction with the teacher pupils often have to recognize whether

answers are right or wrong based on indirect cues, such as the teacher

repeating an answer with falling intonation to signal it is correct, and with

rising intonation if it is incorrect. Gumperz (op. cit.) indicates that evidence

that the pupils have internalized an unstated communicative convention is

provided by the fact that the pupils try to produce another answer whenever

the teacher signals indirectly that an answer is wrong. Although teachers

may adopt this strategy to avoid overly negative feedback, it may sometimes

cause difficulties for pupils, since indirect signals provide no indication of

the degree, or nature, of the error: they provide pupils with only a yes/ no

signal to rely on, thus leading pupils to resort to what may appear like a

series of relatively wild guesses.

Such research indicates that there is much more to the study of

communication in classrooms than a mere formal examination of the words

used in a transcript would allow. How things are said, and the communicative

conventions which are being exploited, are essential aspects for constructing

any adequate understanding of what is actually occurring. Thus, it would

appear, classroom transcripts need to be supplemented by information about

intonation, hesitation, and so on, if they are to be scrutinized for evidence of

the real-time construction of interaction.

4.6 Discourse Analysis and the Language of the Classroom

The pioneering study in discourse analysis is also, coincidentally, a study

of classroom language. Undertaken at the University of Birmingham by

Sinclair and his associates in the early 1970's and published as Towards an

Analysis of Discourse (Sinclair & Coulthard, 1975), the research adopts a

systemic linguistic approach.

In setting out to investigate the linguistic aspects of teacher-pupil

interaction the questions the Birmingham team had in mind were as follows:

"What function does a given utterance have - is it a statement, question, command, or response - and how do the participants know; what type of utterance can appropriately follow what; how and by whom are topics introduced and how are they developed; how are 'turns' to speak distributed and do speakers have differing rights to speak?" (op. cit., p. 1).

The model they develop is based on analysis of transcripts of formal

classroom interaction. Such classrooms were deliberately selected in order

to provide samples of discourse that possessed a high degree of structure and

were as far removed as possible from desultory conversation.[7] The

researchers claim to have had no "preconceptions about the organization or

extent of linguistic patterning in long texts" (op. cit., p. 19) and a main

concern was to discover how far the structuring of lessons was pedagogical,

and how far linguistic. They approached their task by developing a rank scale

model. This is elucidated thus:

> The basic assumption of a rank scale is that a unit at a given rank, for example, <u>word</u>, is made up of one or more units of the rank below, <u>morphemes</u>, and combines with other units at the same rank to make one unit of the rank above, <u>group</u> (Halliday, 1961). The unit at the lowest rank has no structure. For example, in grammar 'morpheme' is the smallest unit, and cannot be divided into smaller grammatical units. However, if one moves from the <u>level</u> of grammar to the level of phonology, morphemes can be shown to be composed of a series of phonemes. Similarly, the smallest unit at the level of discourse will have no structure, although it is composed of words, groups or clauses at the level of grammar.
>
> Each rank above the lowest has a structure which can be expressed in terms of the units next below. Thus, the structure of a clause can be expressed in terms of nominal, verbal, adverbial, and prepositional groups. The unit at the highest rank is one which has a structure that can be expressed in terms of lower units, but does not itself form part of the structure of any higher unit. It is for this reason that 'sentence' is regarded as the highest unit of grammar. Paragraphs have no grammatical structure; they consist of a series of any type in any order. Where there are no grammatical constraints on what an individual can do, variations are often dubbed 'stylistic'.
>
> We assumed that when, from a linguistic point of view, classroom discourse became an unconstrained string of units, the organization would have become fundamentally pedagogic. While we could then make observations on teacher style, further analysis of structure would require a change of level not rank (<u>op. cit</u>, p. 20-21, original emphases).

The way in which the research team approached the analysis is instructive and is presented here in some detail. There was an initial search through transcripts of lessons looking at adjacent utterances in terms of whether a reply to a teacher question was considered appropriate, and how the teacher indicated whether the reply was appropriate or not. This adjacency pair analysis led to a first working hypothesis: that the discourse consisted of a two-level structure of <u>utterances</u> and <u>exchanges.</u> Utterances were defined as everything said by one speaker before another speaks, and were seen as the constituents of exchanges, defined as two or more utterances. However, examples were quickly found of interaction that appeared to undermine such an approach, as indicated in Figure 4.2.

FIGURE 4.2 Interaction Between Teacher and Pupil Which Demonstrates a Boundary Occurring Within an Utterance (Sinclair & Coulthard, 1975, p. 21)

Teacher: Can you tell me why do you eat all that food? Yes.
Pupil: To keep you strong.
Teacher: To keep you strong. Yes. To keep you strong.
    Why do you want to be strong?

The researchers remark that the 'obvious' boundary is felt to be in the middle of the teacher's second utterance. Sinclair and his associates found numerous instances of such 'boundaries' occurring within utterances. Following Bellack et. al. (1966) they called this sub-unit of an utterance, a move. Although they did not wish to dispense with the concept of the utterance - after all, it appears such an obvious unit, and it is so easily defined - they came to the reluctant conclusion that the utterance is not a discourse unit. Several educational researchers had already reached that same conclusion (see, Smith & Meux, 1962; Bellack et al., op. cit.).

They confirm that the three part I-R-F exchange is typical in the classroom - there tends to be an initiation (I) by the teacher, followed by a pupil response (R), followed by feedback (F) to the pupil response by the teacher. These categories, it is noted, "correspond very closely with Bellack's moves, soliciting, responding, and reacting" (Sinclair & Coulthard, 1975, p. 21). Thus the basic model which was evolved identified exchanges which had moves as their constituents.

Further examination of exchanges revealed that a small group of words -

'right', 'well', 'good', 'O.K.', 'now' - recurred frequently in the speech of all

the teachers in the sample, although which expression was favoured was a

matter of individual preference, and were used to mark boundaries between

different stages of a lesson. Functioning in this fashion these words were

found to be followed by an unstressed pause (^), that is, a pause of one beat

or more. Such expressions were termed frame. They were found to occur

near the beginning of a lesson where they served to mark off the end of

settling-down time:

FIGURE 4.3 Demonstration of an Unstressed Pause (Sinclair & Coulthard,
1975, p. 22)

Well^,
today, erm, I thought we'd do three quizzes...

However, a frame may also occur within a lesson thus:

FIGURE 4.4 Demonstration of a Frame (Sinclair & Coulthard, 1975, p. 22)

Energy. Yes.
When you put petrol in the car you're putting another kind of
energy in the car from the petrol. So we get energy from petrol
and we get energy from food. Two kinds of energy.
Frame   Now then ^
I want you to take your pen and rub it as hard as you can on
something woollen.

Frames, particularly those occurring near the beginning of lessons, were

found to occur frequently in conjunction with statements, named focus, which

tell the class what is going to happen. Strictly speaking, these are regarded

not as part of the discourse, but as metastatements about the discourse and correspond to Bellack et al.'s (1966) structuring moves. Frame and focus appeared to function as boundary elements and gave evidence of a unit above exchange, which was called transaction. The highest unit of class room discourse, consisting of one or more transactions, was called lesson, and is distinguished from the chronological unit period in the timetable with which it is not necessarily co-extensive.

These four ranks of move, exchange, transaction, and lesson, were used in the analysis for several months, but growing difficulties with coding led to the incorporation of a rank below move which was called act.[8] Acts often overlap with the grammatical unit clause, but the two terms are quite distinct in meaning. The grammatical description, clause, is concerned with the formal properties of the item, whereas the discourse description, act, is concerned with its functional properties: "grammatical structure is not sufficient to determine which discourse acts a particular grammatical unit realizes - one needs to take account of both relevant situational information and position in the discourse" (op. cit., p. 23).

However, there is considerable overlap between the lowest ranks of the discourse scale and the highest ranks of the grammar scale; and a similar overlap is assumed to occur between the top of the discourse scale and the bottom of a rank scale of non-linguistic (i.e. pedagogical) organization. This

is represented in Figure 4.5.

FIGURE 4.5 Levels and Ranks (Sinclair & Coulthard, op. cit., p. 24)

Non-linguistic Organization	DISCOURSE	Grammar
course		
period	LESSON	
topic	TRANSACTION	
	EXCHANGE	
	MOVE	sentence
	ACT	clause
		group
		word
		morpheme

The development of this system is presented in some detail to show the way the analysis was evolved from successive hypotheses applied to transcript data, each modification being produced to meet a weakness in the previous formulation, until the fully developed system emerged. The rigour of the linguistic method is also made evident, with the established technique of grammatical rank level analysis being applied to discourse.

The transaction would appear to be of potential interest to educational researchers engaged in studying transcripts of classroom teaching, where a major problem has been finding a suitable unit for analysis. From inspecting the examples of transactions provided in the Birmingham study, this unit of discourse would seem to have considerable overlap with Smith et. al.'s (1967) pedagogical topic unit, the venture. Moreover, it is claimed that transaction boundaries are clearly marked by teachers because of the way they structure discourse.

Indeed, the Birmingham research team believed it possible that a full

description of the structure of transactions might be prescribed:[9] they are

seen normally to begin with a preliminary exchange, to continue with a series

of medial exchanges, and to end with a final exchange. Eleven types of medial

exchange were discovered, though "we cannot yet specify in detail how they

are ordered within transactions" (Sinclair & Coulthard, op. cit., p. 60).

Transactions are delimited by exchanges of the boundary type: an initial

boundary exchange may consist of a frame, and/or a focus, as may a conclu-

ding boundary exchange. However, transactions may begin without frame or

focus, the frame or focus concluding the previous transaction paving the way

for a new transaction to open with an eliciting exchange. Transactions can

also close with a boundary exchange which contains neither frame nor focus

but which consists of a concluding act, e.g. 'So symbols are extremely useful

for us, aren't they?' Thus although transactions were originally encountered

in terms of frame and focus, further work has revealed these to be optional,

rather than necessary elements of transaction structure.

A sample of classroom discourse analyzed according to this system is

presented in Figure 4.6. Transaction boundaries are represented by a double

line across the page, exchange boundaries by a single line. Exchanges are

conceived, ideally, as consisting of opening, answering and follow-up moves.

FIGURE 4.6 Analysis of an Extract of Classroom Discourse (Sinclair &
Coulthard, 1975, pp. 84-8)

Exchange Type	Opening	Act	Answering	Act	Follow-up	Act
Boundary (1.	So that then is why the Pharoahs built their Pyramids - which really were great tombs - in which they were placed. FOCUS	con				
Elicit (2.	And the Egyptians also had a very special art of doing something to people's bodies · when they had died. · What was this called?	s el	They used to take out their heart and their brain, and put them in-	rep	They certainly did something special with their heart. [4] Yes. [5]	e
Re-initiate (3.			They wrapped the Pharoah or the person up with a pile of bandages and put them in a kind of case. They were called mummies.	rep	Yes. [1]	e
Elicit (4.	What is the word then for doing putting this body in its mummy case? What did they-	el	Mummify.	rep	-They mummified it that means- yes., They drained out all the liquid from the body and rubbed special preserving oils into the body, wrapped it in bandages and put it in the case.	e con
P-Inform (5.	NV Yes. Miss, they showed you a Pharoah's body mummified on 'Blue Peter'.	b n i			Did they.	acc
Elicit (6.	When was this?	el	On Monday I think.	rep	Good gracious me, that's fairly recently.	acc
Elicit (7	Do you remember which one, it was?	el	No Miss. ·	rep	No. [3]	acc
Re-initiate	What about you Paul?	n	No Miss	rep	No. [1-] ·	a.cc
Elicit (8.	Was it one that they were they photographs of erm a mummy case that they'd taken in a museum or-	el	Miss they had it there.	rep		
Repeat	Actually in the studio?	l	Yes. .	rep	Gosh. That was exciting then, wasn't it.	acc
Inform (9.	Miss they showed you a film about them moving the Egyptian temples to some- where else.	i			Ah yes.	acc

Exchange Type	Opening	Act	Answering	Act	Follow-up	Act
Elicit (10.	Why have they done this this great enormous temples. Had to be taken in great huge, enormous, gargantuan pieces and moved to other parts of Egypt.	el cl	Because some people are making a vast dam and they want to build on that place that it was before.	rep	Yes. [1-]	acc
Elicit (11	What are they going to build?	e	They are going to build a big dam.	rep	Yes. [1+] They're going- the Valley of Kings was going to be flooded with water, wasn't it. Because they want the water for irrigation.	e com
Elicit(12	And also, I think, for. . .	el	The people?	rep	Yes. [1-]	acc
Elicit (13	Aren't they going to build a hydro-electric dam there?	el	Yes.	rep		
Inform (14	A hydro-electric dam to produce electricity for the people of Egypt. Er, an enormous project which has been going on for a few years now, and, er, great pieces of rock have been hewn out of these temples which are, which were actually made in the rock face itself. These have all cut out, and each one has been carefully numbered so when its carted off and taken away somewhere else it can all be fitted together again, er, to make it complete, so that people can see it.	i				
P.Inform (15	Miss, the er London Bridge they're transporting that to America.	i			Yes, they are aren't they. They're building that somewhere else.	e com
Elicit (16	Have a word about this chap we don't seem to have finished do we?	el	Ø			

Note: acc = accept;   b = bid;   cl = clue;   com = comment;   con = conclusion;
       e = evaluate;   el = elicitation;   i = informative;   n = nomination;   rep = reply;
       s = starter.

[Ennumeration of exchanges added.]

The temporal sequence of the discourse in Figure 4.6 is reconstructed by reading all that occurs in the opening column of an exchange, before moving to the answering and follow-up columns in turn, then the process is repeated for the next exchange, and so on. The class have been working on decoding Egyptian names in hieroglyphic form, the teaching material having been provided by the research team. In the extract presented here, the teacher is discussing aspects of ancient Egyptian culture. The text begins with the concluding exchange of the preceding transaction to indicate how the transaction boundary is established.

Several things are apparent: firstly, this system of analysis has little to say about the structure of sections of discourse where the teacher is engaged in a monologue, as in exchange 14. Secondly, whilst some information about tone is provided for the teacher's follow up moves, the general lack of paralinguistic details about how things are said makes it very difficult, in places such as exchange 10, for the reader to reconstruct a version of the interaction that is adequate for understanding. Finally, the rigid division of spoken items into columns would not seem to facilitate the representation of the real-time structuring of discourse.

Towards an Analysis of Discourse (Sinclair & Coulthard, 1975) - referred to hereafter by the abbreviation TAD - has been recognized by some as representing a major advance in analytical technique that is usable by

educational researchers (Willes, 1983; Wilkinson, 1982; Green & Wallat,

1981). It has been explained and critiqued for the benefit of other

researchers who might wish to use it (Burton, 1981). And it has also been

the focus of some controversy with Hammersley (1981) claiming that it is

misleading since it provides a normative portrayal of classroom interaction

which ignores pupil deviance, whilst Brazil (1981) has argued in its defence.

Gumperz (1981) agrees that TAD represents a considerable improvement

over systems which count the number of interactions in various categories,

but regards it as seriously flawed because its development was based on

staged experimental lessons. His contention is that by inventing an

artificial context for recording discourse, Sinclair and his colleagues have

ignored the fact that situation is itself a key determinant of the kind of

discourse that will occur. This view is lent support by the research of

classroom ethnographers who have detailed the crucial role of situation in

determining discourse structure, and who regard context as a dynamic

achievement of the talk itself (Erickson & Shultz, 1981; Frederiksen, 1981;

Corsaro, 1981).

Certainly, the view taken of classrooms in TAD suggests that the

'obviousness' of what is occurring may be taken for granted, and it is true

the researchers claim no particular expertise in educational contexts.

Rather, they are linguists seeking a simpler and more predictable form of

discourse to analyze than may be found in ordinary conversation. The

situation they seek is one where:

> ...one participant has acknowledged responsibility for the direction of the discourse, for deciding who shall speak when, and for introducing and ending topics. We also wanted a situation where all parti cipants were genuinely trying to communicate, and where potentially ambiguous utterances were likely to have one accepted meaning. We found the kind of situation we wanted in the classroom (Sinclair & Coulthard, 1975, p. 6).

Thus the development of the system of analysis appears to derive from a highly idealized view of classroom life. The assumption that 'all partici-pants' in the classroom will be 'genuinely trying to communicate' is thrown into question by studies which reveal pupils to be engaging in their own counter-strategies and not just obediently accepting the teacher's definition of the situation (see, for example, Woods,1981; Hargreaves, 1980). It should not be surprising if such idealizations were found to affect the system that was developed, and indeed, it appears that TAD is blind to the possibility of pupil initiated transactions.[10]

A later, and more complex, version of the system (Sinclair & Brazil,1982) seeks to augment analytical subtlety by taking account of the considerable interpretive loading that is borne by paralinguistic features in spoken discourse. Whilst the original version of TAD recognized that such features were important (e.g. the noting of unstressed pauses after words like 'Right ' to distinguish frame) these were not treated systematically. Now the analysis is expanded to make explicit consideration of tone units to identify proclaiming (identified by falling tone) and referring (identified by rising tone or by the fall-rise) that is, the way the discourse is constructed in real

time by the conjunction of elements which look forward with those that look

back: "By observing the teacher's choices of tone, we see the moment by

moment decisions he makes about what needs to be proclaimed as new and

what can be taken as already negotiated." (Sinclair & Brazil, 1982, p.112).

Such analysis involves consideration of pitch movement, pitch level or key,

and so on. However, it is not claimed that these considerations will solve all

problems of interpretation, rather it is indicated there is still an overriding

need to pay attention to the situation in which talk is occurring, and to the

position of items in the discourse in order to interpret meaning.[11]

Together with an expansion in analytical subtlety, Sinclair & Brazil (1982)

contains a contraction in claims about the scope of such analysis. The

earlier expectation that it may prove possible to specify the structure of

transactions in some detail (Sinclair & Coulthard, 1975) is reappraised, and

doubts are expressed about whether the structuring of classroom discourse

above the level of exchange may be capable of linguistic analysis.

The transaction is now regarded as largely an unknown quantity, apart from

the fact that it possesses boundaries marked by frames:

We assume that most of the planning of long stages of discourse is not of a linguistic nature - not
closely linked to the disposition of actual words and phrases. And since discourse involves more
than one participant, no one individual, however dominant, can predict exactly what is going to
happen. So up to exchange structure we can be fairly confident that linguistic considerations are
very important in describing what is going on; beyond that the control exercised by language
will become less marked. Sequences mark places where a formal pattern is maintained above
the exchange; transactions are marked by boundaries. The growing amount of descriptive
research will fill out many details in the future, but language is built out of very small units -

letters and sounds - and we cannot expect such a system to be useful in describing extensive events (Sinclair & Brazil, 1982, p. 53).

Thus the hierarchical organization of discourse that is now proposed includes an intermittent structure, called sequence, intervening between exchange and transaction, and which consists of a predictable routine, such as when a number of similar questions, or repetitive commands occur so as to form a distinctive group of exchanges. This, along with the new scepticism about transactions as linguistic entities, tends to confirm the impression that the rank level approach, though it may be viable up to the level of exchange, tends to break down beyond that as an attempt is made to describe the larger structuring of classroom discourse. There is a perceived need to attend to the pedagogical structuring of instruction and the ways in which topics are introduced and developed; that is, to add to the linguistic description of the moment-by-moment negotiation of interaction provided, a description of "the orderly exploration of the world of knowledge" (op. cit., p. 4).

The great strengths of the Birmingham model include the search for rigour, and the attempt to include all the data. What is provided is a predictive model: "The notion of 'structure' is very much one of anticipation, and the prominence of structure in conversation helps to explain how we can cope with such subtlety and complexity" (op. cit., p. 38).
Thus the discourse is seen as setting up expectations and this feature may

explain how it is that even beginning pupils can make sense of what

happens in the classroom (Willes, 1983).

Another great virtue of this approach is that it acknowledges the real-

time aspect of discourse, although it fails to analyze this convincingly.

Teachers may ask a question which appears to be intended as an elicitation,

and then substitute another one almost immediately. The system attends to

how pupils can cope with such events. The teacher does not tell the class to

ignore the first formulation, when he

> follows one potential informative, directive or elicitation with another, usually more explicit
> one, signalling paralinguistically, by intonation, absence of pausing, speeding up his speech
> rate, that he now considers what he has said just a starter, and the pupils are not intended to
> respond. Starters are acts of which the function is to provide information about, or direct
> attention or thought towards, an area in order to make a correct response to the initiation more
> likely, even though this function is often only impromptu, when the teacher realizes that the
> intended elicitation was not adequate... In any succession of statements, questions, and
> commands the pupil knows that he usually only has to respond to the final one, and only that has
> an initiating function (Sinclair & Coulthard, 1975, p. 34-5).

The fact that pupils regularly respond to the appropriate elicitation,

ignoring starters, indicates that they understand the unstated

communicative convention which is operating.

Sinclair & Brazil (op. cit.) also attempt to take cognizance of

management and disciplinary aspects of teaching. The teacher is seen as

simultaneously controlling subject matter and managing the group. This

requires him to be flexible, so that considerations other than the natural

divisions of his topic may lead him to initiate and close transactions:

management and discipline will affect his plans. Once the teacher has made

an eliciting move the answer he will receive is, ultimately, unpredictable.

Consequently, he will need to improvise. Some classroom discourse, then,

may appear fragmented since it will sometimes be governed primarily by

the situational expediences of the moment.

Finally, despite increasing the subtlety and complexity of the system of

analysis, and the attempt to take greater account of the realities of

classroom life, it appears that Sinclair & Brazil (op. cit., p. 6) do not so

much provide the analysis of jointly constructed discourse that they claim,

as a rather one-sided account of the structure of the discourse from the

teacher's point of view, with pupils being seen as having 'a very restricted

range of verbal functions to perform' (op. cit., p. 58). Ways in which pupils

may exert influence on the discourse still go unnoticed.

4.6.1 Discourse Analysis in a Study of Children Becoming Pupils

The question of the particularities of the language of the classroom and

how beginners are initiated into it, is explored by Willes (1981,1983). In

her concern with 'how children learn to participate in the discourse of the

classroom' (Willes,1981, p. 51), she investigates the sociolinguistic rules

which govern pupils' behaviour in the classroom and how children learn to

operate these. The rules governing classroom discourse are regarded as a

particular version of those that generally govern adult-child conversation.

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Willes'research involved the study of the text produced between

teachers and their classes. The pupils involved were 3-5 year old nursery

school children, together with those in reception classes. In addition a

class of more experienced 7 year old pupils was used for comparison.

Classroom interaction in all these groups was tape recorded and

transcribed, and the resulting texts were analysed using the system of

discourse analysis evolved by Sinclair and Coulthard (1975).

Willes found that even in nursery school, connected and analyzable

discourse was produced whenever teacher and pupils were talking to a

purpose. This creation of orderly text is attributed to the way the teacher

manipulates the situation. While she tolerates answers that are

inappropriate, she also imposes order on the discourse either by selecting

from a chorus of answers one that she highlights as satisfactory, or by

herself giving the response that she hoped to hear. In a sense, beginning

pupils are treated as if they were already the participating pupils they will

soon become. The structuring of the interaction is founded upon "the

teacher's certainty about what constitutes well formed discourse"

(Willes,1983, p.114). Thus the process of induction into playing the game

of classroom language is seen to be analagous to the way newcomers learn a

playground game through being allowed to take part with those more expert

than themselves.

An important consideration for researchers is the difficulty Willes

indicates surrounding the use of lesson transcripts as evidence of pupil

understanding, since children do not all participate to the same degree:

"Taped and transcribed texts overlook altogether the non-participating

pupils, and represent the discourse as if the class were a collective entity,

making a collective response in relation to the teacher's initiatives" (Willes,

1981, p.58). Of course, this 'generalized view of classroom behaviour' is

what teachers are obliged to operate upon: "They typically regard as satis-

factorily responsive a class where only some of those present offer replies

which they can evaluate, and the efforts they make to identify and nominate

those who are reluctant to answer are necessarily intermittent" (ibid.). But,

as Willes points out, there is a world of difference between pupils who are

silent, but who understand what the teacher is saying, could respond

appropriately if asked, and who are able to predict the likely sequence of

events; and those whose silence indicates bewilderment, who do not know

what to do, and cannot anticipate the discourse structure.

To distinguish between such children she devised a species of cloze

procedure for discourse. She found that at entry to school some children

appear to be 'fully participating pupils' from the start, who can "readily and

accurately interpret teachers meanings and predict what was likely to

happen from moment to moment in classroom settings"(op. cit., p.61);

whereas other pupils appeared unskilled in either of these tasks. The ability

to understand discourse in anticipatory fashion was found not to be related

to chronological age, and was held to be related to the individual child's

previous experience in interaction.

Willes finds that the structure of classroom text appears to be

determined less by teaching and learning processes, than the situation

where one adult supervises[12] many children:

> Turns have to be taken. Nobody can claim more than a share of the available toys and materials and adult attention, and further, these things have to be competed for, and the competition is regulated (Willes, 1983, p. 147).

Such a situation makes for the teacher behaving in a dominant fashion, only

relaxing her dominance occasionally, briefly, and at her own initiative.

Willes suggests that the structure of classroom discourse will prove highly

resistant to change in the absence of any explicit recognition of "the habits of

associating the educational process with a particular discourse

structure" (op. cit., p. 179). Thus long term consequences for education are

claimed to be inherent in the way children are taught to participate in

classroom discourse during the first year of primary school.

4.7 Eclectic Approaches to the Study of Classroom Discourse

Several studies of classroom language have been undertaken which

cannot readily be located under one of the methodological traditions –

Ethnography, Conversational Analysis, or Discourse Analysis – which have

been utilized to organize this review. Such studies tend not to be rooted so much within a single tradition of analysis, as to start from a set of problems that are to be investigated. They then proceed to develop individual approaches to the resolution of the chosen problems by borrowing appropriate elements, in eclectic fashion, from whatever methodologies appear to offer relevant insights. Three such studies are discussed below.

4.7.1 Language Development at Home and at School

Much American work on the language of the classroom focusses on kindergarten or elementary school children (e.g. Corsaro, 1981; De Stefano et. al., 1982; Frederiksen, 1981) for the reason that it is in the earliest years of schooling that aspects of children's language acquisition may be most liable to detection. Moreover, any conflicts which arise because of differences between language use at home and the language required in the school may be open to inspection. Such considerations have also influenced studies undertaken in Britain.

Wells (1981) longitudinal study at the University of Bristol, which commenced in 1973, has accumulated an abundance of detailed data concerning the language used by, and spoken to, young children. A main focus was to test Bernstein's hypothesis on class and language. The initial aim was to describe how children learn to talk, that is, i) to what extent do all children learn language in the same way, and ii) what environmental factors

affect the rate and success of development?

However, this research did not follow an ethnographic approach, rather, a sample of 128 children - half of whom were 15 months, half 39 months at the outset of the project - was used, each child being recorded at home for a day, at three monthly intervals, using a radio microphone that was adjusted to pick up the mother's speech as well. The radio microphone was linked to a tape recorder programmed to record 90 second samples at approximately 20 minute intervals throughout the day, in order to provide random samples of typical conversation between child and adult. The context of the conversations was gained by interviewing the mother the same evening.

The data analysis begins with the preparation of transcripts which provide a detailed account not only of what is said, but how it is said: that is, they contain linguistic and paralinguistic data including tone, pitch, pausing, emphasis, change in pace of speech, and so on. These texts are then subjected to a complex threefold coding system in which each utterance is coded in terms of syntactic, semantic, and pragmatic categories. This coding is exhaustive, each utterance requiring between 50 and 100 separate codings. Wells provides the following transcript excerpt recorded when the child in question is 2 years and 3 months old. Jacqueline (J) is in the kitchen with her mother (M), who is washing dishes. J is playing with the

clothes that have been tipped out of the laundry bag in preparation for

washing.

FIGURE 4.7 Interaction at Home between Mother and Child (From Wells,
1981, p. 145)

4 " Put all. 24 'thing in"	[J is putting washing in the bag]
5 I'm putting 35 'things	
in	
6	M: 24 'No /53 'darling(v)
7	M: No no no 15 'no(accel.)
8 I want to I put those 12 'things(accel.)	
9	M: 33 'Yes
10	M: 2 'When they're 243'washed you can
11	M: 2 'Not 243 be'fore.

[N.B. The notational conventions used in this transcript are given in Appendix 1.]

The commentary provided is as follows:

In 4, J. is commenting on the activity she is engaged in and, in 5, she repeats her utterance, addressing it to M. Her intention is two-fold, to describe her activity and to invite M to share her interest. In 6 and 7, M, who has turned to pay attention to J and see what she is doing, utters a series of prohibitions, being more concerned with her own purpose than with taking an interest in J's. The increase in the pitch and pace of her second utterance acts as a vocal substitute for physically curtailing J's activity. After a short pause, J reaffirms her own intention and uses the same intonation features of rising pitch and increasing pace to ward off M's interference. In 10, M recognizes the validity of J's intention and grants deferred permission, coupling this, in 11 and 12, with a statement of the conditions under which the activity will be permitted. In doing so she also provides a linguistic formulation of the temporal sequence of events within which J's intended activity will be appropriate at one stage rather than another (op. cit., p. 145 - 6).

It is important to note here the way language is used to negotiate a

middle position between the intent of the mother and the contrary intent of

the child, and the way the mother gives importance to explanation rather

than just stopping J from doing what is, from the mother's point of view,

inconvenient. It is through participation in such encounters that the child is

seen to learn the possibilities for using speech effectively in interpersonal

situations. Such experience, Wells maintains, needs to be provided by the child's pre-school environment if she is to develop the communicative competence that is probably necessary for success in school:

> "... it is clearly not the ability to produce linguistic forms, as such, that is the mark of the linguistically successful child, but rather the ability to use these resources of vocabulary, syntax and intonation to communicate effectively in a range of situations, where effectiveness is quite largely a matter of making what is said relevant to the needs of the listener as well as to the intentions of the speaker" (op. cit., p. 148).

Wells also casts doubt on social class or exposure to a particular linguistic code as determinants of linguistic success. Class or code fail to explain differences between pupils, rather, it is the way that parents treat children as conversational partners that is held to be of central importance in linguistic development.

In a further paper Wells & Montgomery (1981) report work based on the analysis of texts of particular interactions which attempts "to identify 'styles of interaction' and to relate these to larger issues, such as differences between the 'language of the home' and the 'language of the school'." (op. cit., p. 210). They find 'a wider functional range' in children's talk at home than at school. In contrast to Bernstein's (1973) pre-supposition, it is the language of the school that is found to be restricted.

The three part I-R-F exchange consisting of Initiation (I), Response (R)

and Follow-up (F) that has been found to be typical of the classroom (see, for example, Bellack et al., 1966; Sinclair & Coulthard, 1975), and which Mehan (1979) claims may impede classroom learning because of its unfamiliarity, is found to occur frequently in homes also. This lends support to the view that classroom language conventions may be seen as a particular development of culturally prevailing norms (Erickson, 1982). Additionally, the classroom is seen to provide sharp constraints on children's language options: for example, pupils seem to be constrained not to admit difficulties in hearing or understanding what the teacher says.

4.7.2 The Language of Group Work

Phillips (1984) recorded middle school children working in teacherless groups with a view to aiding teachers so that they might know how to analyze the way language is used in peer group discussion in order to intervene more effectively so as to support and extend pupil learning. The approach to the analysis of transcripts adopted appears to owe most to work on cohesion analysis (Halliday & Hasan, 1976) and is concerned with the way listeners scan conversation for textual information about speakers' intentions.

Discourse markers, which may consist of single words or longer syntactic structures, will occur which hint at a speaker's reason for speaking. Furthermore, such markers, occurring in systematically related

sets, are held to play a large part in the establishment of sustained

conversation. The five modes Phillips finds in pupil discussions, and their

corresponding markers, are as follows:

1. the <u>Hypothetical</u>: 'what about' 'how about' 'say' 'if' 'could' 'might'
2. the <u>Experiential</u>: 'I remember' 'once' 'you know Mr. X' anecdotes
3. the <u>Argumentational</u>: 'yes, but' 'yes, well' 'will it' 'don't they'
4. the <u>Operational</u>: deictics – 'this' 'that' 'those' 'it' 'them'
5. the <u>Expositional</u>: 'wh–' question, and often, a nomination

Pupils are found to negotiate a common understanding indirectly and so

tend to avoid the rarely occurring expositional style which may be too

redolent of teacher talk. The argumentational style is encouraged in

classrooms when teachers wish to stimulate discussion by having pupils

debate some controversial point, and often forms the basis for essay

questions. However, pupils tend to assert rather than engage in genuine

argument: they often appear unaware that they could delay a decision to

reject a proposition until they have considered competing viewpoints.

Philips (<u>op. cit.</u>) found that the discourse styles he considers to be the

most educationally valuable – the hypothetical and the experiential – were

the least likely to occur. The most popular were the operational and the

argumentational.

While Philips approach appears to offer useful guidance to teachers who

wish to have a clearer understanding of the language that may occur during

group work, concern has been expressed about the reliability of Philips

discourse style markers (Edwards & Westgate, 1987). It may also be that the

search for 'discourse styles' has pre-empted a more detailed and rigorous

analysis of the discourse that arises in group discussion.

In another approach to the study of talk during group work, Barnes and Todd

(1981) investigate transcripts of pupils' discussion and distinguish three

main levels of analysis: form - what is said; discourse - what is done; and

strategy - what is to be accomplished. While it had been assumed that a

relationship would be found between levels, no simple correspondances were

found. It was found impossible for analysis to be carried out solely on a

formal basis: "throughout the analysis we were using knowledge of the

subject matter and of the children and their situation in order to attribute

discourse categories to utterances" (op. cit., p.74).

In a more extensive account of this work (Barnes & Todd, 1977), the

researchers describe an approach to analysis which attempts to integrate

discourse organization with 'associated logical processes' and to notice the

'simultaneous interplay' between content and interaction 'frames'. The

discourse is approached from five functional perspectives: the discourse

moves that occur, the thought levels they engender, the social skills

manifested, the cognitive strategies that are used, and the self monitoring of

talk that occurs. The approach is pragmatic, the categories for analysis

having been selected on the basis that these would likely provide the most

useful information for teachers.

This work, then, provides a hybrid approach to discourse organization

blending linguistic concepts with pedagogical, and other, categories. The

discourse moves are drawn from Bellack et. al. (1966), whose concept of

teaching cycles is itself based on an attempt to integrate linguistic and

pedagogical elements in analysis. Whilst the system of analysis appears

modest and usable (Edwards & Westgate, 1987), the component elements

approach adopted, whereby each segment of the discourse is analyzed under

several discrete headings, provides a description that appears rather

fragmentary and which seems inimical to any attempt to perceive the

real-time development of discourse in a unified fashion.

4.8 Overview of Linguistic Approaches to the Analysis of Classroom Discourse

Some educational researchers have argued for a more overtly linguistic

approach to the study of classroom interaction (see, for example, Stubbs,

1981; Edwards, 1981; Willes, 1983). Such an approach is warranted, it is

claimed, because:

> There are now many studies which demonstrate in detail that discourse is a complex linguistic system: a highly patterned, rule-governed activity describable in terms of several inter-related ranks of description. That is, discourse has its own organization (Stubbs, 1981, p. 198).

However, a difficulty for the educational researcher who wishes to analyze

classroom transcripts in a 'linguistically principled' fashion remains, in that

there exists no one universally agreed approach to the fruitful analysis of

discourse. Rather, as this chapter has shown, a multiplicity of possible

methodological approaches have been developed. Which is to be preferred,

depends largely upon the nature of the problems to be investigated.

Stubbs's claim about the structure of discourse, printed above, appears to

make particular reference to the Birmingham approach to discourse analysis

(Sinclair & Coulthard, 1975). But, as this chapter has sought to show, there

are difficulties inherent in the view of classroom interaction that TAD

provides.

While Sinclair and his co-researchers provide a systematic and integrated

approach to classroom discourse, "It is not clear, however, that this creation

of a complex taxonomy serves to illuminate our understanding of how

participants in an interaction understand what the speaker means by what he

says as well as a general appeal to Grice's maxims and the principles of

analogy and local interpretation would do" (Brown & Yule, 1983, p. 229).

Furthermore, the system of analysis would appear to provide a fragmentary

compartmentalization of interaction that obscures real-time effects.

The techniques of conversational analysis and the closely related

approaches adopted by classroom ethnographers, whilst they have proved

fruitful, appear most suited to the study of selected moments - perhaps,

particularly, those when classroom communication is going awry - rather

than to the systematic investigation of all that is said in a lesson.   In

contrast, the kind of analysis undertaken by Wells and his associates, where

each line of text is subjected to multiple analyses thereby accumulating 50

to 100 discrete codings, was devised in the context of 90-second samples of

conversation between mother and child, and thus would appear over-

informative for the investigation of, say, 1 hour periods of multi-party

discourse recorded in secondary school classrooms.

Research in the sociolinguistic tradition tends to focus on the social

structure of classroom interaction whilst devoting relatively little attention

to the structuring of the content of communication. Thus the ways in which

different subject areas may affect the discourse structure (Smith & Meux,

1962; Smith et. al., 1967; Nuthall & Lawrence, 1965; Wragg, 1972) are often

overlooked.[13] Sinclair & Brazil (1982), for example, have pointed out that, in

addition to the analysis of the social structure of interaction which the

Birmingham research provides, there needs to be a complimentary analysis

which shows "how the content of learning is organized and transmitted; how

people interpret each other's meaning, how topics start, modify, and

disappear" (Sinclair & Brazil, 1982, p. 5).

The educational researcher, then, who wishes to use transcripts to

investigate real-time processes in the classroom is likely to find himself in something of a dilemma. On the one hand, he may be convinced that given the great progress that has recently been made in the sociolinguistic analysis of talk it would indeed be unprincipled to undertake a pedogogical study which completely ignored what is known about discourse structures; on the other hand, the detailed description of classroom discourse is still in its infancy, and there is no existing system of analysis that commands unequivocal assent, or which deals adequately with the ways in which social interaction patterns and topic simultaneously affect the dynamic structuring of a developing classroom discourse.

The dilemma facing the researcher is likely to be intensified if he is looking for guidance from the literature on conducting a transcript-based study of student teachers on teaching practice: firstly, since careful studies of student teaching appear to be rather rare anyway (Wragg, 1984); and secondly, an extensive search of the published literature has failed to reveal any study which investigates the real-time usage of language in student teaching.

NOTES

1. This distinction derives from de Saussure's (1916) division of language into langue (the system of rules governing a language) and parole (speech).
2. For example, the illocutionary force of the utterance 'Have you got the time?' is a request to be told the time. The locutionary force of the question, however, appears to be rather different – it asks if someone else has access to, or knowledge of, the correct time. The perlocutionary effect of

the utterance would be realized if the individual addressed responded by giving the time.

3. Similar sorts of language shift may also be detected in classrooms. For example, when a teacher approaches pupils engaged in group work there is a tendency for the talk to become more formal (Phillips, 1984). This may be considered a situational shift. Similarly, it is common for there to be some verbal byplay between teacher and pupils or between pupils during the settling down time at the beginning of a lesson. As the lesson proper begins, however, interaction between the pupils and teacher tends to occur in a more formally constrained fashion (Sinclair & Coulthard, 1975). This may be regarded as a metaphorical shift in language behaviour.

5. This view informs both the Newsom Report (Central Advisory Council for Education, 1963) on the education of pupils aged twelve to sixteen, and the Plowden Report (Central Advisory Council for Education, 1967) on the education of Primary School children, and was used to support their calls for the compensatory education of working class children from deprived backgrounds.

6. Philips (1972) study, previously discussed, provides an example of an ethnographic approach, that was usually applied to foreign cultures, being adapted to deal with the study of ethnicity within the U S A. That anthropological methods have since been adapted further to deal with the study of classroom communication, may be seen as part of an evolution in which the location of what is alien and strange has been moved progressively closer as researchers have started to focus on the essential 'strangeness' of their own culture.

7. Sinclair & Coulthard (op. cit.) report difficulty in attempting to analyze desultory conversation due to the rights of equal participants to determine the topic. They therefore turned to the classroom to find conversation that was more overtly structured. The system of analysis was initially developed from tapes of six lessons taken by primary school teachers and groups of up to eight children from their classes. The material to be taught was provided by the researchers. Later, the system was revised using tapes of different lessons in different schools.

8. Although this lowest rank displays an obvious relationship to speech act theory, it is notable that the incorporation of such a rank derives from the need to account for the data and not from any theoretical preconception.

9. This initial optimism about transactions was to be tempered by further research.

10. Consider the extract presented in Figure 3.6 above. The teacher has been talking about aspects of ancient Egyptian culture and begins a new transaction at exchange 2 where the topic of mummification is introduced. A pupil initiates exchange 5 indicating that a mummy has recently been shown on 'Blue Peter'. This supplements what the teacher has been concerned with and she incorporates this information by asking for clarificatory details about the programme. At exchange 9, however, a pupil use the link that has been established with the 'Blue Peter' programme to introduce a related, but discrete, topic: the contemporary issue of the need to move

the Egyptian temples because of the construction of the Aswan Dam. The teacher supports this pupil initiated shift in topic, which is maintained for six exchanges. This is in marked contrast with what occurs at exchange 15 where a pupil, linking with the idea of relocating buildings,

proposes the topic of moving London Bridge. While the teacher accepts the remark, and makes a brief comment on it, she immediately redirects attention to the unfinished business of decoding hieroglyphics: there is no sustained topic shift. It is difficult to understand why there should be no recognition of a new, pupil initiated transaction commencing at exchange 9 and lasting to the end of exchange 14; unless, of course, reference is made to Sinclair and Coulthard's prior assumption that only teachers can introduce topics. Admittedly, teachers appear to have a classroom monopoly on such discourse markers as 'Well^', 'Right^', and so on, which means that pupils cannot introduce topics using the same methods as teachers. But the example cited above suggests pupils may initiate sustained topic shifts in the joint construction of classroom

discourse, but the ways in which they do so go unnoticed by TAD. This view would accord with that put forward by Wooton (1981) who suggests that children are obliged to modify their discourse in order to initiate interactions with adults successfully. Of course, the teacher remains the arbiter of which pupil initiated topics will be supported and which discarded, but this remains a separate issue from whether pupils may initiate transactions.

11. This approach to the moment-by-moment development of discourse would appear to hold promise for the study of teacher decision making.

12. This view, that classroom talk is designed primarily to serve custodial, rather than pedagogical, ends is supported both directly, by studies which investigate the functions of classroom talk (see, for example, Barnes et. al., 1969; Mehan, 1979; Kerry, 1982), and indirectly, by research which seeks to gain access to teachers' craft knowledge by asking them to explain the considerations which inform their teaching behaviour, and where teachers appear to cite mainly concerns related to class management as being those which guide their actions (see, for example, McIntyre et. al., 1988; Brown & McIntyre, 1989). Whilst it would be absurd to infer from this that teaching and learning concerns are absent, it does appear as if teachers may be primarily concerned with maintaining what Brown & McIntyre call 'normally desriable states of pupil activity' (op. cit., p. 33) while they are engaged in classroom teaching. Indeed, so pervasive seems to be the attention given to managerial concerns that the ideal classroom role that teachers envisage for their pupils has been characterized by Trenholm & Rose (1981) as that of the 'compliant communicator'.

13. Hammersley (1980) suggests that the study of topic development and patterns of instruction is "an area seriously underplayed by all classroom research" (p. 57). He cites Mehan (1979), however, as an exception to this tendency.

CHAPTER 5   CONCEPTUALIZATION AND METHODS OF RESEARCH

5.1   Conceptual Background

5.1.1   Conceptual Background for investigating student teaching in terms of the structuring of classroom language

This study is concerned with the exploration of student teaching. More precisely, it scrutinizes the teaching of students who are training to become subject specialist teachers in the Secondary School, utilizing as data transcripts - of audio recordings - which contain linguistic evidence regarding classroom sessions. Thus the present study is consonant with recent developments in teacher education research, in that it focusses upon teaching practice as an occasion for learning to teach (Zeichner, 1986a) and adopts a pedagogical perspective in which subject matter is seen as a fundamental factor affecting the nature of the teaching that occurs (Shulman, 1986a).

It differs, however, by inquiring into the language of student teaching. There is a notable lacuna in the literature regarding this matter. Though other studies make use of tape-recorded evidence to illuminate aspects of student teaching, typically, they draw upon linguistic data, whilst revealing little about the nature of classroom language itself (e.g. Borko & Livingston, 1989; Leinhardt & Greeno, 1986; Wilson et al., 1987). Rather, there is a tendency to view language as a relatively transparent data stream that may be looked through to reveal other matters (Edwards, 1980; Stubbs, 1981).

Thus the language of the classroom is rendered invisible. This thesis views it as axiomatic that teaching is inextricably linked with verbal communication (Aschner, 1963; Bellack et al., 1966; Smith & Meux, 1962; and c.f. Chanan, 1973; Shulman, 1987), and also assumes that attempts to elucidate what has been termed "the invisible world of teaching" (Feiman-Nemser & Buchmann, 1986b, p. 40) are likely to be enhanced if the ways in which language is used pedagogically could be made more explicit.

This thesis, then, seeks to explore the pedagogical structuring of language that student teachers must needs engage in as they seek to communicate their subject to Secondary School pupils. The precise focus is upon structuring in interactive subject matter discourse during teaching practice. Structuring is preferred over structure in order to indicate the essentially dynamic nature of the activity where what is said needs continually to be adjusted to take account of pupil responses and reactions. While in lecturing, for example, it is possible to engage in a form of teaching that closely follows a preconceived plan, even to the extent of pre-specifying the exact words which will be uttered; it would scarcely be possible to prepare such a script for classroom teaching where pupils are often permitted, and frequently required, to make some verbal contribution to an evolving classroom text.[1]

Classroom language is viewed as a particular adaptation of language to its context that seeks to encompass pedagogical purposes. The implications of

this are that the particular linguistic features which mark classroom

language are seen as likely to be drawn from general features of the

linguistic communication system of spoken English and, hence, to be

explicable in terms of general linguistic principles. This entails as a

corollary that participants will be able to exploit and interpret systematic

features of spoken communication without being able to explain exactly how

they do this.

It is already well established that many crucial features of their own

linguistic performance remain, as it were, invisible to speakers in general

(Labov, 1973; Blom & Gumperz, 1972). For example, native English speakers

have been shown to use a highly sophisticated intonation system when they

speak (Halliday, 1967). One function of this system is to mark information

which the speaker considers is already negotiated and understood, from that

which is being newly introduced. This marking of information as either

'given' or 'new' is accomplished by the use of distinctive 'referring' or

'proclaiming' intonation. Though they are highly adept at using and

interpreting such tones, even sophisticated language users are unlikely to

possess a conscious awareness of such features of their own language, unless

they have undertaken some study of the linguistics of spoken discourse.

It is not sufficient, however, to approach classroom language with an

informed regard for linguistic considerations and, in particular, awareness of

recent developments in the analysis of spoken discourse. Linguists at

Birmingham University have undertaken research which, coincidentally,

involves classroom language (Sinclair & Coulthard, 1975; Sinclair & Brazil,

1982), and while they have developed some useful concepts, their work seems

relatively uninformative as far as teaching is concerned, since it both

disregards the structuring of content, and is based upon unexamined

preconceptions about what teaching ought to be like. Thus subject matter is

ignored, while their interpretations of what is going on are not based solely

on linguistic evidence, rather, they rely upon 'privileged knowledge' (Phillips,

1984) about the structure of lessons, though this reliance tends not to be

explicitly recognized.

In addition, the Birmingham researchers conclude, after almost a decade

attempting to provide a systemic description of classroom language, that the

larger structuring evident in teaching discourse is fundamentally pedagogic in

nature and cannot be explained by linguistic analysis alone (see Sinclair &

Brazil, 1982, p. 53)

This study draws from the Birmingham research the view that the

structuring of classroom language is partly pedagogical and partly linguistic,

and attempts to initiate a focus upon the interaction of these two levels of

structuring in the belief that this might illuminate the dynamic aspects of

student teaching. Underlying the discourse analysts' approach to language are

two fundamental concepts that are also subsumed here. Firstly, there is the

conceptualization, drawn from speech act theory (Austin, 1962; Searle,

1969), that utterances are forms of verbal action and actually do things.

Secondly, that the structuring of discourse involves predictive organization

which exploits the possibilities of recognized frameworks, and that the

concomitant potential for anticipation helps explain how the manifold

complexities of discourse may be encompassed by speakers and hearers alike

(Berry, 1981a; Stubbs, 1983; Sinclair & Brazil, 1982; Ventola, 1987).

5.1.2 Conceptual background for viewing teaching practice as an occasion for learning how to use language pedagogically

Research which approaches teaching practice as an occasion for learning to

teach draws attention to the ecological features of teaching practice (Doyle,

1985) and challenges the view, implicit in many earlier researches, that

teaching practice may be investigated as though it were a relatively uniform

experience for all students. Thus the opportunity for learning which teaching

practice presents tends to be seen as varying according to the characteristics

of particular placement sites, the kind of models provided by co-operating

teachers and the possibilities which their classrooms offer, the

predispositions and understandings of individual student teachers, the

orientation of the particular training programme followed, and so on (see, for

example, Zeichner, 1986a; Feiman-Nemser & Buchmann, 1986c).

Drawing upon such approaches to teaching practice, this study develops the following conceptual orientation. Firstly, while the recent emphasis on an ecological approach to research on student teaching is viewed as a most valuable development, there has been a tendency to overlook the influence of the subject being taught (Shulman, 1986b). This study, however, adopts as an heuristic principle the view that the ecology of the subject matter is likely to exert a central influence upon the nature of the teaching which occurs. Thus cognizance is taken of Shulman's (1990) view of the different disciplines as distinctive ways of knowing, each possessing its own substantive and syntactic principles for organizing knowledge. Subsequently, the teaching in different subject areas is seen as likely to be informed throughout by the particularities of distinctive disciplinary perspectives.

Secondly, it is assumed that a thorough knowledge of her own discipline is likely to be insufficient by itself to guide a student's teaching. In other words, knowing a subject well enough to obtain a degree in it does not entail knowing it pedagogically - how it is taught and learnt, the typical errors and misconceptions to guard against, the most useful analogies, which topics pupils of different ages and abilities will find easy or difficult to understand, and so on (Wilson et al., 1987). Thus students are seen as likely to experience some difficulty as they seek to learn to communicate their subject to pupils.

Thirdly, the research evidence again suggests that student teachers are

likely to experience difficulty in learning to think and act pedagogically

(Feiman-Nemser & Buchmann, 1986a; Leinhardt & Greeno, 1986); that

knowing the classroom as a pupil is one thing and knowing it as a teacher is

quite another (Lortie, 1975); that, indeed, there is likely to be some 'reality

shock' (Corcoran, 1981; Veenman, 1984) as the trainee discovers that the

world of the classroom she is so familiar with has to be relearnt, as it were,

as she becomes a teacher.

Extrapolating from the research evidence, this study adopts the view that

while the student teacher will most likely have an extensive understanding of

classroom language drawn from her experience as a pupil, this understanding

will be insufficient to guide her teaching. While teaching she has to take

responsibility for the construction of meaning - both moment by moment and

overall - for integrating pupil contributions into the developing discourse,

and for dealing with incorrect, or only partially acceptable, answers and the

misunderstandings that these reveal. Thus the language of the classroom,

which has hitherto appeared highly familiar, will have to be learnt anew as

the student seeks to deploy discourse to encompass the ends of teaching. In

addition, the view is taken that if the student has difficulty acting

appropriately in the classroom, this is likely to be revealed in a close

inspection of what transpires in the verbal arena, since speech is itself a

form of action, and spoken action may be the predominant form of activity in

the classroom.

Thus, for heuristic purposes, this study views learning to teach in terms of

learning to operate pedagogical language to communicate subject matter, and

so focusses upon an area where little is currently known. This is not to deny,

however, that there are other aspects of learning to teach. But the

communication of subject matter is viewed as central (Buchmann, 1982;

Peters, 1977; Shulman, 1986a).

A notable feature of teacher education and research has been identified as

the pervasiveness of unexamined assumptions regarding how teaching may be

learned (Tom, 1987; Feiman-Nemser, 1983; Calderhead, 1990). Preparation

for teaching practice has tended to emphasize the importance of student

teachers planning for lessons (Stones & Morris, 1972). Yet research has begun

to reveal the complex knowledge of contextual features that experienced

teachers draw upon when planning lessons (Berliner, 1987; Clark & Yinger,

1987), and to suggest that the student teacher is, necessarily, likely to lack

relevant information about many key aspects of the situation that is to be

planned for (see, Calderhead, 1990).

If there are difficulties with planning for situations possessing such

indeterminacy in general, these difficulties would appear to be multiplied

when it comes to consideration of planning what is to be said in the

classroom. It would appear inherently impossible to plan the discourse of a

lesson in any great detail, since no individual - even one who possesses the

wide experience of teaching that student teachers lack - can forsee all the

possibilities of a developing discourse in whose construction pupils are

allowed to participate:

> As soon as the first response is made, the teacher has to continue on a largely impromptu basis. No amount of preparation can predict that first response, or any subsequent one. Whatever plans have been laid, they become a background to the action as teacher and students follow each other in their developing discourse (Sinclair & Brazil, 1982, p. 85).

The literature on teacher education appears to be silent, however, about

how student teachers are to be helped to attempt to deal with the highly

complex demands involved in taking responsibility for the moment-by-

moment structuring of the language of teaching in order to communicate their

subject. Traditional teacher education practice seems to have operated on

the assumption that provided a student teacher is thoroughly familiar with

the lesson topic and possesses an adequate plan, turning that plan into a

pedagogical discourse with pupils should prove relatively unproblematic.

That is, the student teacher should generally be able to work out for herself

how to improvise the real-time structuring of discourse in order to disclose

what she seeks to communicate concerning her subject matter. If it is,

indeed, legitimate to regard teacher education as having traditionally

involved some such tacit assumption about the language of teaching, then it

would appear imperative that such a fundamental assumption should be

subjected to rigorous scrutiny.

The focus upon the language of teaching was chosen, then, because so doing

would appear to admit the possibility of contributing to the ongoing research

which queries teaching practice, and the learning which it fosters, by

highlighting an important aspect of learning to teach which scarcely receives

explicit attention. Learning how to communicate one's subject in the

classroom would appear both an issue of central importance, and an area

where a student teacher is likely to be left conspicuously to her own devices.

There is usually little explicit consideration of the language of teaching in

teacher education courses, and the lack of a satisfactory model which

combines a focus upon the substantive features of discourse with a

recognition of the dynamic structuring that marks real-time communication

would appear to impede developments in this regard.

Thus teaching practice would appear to provide an opportunity for

experiential learning regarding pedagogical communication. But what student

teachers make of such an opportunity is currently not known.

The present research seeks to illuminate this problematic area by

investigating what it is that students actually do in classroom discourse:

that is, how they seek to utilize classroom language in the absence of any

explicit understanding of the structuring of communication for pedagogical

purposes. This, it was felt, might also help to cast some light on teaching

in general, since student teaching might be regarded as a relatively

undeveloped stage in the evolution of mature teaching. Thus the research

might lead to the development of a new theory of teaching. If the teaching of

experienced practitioners has proved highly resistant to analysis, insofar as

the attempt to apply social science research methodology (Desforges &

McNamara, 1977) or specially developed observation systems (McIntyre,

1980) to teaching has proved less informative than anticipated, perhaps the

study of student teaching might yield insights that could be applied with

advantage to the study of the teaching engaged in by more experienced

educators. At the same time, it was also hoped to throw some light on how

interactive subject matter discourse functions.

5.2 Methods of research

While from the inception of the research it was intended to focus upon

student teaching during teaching practice, a deliberate effort was made to

avoid premature over-conceptualization in an attempt to ensure that methods

of research would be evolved which were commensurate with the phenomena

to be investigated. That is, note was taken of the view that much research on

student teaching has been vitiated by the use of methods which drastically

over-simplify, or overlook altogether, essential aspects of classroom

teaching (see, for example, Zeichner, 1986a; Doyle, 1985; Feiman-Nemser &

Buchmann, 1986a; Shulman, 1990).

Accordingly, a decision about the particular aspect of student teaching to

be investigated, and the methods of research, was postponed until after some

observation of student teaching could be undertaken. The university where

the research was conducted sends students out on a short secondary school

practice during the winter vacation between semesters 5 and 6. Accordingly,

arrangements were made to observe 10 lessons, one taken by each of 5

students teaching English and 5 students teaching French, during their first

secondary practice in January - February 1987. All lessons were conducted in

the context of mixed ability teaching in the first two years of comprehensive

schools. Whilst it was intended that the primary focus should be upon student

English teaching, it was thought that a comparison between native and foreign

language teaching might prove instructive. Each lesson was to be followed by

an interview lasting around 20 to 30 minutes in which the students would be

encouraged to talk freely about their lesson, teaching practice and what they

were learning from the experience. Follow up questions would be asked

regarding any themes which seemed to emerge.

The students who agreed to participate were asked not to prepare a special

lesson. They were informed that the researcher was interested in studying

normal teaching practice and that he would find it most helpful if lessons

observed were representative of their ordinary daily teaching, and not

specially prepared with a visitor in mind. Students were also given assurance

that the interview would be rather informal, that the lesson would not be

critiqued, but that the focus would be upon attempting to understand teaching

practice better. All the students involved were met individually to seek their

co-operation and to explain the aims of the observation.

During lessons the researcher sat, as unobtrusively as possible, at the rear of the classroom and took field notes which included details of time, activity, who was speaking, what was being spoken about, and so on. Although it was not possible to record these sessions for more considered analysis later, there appeared to be marked differences between the structure of French and English lessons, and in the kinds of discussion which took place.

The French lessons observed followed a strikingly similar pattern. All began with revision of some French expressions - to do with time, or identifying things, for example - and this was usually accomplished by the student asking questions in French and pupils being asked to reply. There were drill segments also in all these lessons where the whole class repeated words and phrases after the student teacher and pronounciation was corrected. Similarly all lessons contained segments of seatwork where the pupils worked on exercises in the textbook, and these were then corrected orally. One French lesson also included some work in pairs where pupils were to ask questions about Paris and their partners were to answer.

The English lessons appeared more various. One student had arranged for a technician to videotape groups of pupils while they acted out improvised scenes they had devised in a previous session. Two of the English lessons centred around a text that the class was reading, whilst the other two involved project work. The two text based lessons started with the students

reminding the class of events so far, followed by reading the next chapter in the novel, segments being read by nominated pupils and by the student. The group reading was followed in both cases by a section of whole class teaching where the student asked questions of pupils that sought to make sure that key aspects of the text had been clearly understood. Then there was a period of individual seatwork. In one class this involved copying down words and phrases from the text and checking their meaning in the dictionary. In the other, the description of a character in the text led to pupils being asked to write wanted posters for another individual in the class. Both classes concluded with another segment of whole class teaching where the student asked pupils to give their answers and engaged in discussion.

In one project lesson pupils were instructed to get into their pairs and to continue constructing rule cards for the board games they were devising. The student then spent the rest of the period going round interacting with pairs of pupils. The other project lesson commenced with a segment of whole class interaction in which details of an imaginary accident the pupils were supposed to have witnessed were worked out. The remainder of the period was occupied by pupils working individually to produce pieces of writing that adopted differing viewpoints on the accident.

A notable feature of the lessons in general was that they all contained periods of whole class interaction guided by the student, and that

understanding what was being communicated during this interaction appeared

essential to making sense of the lesson as a whole. In all the lessons except

one, moreover, a substantial proportion of the available lesson time was

spent in such interaction. Indeed, in two French lessons and one English

lesson more than half the period was devoted to whole class interaction led

by the student teacher.[2] The interviews tended to confirm what had been

indicated by the students' practice, namely, the view that the student

teachers regarded conducting whole class discussion as a central aspect of

teaching.

Several other general themes emerged from the post-lesson interviews.

Students tended to feel that co-operating teachers allowed too much noise in

their classrooms and that this caused them difficulties. One student

remarked, "The noise level's really high, but the teachers don't think it is".

Another described the problems of trying to help pupils who wanted to listen

"amidst the noise and hubbub" as "highly demoralising". Student perceptions

of the noise level tended to be linked to comments about the disadvantages of

mixed ability teaching. Discipline was also mentioned as something student

teachers found problematic and disciplinary problems were also linked to the

context of mixed ability teaching. One student commented, "You spend all

your time establishing yourself rather than teaching." Students also tended

to mention the gap they had found between 'theory' and 'practice'. When asked

to elaborate they pointed to the limited usefulness, as they saw it, of what

they had learned during microteaching. One student said, "Microteaching's just not feasible all the time", while another remarked, "You have to jump from microteaching to Prepare the next chapter in the text!" Students also mentioned how difficult they felt it would be to use group work when the pupils were not accustomed to such a procedure.

There were also some themes which appeared to differentiate between the classroom experience of English and French students. French students mentioned problems they had found in trying to implement a communicative approach to language teaching with pupils who were reluctant to participate imaginatively. English students mentioned difficulties with preparing appropriate lessons: "It's not your class. You're not sure of resources. You're out of touch with the pupils' level. And it's really difficult to picture lessons in advance." Another, mentioning difficulties with planning, said that no matter how well you'd planned you still couldn't tell how lessons would go: "You're questioning them about poetry, say, or novels. But, I haven't had much practice at that. So it comes out stilted. And it detracts from the lesson."

In all the French lessons, the observer noted, there was rote learning and everyone in the class had to repeat particular phrases after the teacher. When the teacher addressed a question to individual pupils in French, this was after the rote session and to check that pupils could respond with the appropriate vocabulary and construction. There were only very limited

opportunities for pupils to generate their own ideas – answers tended to be either correct or incorrect. Moreover, there was strong reliance upon a text which introduced features of the language and provided practice exercises. For the student French teachers it always seemed relatively clear what was expected of them – they had to follow the textbook.

In the English lessons this emphasis upon practising and repeating standard forms was entirely absent. Nor were there any authoritative textbooks which could be followed. Rather, students seemed to be given considerable freedom of choice about what they wanted to do. When the student teacher engaged in interaction with the class, pupils' answers often appeared unpredictable. While there were factual answers about, say, events in a story, which could be adjudged correct or incorrect, there were also answers that appeared unanticipated. Such answers might be rather individual and could seem to leave the student teachers unsure how to respond.

If students appeared generally agreed that running whole class discussion was central to teaching, as they conceived it, immediately after their lessons they appeared curiously unable to recall certain details of the discussion they had engaged in. While they were able to indicate the major stages in the discussion, and the points they were trying to make, they appeared largely unable to recall details of actual pupil responses nor of how they had dealt with them. This the researcher found intriguing. If such details of the

discussion were irretrievable - for so it appeared - immediately after a

lesson, it was difficult to see how student teachers might learn to impove

their performance in handling whole class discussion by reflecting upon

lessons already conducted.

This preliminary exploratory work, then, drawing upon students' comments

concerning the difficulties in planning for and executing guided discussion,

together with the observation that they appeared unable to remember with

clarity aspects of such discussion immediately after a lesson, led to the

decision to focus upon the way student teachers seek to communicate during

interactive teaching. It appeared that the kind of interaction that would

occur might be related to the subject area being taught.[3]

Thus it was decided initially to focus upon student teaching in English and

one other subject area that might be expected to be more comparable with

English in terms of the interaction that might arise   than French had

proved to be, and where interaction was, as in English, unlikely to be a matter

of rote. For comparison, it was elected to examine student teaching in

history. This decision was taken largely on the basis of Wragg's (1972) study

of student teachers, in which he found that although the patterns of English

teaching were more varied than those of any other subject studied, they had

most in common with those of history.[4] Intuitively this also seemed likely as

both these arts subjects would appear to rely considerably upon the

understanding and interpretation of written texts, and thus to differ from

subjects which might lend themselves, say, to being organized around

experiments or where salient information might be enshrined in mathematical

formulae.

In the meantime, an extensive search of the literature was undertaken to

discover an approach to the structure of classroom discussion that took note

of the importance of different subject matter. Some notable educational

studies were found which investigated the development of language at home

and at school (Wells, 1979, 1985; Willes, 1983), but the focus was on the

linguistic learning of young children. Thus they were found to be relatively

uninformative regarding teaching, and the techniques developed for analyzing

the language of Primary School pupils appeared both unwieldy and

inappropriate for use in the Secondary School.

Much of the educational research into the language of teaching was found to

be more than two decades old, and to be somewhat linguistically naive,

particularly because there seemed to be a widespread assumption that there

ought to be some sort of direct relationship between the form of words used

and the meaning being communicated (see, for example, Smith & Meux, 1962).

That is, there was little appreciation of the complexity of the ways in which

meaning may be conveyed in speech, of the pragmatics of language (Grice,

1957, 1969, 1975), or of developments in speech act theory (Austin, 1962;

Searle, 1969). Most such research was thus extremely uninformative about the substantive structure of classroom discourse. Even a study like Bellack et al.'s (1966), which set out with the explicit aim of focussing upon the substantive aspects of the language of teaching, develops instead a form-functional analysis in which meaning becomes a subsidiary category. Indeed, there was considerable evidence that investigating the communication of meaning in the classroom was fraught with difficulties.

However, one research team appeared to have made a highly interesting beginning in this regard. Smith et al.'s (1967) The Strategies of Teaching divided classroom transcripts into topic units known as ventures. Different venture types were found, much to the researchers' surprise, to be constructed from moves unique to each type, and different subject areas were found to operate different venture types preferentially. Here, then, was an approach to classroom communication which combined a focus upon substantive structure with an apparent sensitivity to subject matter differences. Moreover, Dunkin & Biddle (1974), in their influential study of research in teaching regard The Strategies of Teaching as having been considerably ahead of its time, and note that while the study had not solved the problem of how smaller units of sequence form sub-units of longer teaching sequences, that the solution was likely to prove to be linguistic. In the absence of any other guidance from the literature about how to proceed, this was a hint the present researcher thought worth pursuing. Thus it was

decided to try and become thoroughly familiar with Smith et al's (op cit)

work in the hope that the approach they had pioneered might prove usable in

studying the teaching of student teachers. Consequently, it was decided to

adopt aspects of the Illinois procedure. Lessons would be taped using a

radio-microphone to be worn by the student teachers and then transcripts

would be prepared for analysis. Also, it was decided to focus on classes in

the upper secondary school, as Smith et al. (op. cit.) had done. The age and

subject experience of the pupils would thus be more comparable, and this

might also affect the nature of the teaching that was attempted.

This view was reinforced by the elementary nature of the vocabulary

learning seen in the French lessons during the preliminary observation, and by

the somewhat diffuse focus of some of the English lessons from the

viewpoint of subject specialism. Moreover there was some research evidence

that the teaching in the first year in mixed ability classes in comprehensive

schools may tend to be highly generalized, and to focus mainly on managing

the class (Kerry, 1982).[5]

At the same time, an extensive review of sociolinguistic approaches to

classroom research was undertaken to provide information about how the

language of teaching was currently conceptualized in this tradition, and to

indicate which features of language might have relevance for the

understanding of classroom communication. Of particular interest was the

approach to classroom language developed by Sinclair and his colleagues at

Birmingham University (Sinclair & Coulthard, 1975; Sinclair & Brazil, 1982);

firstly, because it introduced dynamic considerations into the analysis of a

developing discourse, and secondly, since there appeared to be some degree of

conceptual overlap between their transaction and the concept of a venture.

It began to be realized at this stage that the focus of the research ought,

therefore, to be upon the structuring of interactive subject matter teaching

in the classrooms of student teachers, since it was the dynamic aspects of

conducting a pedagogical discussion that would seem likely to prove most

troublesome. This would also have the salutary effect of focussing attention

on a perspective akin to that of the student teacher. During an ongoing and

still incomplete lesson she has to focus upon the moment-by-moment

construction of meaning in the attempt to achieve her pedagogical ends

whilst simultaneously taking account of pupils' contributions, yet without

any guarantee that the discussion which in fact arises might not prove

inimical to the achievement of her purposes. Furthermore, such an approach

ought to provide a useful corrective against any researcherly tendency to

analyze lesson transcripts in a fashion that ignores their real-time

development.

Priority was thus to be given to searching for larger pedagogical

structuring in subject matter discourse, and if that was successful, to seek

to explore how such pedagogical structuring was realized at the upper

linguistic level of exchange structure. While it has been argued that current

knowledge of discourse structure is unequal to this task (Phillips, 1984), it

was felt that the attempt, even if unsuccessful, might throw some light on

the nature of the phenomena that need to be explained if the dynamics of

learning to teach are to be illuminated.

NOTES

1. Text' has traditionally been used to refer to the printed record of a literary work. Discourse analysts use this term, however, to refer to the data which they study, even when this data concerns a record of speech rather than something printed. Thus it is possible to refer to 'spoken text'. 'Text' may be defined as 'the verbal record of a communicative act' (Brown & Yule, 1983, p. 6). The analysis of 'text' may be characterized by an essentially dynamic view of the nature of discourse, where text is viewed as process rather than as product, thus: "the discourse analyst treats his data as the record (text) of a dynamic process in which language was used as as an instrument of communication in a context by a speaker/writer to express meanings and achieve intentions (discourse)" (op. cit., p. 26).

2. While remarks by a university tutor closely involved in teaching practice supervision had seemed to indicate that student teachers could mainly be expected to be involved in groupwork, the examples of their normal practice that student teachers provided did not appear to support this view. Moreover, only two student teachers claimed to have had the opportunity to observe group teaching methods being employed in their schools, and in both cases it was in the classroom of only one teacher. While several teachers were reported as having pupils sit in groups, they did not use group teaching techniques.

3. The decision to adopt a method which would allow of a subject specific approach arose out of the initial attempt to compare student teaching in English and French. At this time the researcher was as yet unaware of Shulman's (1986a) call for research which acknowledged that teaching in different subject areas differed markedly.

4. Of course, the patterns of interaction that Wragg is referring to are those revealed by FIAC, the observation instrument he deploys, which focusses upon the formal categorization of interaction, whilst ignoring its substantive aspects. Yet it appeared reasonable to assume that if English and history had been found to rely more upon sustained interaction between student teacher and pupils than any other subjects, this suggested some degree of kinship in teaching approach.

5. For example, Kerry (1982) found that the most popular task given to first year pupils in the 6
Nottinghamshire schools he studied, regardless of subject area, was to copy information or colour
in a drawing. The majority of 'transactions' - 53.7% - involved management, while 42.2% were
concerned with informing, and 4.1% with higher order thinking

CHAPTER 6 PILOT STUDY

6.1 Aims

A pilot study was conducted which involved a group of university education students on their final 10-week teaching practice in the Autumn semester of 1987. The pilot study had the following aims:

i) To ascertain whether it would be possible to obtain audio recordings of satisfactory quality for transcription during teaching practice lessons by using a radio microphone worn by student teachers; and to check that such a procedure would not prove too intrusive or inhibiting for student teachers, or provoke disruption on the part of pupils.

ii) To gain experience in preparing transcripts from audiotapes, consider how difficulties in transcription should be handled, and attempt to develop a set of consistent procedures for transcription in order to provide a sufficiently detailed account of the language of student teaching as to reflect accurately the student teachers' experience as they try to guide classroom communication, whilst also producing transcripts that could be easily read.

iii) To consider how the transcripts might best be analyzed and, in particular, to investigate whether Smith et al.'s (1967) system of venture analysis — developed in the context of lessons taken by experienced teachers in the senior years of American high schools — might be applied fruitfully to lessons taken by student teachers in years 3 to 5 of Scottish secondary schools; and if so, whether, and how, it might need to be modified.

iv) To determine whether the proposed system of analysis would indicate essential differences, as anticipated, between the teaching of student teachers of English and of History in terms of the interactive subject matter discourse that is found to occur.

v) To tape interviews with student teachers that would explore their perspectives on lessons they had just taken, and to see whether they might be able to provide insightful information about how they use talk in interactive teaching.

6.2 Organization and Procedures

Classroom speech was recorded using a radio-microphone worn by student teachers. The output from the radio-microphone was fed into one channel of a portable stereo tape recorder. The other channel recorded ambient sound through a built in microphone.

There were 5 students who were each visited on alternate weeks as they taught one selected class. Three of the students were training to be History teachers, while the other two were trainee English teachers.[1] The researcher sat at the back during each class session and took notes of what occurred. These notes contained an outline of the teaching as it progressed, including a note of the times at which different activities in the lesson began and when they were completed. In addition, attention was paid to phenomena that might prove ambiguous when listening to the tape later, as well as to noting phenomena which would leave no audio trace. Into the former category fell such things as interruptions while someone brought in a newsheet, or the student saying 'Sorry!' because she has bumped into a pupil in passing. The latter category included such things as the student pointing at a pupil to warn him while continuing to read to the rest of the class, or rebuking a pupil silently with a look or shake of the head, or gesturing silently that a pupil is being invited to answer.

The student teacher's location in the room during different stages of the

lesson was noted on a plan of the classroom. An attempt was also made to note whether pupils appeared to be generally attentive and participating appropriately, or whether they appeared uninvolved or restive, and behaviour or comments that appeared indicative were noted. Similarly, it was at first thought that when pupils were working in groups the researcher might be able to make an unobtrusive note of what was being said in a nearby group; but, in practice, the noise level that marked such sessions was found to render this impossible.

Five sessions were recorded with each student, except in the case of 2 of the History students, one of whom was in a school whose prelim exams were held during the teaching practice, causing one session to be lost; with the other, one session was not recorded due to an equipment failure. All but one of the students were to be in schools with periods of 35 to 40 minutes duration. Since it was thought possible that student teachers might use double periods differently than single periods, it had been decided to record examples of both in each subject area. However, the decision to exclude 3 students from the final sample affected this plan. Consequently, for one History and one English student the sessions recorded consisted of double periods of 1 hour and 10 minutes duration. The other two History students were recorded during single periods of 40 minutes duration. The remaining English student was in a school which had 1 hour periods.

Permission to conduct research in schools having been granted by the education authority, an approach was made to individual schools seeking their co-operation. A letter was sent to schools explaining the purposes of the research and a visit was made to each school before the commencement of teaching practice to meet the students' regents[2] and answer any questions. In the first week of teaching practice students were visited in their schools, a copy of their timetable was obtained, and an attempt was made to meet the appropriate head of department concerned. It was at this juncture that a particular class was selected, by negotiation with each student, that would be involved in the recording sessions. Subsequently a schedule of visits was drawn up and copies sent to the regent and head of department in each school, as well as to the student teachers themselves and the appropriate university tutors.

Student teachers are, of course, accustomed both to having lessons observed by university tutors and discussing them in a face-to-face interview afterwards. It was felt necessary, therefore, to make a clear distinction between the research observations and interviews and those undertaken by university tutors.[3] In particular, it was emphasized that the researcher would not be judging lessons in any way, but seeking to understand what teaching practice is like. Thus students were encouraged not to prepare special lessons for the benefit of an observer, but to allow the taping of sessions which would be representative of what they ordinarily did on

teaching practice. Similarly, they were invited to try and

be as informative as possible about their own teaching in interview.

Confidentiality was guaranteed and students assured that their lessons and

comments would not be discussed with any of their university tutors.

Despite the assurances given, it was felt that all the student teachers had

prepared the first session recorded as for a 'crit' lesson. Subsequent

sessions, however, were felt to be more nearly representative of the lessons

students ordinarily taught on teaching practice.

The technical aspects of recording sessions proved to be relatively

unproblematic. Generally the researcher was able to meet a student shortly

before a lesson and help her affix the radio microphone in a suitable position.

Students had been asked to wear a jacket, or a belt, so that the transmitter

unit could be put in a pocket or attached to the belt. Then the receiver and

tape recorder were set up on the desk the researcher would use, and a check

was made on signal strength and recording level. Sometimes a student would

talk about her plans for the forthcoming lesson during this setting-up

procedure and such comments would be noted while the class was arriving.

Students seemed to adjust to wearing the radio-microphone very rapidly

and to be quite unaware of it after a few minutes. Pupils had been told by the

students which sessions would be recorded and that there would be a visitor

in the classroom. On first entering the classroom a few pupils, typically, asked questions, commented or joked about the situation: "Are we gonny be recorded?"; "Yer all wired up then"; "Fame, at last!" This was all handled good-humouredly by the student teachers during the first recording session and happened only during the first minute or two while pupils were still coming into class and settling down. In subsequent sessions only an occasional remark was made about the situation by a pupil entering the class at the beginning of a lesson.

Although the researcher left the matter to the students discretion, all of them introduced him very briefly at the beginning of the first session, and he said "Hello" from his position at the back of the class, except in one class where the student invited him to come forward and introduce himself. Generally, he tried to behave in ways which would excite little interest. This, it was felt, could best be achieved by behaving in a quiet, friendly and responsive manner: to adopt an overly detached manner might be counter-productive since it could introduce an air of mystery to proceedings that pupils might find intriguing. Thus, at the beginning or end of lessons, if a pupil asked what he was doing or about the recording equipment he made a simple, informative reply. If a pupil looked at the researcher, he smiled. If he was addressed, he responded. During lessons he generally tried to respond to classroom events like an interested, yet unspeaking, member of the class. If the student teacher and the class shared a joke, the researcher smiled or ·

laughed as appropriate.

Such an approach was designed to be minimally intrusive and was adjudged to be generally successful. Pupils appeared to lose interest in the researcher very quickly indeed and seemed to find it easy to behave as if he were not there. On only one occasion did a pupil seek to involve the researcher in a discussion about the lesson topic. This was during a session where a class was working in groups. The researcher listened politely and then, claiming he was not sure, referred the pupil to the student teacher. Similarly, pupils engaging in minor misbehaviour would often check that the student teacher was not looking in their direction, but usually ignored the researcher's presence entirely.

Student teachers appeared to be able to behave in uninhibited fashion despite being observed and recorded. Of course, it is impossible to know with any certainty how closely the behaviour of a student teacher corresponds to what she might have done if she were not being observed.[4] But, typically, student teachers made comments which suggested they were little troubled by the researcher's presence: "I forgot you were there"; "I completely forgot all about you. I was too busy with the lesson." One student sometimes came up to the researcher while the pupils were busy and made some comments on the lesson, as to a colleague. The researcher neither encouraged nor discouraged this and generally tried to accept whatever students felt

comfortable doing.

On only one occasion did the researcher ask a student's permission to move round the class. This was during a lesson where the pupils were revising stories they had written. Since the student teacher worked at some length with a few individuals and then sat at her desk marking, it was felt desirable to have some idea of the stories which were discussed.[5]

Immediately after the lesson an interview was recorded with the student teacher which usually commenced with the researcher saying, "Tell me about the lesson" or "Take me through the lesson." This usually led to the student providing a narrative outline and making other comments about the lesson. Subsequently, other questions were deployed as appropriate to prompt students to talk in greater detail about aspects of their lesson they had already raised. To encourage students to try and provide a detailed commentary, it had been emphasized that the intention was to try and understand student teaching and that what might be quite obvious to a student teacher might not be clear to an observer. In general, the students appeared willing to try and be as informative as possible.

On listening to the audiotapes it was found that the quality of the recordings was generally satisfactory, and that the speech of the student teachers was preserved with considerable clarity. Sometimes however, a

very noisy event could drown out what a student was saying, her continuous

proximity to the microphone notwithstanding. Thus if a chair fell over, a door

was slammed, or a class was engaged in loud conversation while a student

was talking to an individual or a group, part of what was being said could be

obscured. With pupils' speech there were several factors which affected the

clarity of the recording, namely, loudness, proximity to the student and, most

significant of all, whether the classroom was quiet when a pupil spoke. If

quietness prevailed, and the pupil spoke at a reasonable volume, her speech

would usually be preserved with satisfactory clarity through the radio

microphone.

If a pupil spoke quietly the student might ask her to speak up and repeat her

answer. Often, too, the student would repeat the answer a pupil had just

given. Such events aided the transcription. However, if more than one pupil

spoke at a time, or there was background noise, the speech of pupils who

spoke softly or who were at some distance from the student could prove very

difficult, or impossible, to decode. The compression of dynamic range that

occurs with analogue recordings, together with the fact that microphones

pick up noise indiscriminately and do not selectively attend to human speech,

meant that utterances the researcher was able to hear during the class could

sometimes become unintelligible on the tape. The recording would preserve

speech sounds, together with information about stress, rhythm, tone and

pausing, but it would be impossible to work out what English words had been

said. Playing the tape through a sophisticated hi fi system did not usually aid

discrimination. In such cases the researcher concluded that the tape provided

a somewhat degraded account that did not contain all the acoustic

information that was required to make sense of speech.[6]

Occasionally, listening to the channel linked to the tape recorder's built-in

microphone provided clarification about what had been said. But the most

valuable strategy was found to be to take a note during class sessions of

what pupils said, if there was any doubt it would be recorded clearly.[7] If the

student had the pupils working in groups, it was usually possible to decode

almost everything she said when interacting with an individual group by

repeated listening to segments of the tape, though this was found to be a very

tedious and time consuming procedure. What pupils in a group said to the

student was only intelligible against the background noise that tends to

accompany group-work if they spoke very clearly, or were next to the student.

However, group-work occurred only infrequently.

6.3 Transcription

Transcription procedures have often been given little explicit consideration

in educational researches which make use of recordings, but this would

appear to be an area of considerable theoretical and practical importance.

The transcriber's task cannot be regarded in simple terms as providing a

written version of everything that has been recorded on tape. As has been

indicated, classroom tape recordings preserve a record of all the noise that has occurred during a lesson, whether the noise is meaningfully related to the lesson or not. The wind rattling through a venetian blind, someone dropping a pencil case or ruler, or the noise of a chair or desk being dragged across the floor are all recorded along with a discussion of battles in the First World War. Nor are all the discriminations to be made as gross as the preceding examples might suggest. How to represent certain recognizable speech phenomena is a vexatious methodological issue, and the precise functions that may be ascribed to many such phenomena are currently not known.

Considerable transcription problems, then, with associated theoretical ramifications, are involved in providing a permanent record of all that speakers have said. Speech cannot simply be regarded as a form of language that differs from writing only by virtue of the fact that it has not been written down, though the pioneers of transcript based research in classrooms seem to have made some such tacit assumption.[8]

There are many essential differences between spoken and written language, and while the two are clearly related it would appear important not to proceed without due regard for the distinctiveness of either as a medium of communication. Close acquaintance with recordings of speech indicates that people do not necessarily speak in well formed sentences. Very frequently the breaks between individual words are not indicated, though this would be

quite unacceptable in writing. Moreover, there are no punctuation marks in speech. Rather there are a host of paralinguistic cues involving tone, rhythm, stress, changes in speed, pausing phenomena and characteristics of voice quality which are very difficult to represent fully in written form. Pauses in speech may sometimes indicate the 'chunking' of information for the hearer's benefit, but they may also indicate the exigencies of real-time production of speech to fit a particular occasion. While a writer has leisure to consider the best way to order his communication and may revise what he has written until he achieves the final polished version he requires, without the reader being in any way aware of how the final version has been evolved, for an impromptu speaker the first version is also the final performance. Consequently, there are hesitations in speech, 'ems' and 'ahs', self interruptions in mid-word, deletions and new beginnings which the hearer is typically unaware of, because they tend to be edited out. That is, hearing is throughout a process of selection and interpretation, and interpretive selectivity is inevitably involved when transcribing tapes. That is, as when one participates in any conversation, the listener is obliged to operate sampling procedures on the acoustic signal since many features of that signal may not be relevant to understanding the communication. The following quotation, which adopts the perspective of discourse analysis, indicates the relevant issues.

Unless the analyst produces a fine-grained phonetic transcription (which very few people would be able to read fluently) details of accent and pronunciation are lost. In general, analysts represent speech using normal orthographic conventions. The analyst may hear an utterance which might be transcribed phonemically as / greipbritn /. Is he to render this

orthographically as <u>grape britain</u> ? Hardly. He will interpret what he hears and normalise to the conventional orthographic form <u>Great Britain</u> inserting conventional word boundaries in the orthographic version which do not, of course, exist in the acoustic signal. If he hears a form / gənə/, is he to render this in the orthography as <u>gonna</u> (which for some readers may have a peculiarly American association) or <u>gointuh</u> or <u>going to</u> ? The problem is a very real one, because most speakers constantly simplify words phonetically in the stream of speech (see Brown, 1977: ch. 4). If the analyst normalises to the conventional written form, the words take on a formality and specificity which necessarily misrepresent the spoken form.

Problems with representing the segmental record of the words spoken pale into insignificance compared with the problems of representing the suprasegmental record (details of intonation and rhythm). We have no standard conventions for representing the paralinguistic features of the utterance which are summarised as 'voice quality', yet the effect of an utterance being said kindly and sympathetically is clearly very different from the effect if it is said brutally and harshly. Similarly it is usually possible to determine from a speaker's voice his or her sex, approximate age and educational status, as well as some aspects of state of health and personality (see Abercrombie, 1968; Laver, 1980). It is not customary to find any detail relating to these indexical features of the speaker in transcriptions by discourse analysts. In general, too, rhythmic and temporal features of speech are ignored in transcriptions; the rhythmic structure which appears to bind some groups of words more closely together than others, and the speeding up and slowing down of the overall pace of speech relative to the speaker's normal pace in a given speech situation, are such complex variables that we have very little idea how they are exploited in speech and to what effect. .. It seems reasonable to suggest, though, that these variables, together with pause and intonation, perform the functions in speech that punctuation, capitalisation, italicisation, paragraphing etc. perform in written language. ..

The response of most analysts to this complex problem is to present their transcriptions of the spoken text using the conventions of the written language. .. What must be clear in a transcript of this kind is that a great deal of interpretation by the analyst has gone on before the reader encounters this 'data'. If the analyst chooses to italicise a word in his transcription to indicate, for example, the speaker's high pitch and inceased loudness, he has performed an interpretation on the acoustic signal, an interpretation which, he has decided, is in effect equivalent to a writer's underlining of a word to indicate emphasis. There is a sense, then, in which the analyst is creating the text which others will read. In this creation of the written version of the spoken text he makes appeal to conventional modes of interpretation which, he believes, are shared by other speakers of the language (Brown & Yule, 1983, pp. 9-11).

An implication of the foregoing discussion is that there is no one,

universally applicable, procedure for transcription that is appropriate in all

situations. The features that a transcript should contain depends both upon

the nature of the talk that has been recorded, and the purposes of the

research. It would appear, then, that wrestling with the practical and

theoretical issues involved in making a careful and consistent transcription

of classroom talk, is a primary task that the educational researcher must

needs engage in with a clear awareness that nothing less than the integrity of

the whole research undertaking is at stake. Decisions about what course to follow must be based upon sound and principled reasons, and ought to be made explicit.

Among the most detailed transcripts of speech made by an educational researcher are those of Wells (1979, 1981). These transcripts contain information about such features as pitch and intonation, and they are analysed exhaustively in terms of syntactic, semantic and pragmatic categories. Wells's research involves recording 90 second samples of talk between infants and their parents, and since the intention includes casting light upon how it is that children learn to become language users in the first place, as fine grained an analysis of interaction as possible would seem to be entirely appropriate. The brevity of the segments of discourse is chosen both because these are judged to be sufficiently informative for the purposes of the research, and because of the enormous amount of time required to analyze such segments exhaustively. Analysing 1 hour periods of secondary classroom teaching in such a fashion would be of doubtful value. Besides consuming an inordinate amount of time in both transcription and analysis, it would also be over informative. Pupils in the upper secondary school, it was felt, might already be expected to possess some competence in participating in classroom communication. Thus attention could be directed selectively towards the distinctive ways in which classroom communication appears to function.

Whether the student teacher is discussing a poem or story, or a battle in

the First World War, there is likely to be an attempt to provide an approach to

the topic that is related to the appropriate disciplinary perspective, that is,

to the models of enquiry and understanding developed by the different subject

disciplines which the students are teaching. While there are a plethora of

educational studies dealing with the social and inter-personal aspects of

classroom interaction, "the management of _ideas_ within classroom

discourse" (Shulman 1987, p.1, original emphasis) has received comparatively

little attention. Yet, student teachers, when interviewed about their lessons,

consistently spoke as if the ideas they were trying to communicate were of

primary concern.

Thus the problem of providing an analysis of classroom discourse that was

sufficiently informative for the purposes of the research, and no more

time-consuming than necessary to perform, was addressed by seeking to

develop an approach to transcription which adopted as its main priority the

preservation of the ideational structuring student teachers engaged in. Thus

it was thought necessary to pay careful attention to transcribing certain

transient features of speech that were felt might possibly be related to the

student teachers' attempt to create a structure of ideas moment by moment.

Accordingly a procedure for transcription was evolved during the process

of transcribing the lessons for the pilot study that appeared to fit the needs

of the research and the particularities of the lessons recorded. Since the

procedure was not evolved in all its details until nearing the end of this

series of tapes, earlier tapes had to be listened to again and re-transcribed.[9]

The procedure that was adopted had the following features:

1. Every brief phrase or short utterance recorded was replayed at least twice. If the researcher was in no doubt that what he had heard the first time was in complete accord with what he heard the second time, what was spoken was written down, with the introduction of the conventional orthographic signalling of word boundaries, and of completed sentences. This was what happened with clear speech, spoken at no great speed, devoid of hesitation and where there was little or no background noise.

2. Other brief phrases or utterances were listened to repeatedly in order to be able to transcribe them accurately, as follows:

i) Where the student teacher hesitated, stammered, changed direction in mid-word or started an utterance then dropped it before completion and began again. Such phenomena were regarded as potentially highly informative, since they appeared related to the real-time nature of generating teaching discourse and might provide clues to the ideational structuring student teachers were engaging in. Consequently, great care was taken to try and transcribe them accurately.

ii) Pauses that occurred <u>within</u> the stream of speech were timed. That is, pauses which were due to hesitations and slips, appeared unplanned, and did not signal the completion of phrases, statements, questions or groupings of these, were noted. Pauses of half a second or less were found to occur when a student teacher substituted one word or phrase for another, stammered over part of a word, or started one word but then halted in mid-word and provided another word. Such brief, sometimes hardly perceptible, pauses were indicated by two dots thus .. Pauses and hesitations which lasted longer, but no more than a second were indicated by three dots thus ... Pauses of longer than a second were indicated by a time in square brackets to the nearest half second. 'Fillers' were indicated, together with their accompanying pause patterns, using the conventional orthographic form that was closest to the sound speakers actually made, e. g., 'em', 'er', 'eh', 'ah', 'um'.

iii) Words or phrases that were unintelligible were indicated by

_____, the length of underlining used giving a rough guide to the length of utterance that was not transcribed.

iv) Simultaneous speech was transcribed as carefully as possible, as when two pupils responded to a teacher question. The beginning of such an event was marked by a parenthesis thus { and the speech of whoever appeared to be the dominant speaker - that is, whoever spoke loudest and longest - was taken as a reference and the position of words spoken by the other speaker was indicated relative to the speech of the dominant speaker. Due to the rather poor resolving power of conventional analogue tape in such classroom situations, simultaneous speech complete with hesitation, deletion and pausing phenomena could be particulary taxing to transcribe accurately. Fortunately, it occurred only infrequently in the lessons observed.

v) Speech that was not directly related to the ongoing activity of a lesson was also recorded. There were interruptions by other members of staff, pupils bringing messages, announcements over the school intercom, and pupils making remarks that were off-task. These items were all transcribed, wherever possible, so as to provide a faithful record of all the publicly intelligible talk that occurred in the classrooms concerned. Not only did this policy avoid the problem of the researcher editing the tapes to excise speech that was judged not to be directly relevant to the teaching, it was also felt that to do otherwise would run the risk of seriously misrepresenting the nature of the classroom experience that student teachers encountered. Moreover, it was felt that pupils' off-task comments might possibly prove to be instructive about lessons in ways that were not immediately forseeable.

vi) Wait times between student teacher questions and pupil answers were often very noticeable on the tape, so these were also timed to the nearest second and given in square brackets. A failure to indicate these might have given the misleading impression that interaction which was stilted, awkward and hesitant, flowed more seamlessly than was the case. Similarly, additional information about non-verbal features of the interaction, such as pupil laughter, or the student teacher pointing at a pupil, was given in square brackets and inserted at the appropriate point in the transcript.[10]

vii) An attempt was made to capture particularly noticeable features of local speech using conventional orthography. Thus 'ye' and 'youse' for 'you'; 'dinny', 'havty' and 'gonty' for 'don't', 'have to' and 'going to' and so on. Besides preserving the flavour of actual speech, such a policy served as a useful estrangement device forcing the researcher to pay close attention to exactly what it was that was actually said.

The concomitants of the policies adopted are worth noting. While the present researcher gradually became adept at recognizing when a phrase or utterance, spoken at speed, contained some 'flaw', it was only after repeated listening that the exact nature of the speech phenomena that had occurred could be noted. In other words, a great deal of effort had to be expended before the researcher could be sure that he had defeated his own instantaneous tendency to edit what had been said into a 'tidied up' version of spoken events.

The distinction between very brief pauses, longer pauses and lengthy pauses was evolved intuitively after extended listening to classroom tapes, the categorisation of the pauses referring to how relatively noticeable they were felt to be in the stream of student teachers' speech. However, support for this rather tentative threefold classification was found elsewhere. Chafe (1979) makes a similar distinction regarding pauses, as do Brown & Yule (1983), who also propose regarding short pauses as internal phenomena, whereas long and lengthy pauses might be more indicative of unit boundaries in discourse. While these researches distinguish short pauses as lasting up to just over half a second, they identify the middle category of pauses as lasting up to just under 2 seconds. But neither of these researches employs teaching discourse. The speech their analyses are based upon is recorded in contexts that are considerably different from those associated with teaching. In particular, they lack the public control aspect of the classroom, nor are the

subjects talking about materials which they have chosen or upon which they might be regarded as possessing particular expertise.

Unplanned and unexpected pauses in student teachers' speech seem to be particularly noticeable in the classroom context, and readily to create unease among pupils if they become frequent. There would appear to be pressure upon student teachers not to hesitate or pause overlong during teaching discourse lest they reinforce perception of their status as tyros, with attendant implications for discipline. Although the typology of pauses was developed to describe the speech of student teachers, for consistency, the same criteria were also applied to the transcription of pupil speech, though since pupils are not under the same constraints to keep discussion going, length of pause cannot be regarded in equivalent fashion for both. Thus what might be regarded as a long or lengthy pause for a student teacher, might need to be categorized differently if the speech of pupils were to be the main focus of research.

6.4 Sample of Lessons Transcribed

For the purposes of this pilot study it was decided to prepare and analyse transcripts of a sample of the lessons recorded, as follows: the first 2 lessons of each History student, giving a total sample of 5 hours of History teaching; and the first 3 lessons of both English students, giving a total sample of 6 hours and 30 minutes of English teaching. Details of the lessons

analysed are given in Table 1 below.

TABLE 1 Details of Lessons Analysed

History

Student – 'Frank' Class 5   Session – 1hr 10mins   N = 7

Lesson	Topic	Format
1	Versailles and the League of Nations	WCT/ IS
2	The League of Nations	WCT/ IS

Student – 'Linda' Class 4   Session – 40 mins   N = 24

Lesson	Topic	Format
1	3rd Battle of Ypres – Passchendaele	WCT/ IS
2	The Collapse of Germany, 1918	WCT/ IS

Student – 'Alice' Class 3   Session – 40 mins   N = 27

Lesson	Topic	Format
1	Prison Reform Act, 1832	WCT/ IS
2	Test on 1832 Reform Act	Test/ WCT/ IS

English

Student – 'Mairi' Class 5   Session – 1hr   N = 27

Lesson	Topic	Format
1	Poem – 'In the Snack Bar'	WCT
2	The Discursive Essay – Question on TV	GW/ WCT
3	The 'Higher' Interpretation -The Summary	WCT/ IS

Student – 'Shona' Class 3   Session 1hr 10mins N = 22

Lesson	Topic	Format
1	Short Story – 'The Rocking Horse Winner'	WCT/ IS
2	Short Story – 'A Pair of Sealskin Trousers'	WCT/ IS
3	Short Story – 'Examination Day'	WCT/ GW

N. B.: WCT = whole class teaching; IS = individual seatwork; GW = group work. N = number of pupils. Student names have been altered to protect anonymity.

The time that needed to be expended in transcription was found to be related both to subject area, and to length of session. 'Frank' and 'Shona' were both observed during 70 minute sessions, but whereas 'Frank's' lessons, which were the most discursive of those in History, averaged between 10 and 11 pages of single spaced A4 typescript, Shona's averaged between 21 and 22 pages. In the 40 minute periods observed with the other two History

students, the lessons occupied about 6 pages of typescript on average. For the remaining English student, 'Mairi', the average length of typescript was just over 20 pages.

While the length of transcript is obviously related to the time required for transcription, it should be noted that two similarly sized transcripts might have taken rather different times to prepare. This is because such factors as the complexity of the interaction and the context in which it occurs are also relevant. For example, if the class has been working in groups with the student teacher going round interacting with individual groups, the noise level that tends to mark such sessions demands that extra time has to be spent distinguishing what exactly has been said by the student teacher and the group members with whom she interacts.

In general, the operation of the transcription procedures already described required between 11 and 16 hours per hour of History, whereas the corresponding times for transcribing English lessons ranged from 25 to more than 30 hours per lesson hour. These figures correspond with the minimum of 20 hours cited by Stubbs (1983) for transcription of a 50-60 minute conversation down to word level and including hesitation phenomena.

6.5 Identifying a Unit of Discourse - The Venture

The problem of identifying a unit of discourse in classroom teaching that

exhibits coherence, discreteness, reliability in identification and which is also pedagogically relevant has exercised many researchers, while producing remarkably little unanimity over how such a unit is, in fact, to be conceived. One particularly interesting approach to this problem is introduced in <u>A Study of the Strategies of Teaching</u> by B. Othanel Smith and his associates at the University of Illinois who describe what are claimed to be naturally occurring units of classroom discourse which they label 'ventures' and which they define thus: "A venture is a segment of discourse consisting of a set of utterances dealing with a single topic and having a sigle overarching content objective" (Smith <u>et al.</u>, 1967, p. 6).[11]

Smith <u>et al.</u> (<u>op. cit.</u>) provide a set of criteria for identifying ventures (see Appendix 2) which the present researcher attempted to apply to the set of transcripts in the pilot study, but with rather mixed results. For some parts of some transcripts ventures could be identified with relative ease, but for others there was some ambiguity about where exactly ventures might be considered   to begin and end, or about how many ventures a given segment of transcript might legitimately be considered to contain. The criteria provided did not suffice to dispel the ambiguity and a key difficulty appeared to be the lack of precision concerning what was meant by "a single overarching content objective".

While the Illinois research team provide examples of single ventures, they

neglect to provide an analysis of a raw transcript, demonstrating how it was

divided into ventures, together with a discussion of the rationale for making

the divisions. Neither do they provide a series of linked ventures from any

lesson. While the examples of single ventures that are provided are notable

for their clarity, and were probably selected precisely because they were

likely not to prove controversial, they are of little help when deciding how to

tackle segments of transcript which might often fail to achieve such a high

degree of transparency.

Several considerations were taken into account when deciding to persist

with the attempt to clarify the concept of ventures, even although this was

proving initially elusive. The first of these was that the Illinois team report

moderately high inter-judge agreement coefficients (of the order of .7) for

the identification of ventures among independent judges they trained, and

claim that these would have been even higher if judges had been instructed to

mark transcripts for the maximum possible number of ventures. This

suggests that independent judges could learn to identify ventures reasonably

reliably, and that, possibly, they had arrived at an understanding of what an

'overarching content objective' that might be clearer than that provided

overtly in the research report.

Secondly, early systems for analyzing lessons that rely on clearly definable

categories, and which therefore prove rather easy to operate, tend to

extrapolate immediately from linguistic evidence to supposedly meaningful

indices of teaching whilst tending to disregard the system of classroom

communication from which items are selected as significant. This abrogation

of a systemic approach to teaching, while understandable historically as a

first attempt to render the highly elusive phenomena of the classroom

intelligible, often seems to oversimplify to the point of misrepresentation

(Edwards, 1980).[12]

An example of such a previously popular system is Flanders Interaction

Analysis Category System (Flanders, 1970) where every 3 seconds the

observer decides which of 10 categories events in the classroom fall into.

Categories pay attention to formal events in the lesson and include such

items as the teacher asking a question, or a pupil responding. At the end of

the session the results are tallied. While this approach leads to results that

are quantifiable and therefore readily amenable to statistical manipulation,

the real complexities of classroom teaching appear to be left far behind. It is

not so much the number of questions a teacher asks which is likely to be of

overriding importance; but what the questions are concerned with, where

they are leading, and the pattern of communication to which they belong and

with regard to which they are to be interpreted. These considerations might

counsel an approach that takes less account of the quantifiable aspects of

teaching, and more of the qualitative. The problem is, however, that a

qualitative approach which pays close attention to classroom language may,

because of the subtle complexities of language itself and our current inability

to explain exactly how all such subtleties operate, prove more difficult to

define 'to the point that either ambiguity or vagueness is completely avoided'.

So that the attempt to pay close attention to the language of teaching might

be expected to involve some reliance upon intuition together with a

corresponding compromise over conceptual clarity. The view was taken,

therefore, that some ambiguity was likely to be unavoidable, and that the aim

should be to see whether it might be reduced to an acceptable level.

Finally, it may be that certain concepts dealing with the organisation of

discourse remain valuable, although they are resistant to exact definition,

and this might suggest that great exactitude is·not always currently

attainable in defining recognisable discourse phenomena. The concept of what

constitutes a paragraph, for example, cannot be defined with any great rigour,

since paragraphs are infinitely various and the principles of their

organisation cannot be prescribed in any complete fashion. Nevertheless it is

manifestly possible for people to learn to understand paragraphs and to

construct paragraphs of their own, despite conceptual ambiguities in defining

the paragraph as a unit of written discourse. That is, an intuitive approach to

aspects of discourse may sometimes be appropriate, given the present state

of our knowledge, since the human ability to exploit the manifold

possibilities of language as a medium for communication appears greatly to

outstrip our capacity to analyse these formally. It would appear that Smith

and his co-workers, in their attempt to analyse classroom talk into units called ventures, are doing something akin to trying to identify the major paragraph divisions in spoken pedagogical discourse.

The features of senior high school teaching which Smith et al. (op. cit.) highlight include, firstly, the possession of a general aspect that appears constant from one subject area to another; and secondly, that it also possesses particular aspects that appear to differentiate between subject areas. The generally shared aspect relates to the fact that teaching regularly appears to be structured in the form of topical discussion. However, the particular topics which are selected, together with the cognitive structuring of communication that is adopted to enable their discussion, appear to differentiate between subject areas. Such a perspective appeared to be highly appropriate for approaching the lessons in the pilot study, since all student teachers regularly provided a topical outline of what they had done, yet there appeared to be marked differences between the kinds of discussion that occurred in History and in English.

Taking the above considerations into account therefore, a careful re-analysis of A Study of the Strategies of Teaching (Smith et al., 1967) was undertaken to see if it were possible to clarify the concept of an 'overarching content objective'.

Initially, it is claimed that a condition of the venture "is that its discourse be relevant to some objective such as a cause-effect relationship, or a concept"(op. cit., p 6). Again:

> Close examination of what seem to be paradigm cases of ventures suggest that it is possible to identify one element of content which is the central focus of discussion. That is to say, it is possible to identify a rule, concept, etc., which is explicated, established or set forth by the discussion of the topic as a whole. This element is called the objective of the unit or more descriptively, the overarching content objective(ibid. p 8).

A difficulty with this approach is that it appears to forsake the perspective of a spoken discourse which unfolds for participants over time and in which meaning is being constructed moment by moment, in favour of a synoptic retrospective approach more appropriate to a written text. That is, the transcript itself has become the object of analysis rather than the real-time teaching which it attempts to represent. Recourse to the original Ph. D. theses written by members of the research team (see Coombs, 1963; Nuthall, 1966) and on which the research report is based, serves to reinforce this impression.[13] Moreover, such an approach seemed to have little to offer in terms of facilitating the accurate representation of how student teachers actually went about accomplishing interactive discussion.

If the description of the 'overarching content objective' primarily seems to have been evolved to ensure the identification of comprehensive units which are inclusive of as much relevant subject matter discourse as possible, it was also noted that this concept is articulated in different words throughout the course of the research report[14], and that differences in the verbal

formulae used seem to encompass a range of approaches to explicating what appears originally to have been an intuitive idea.

However, the hint that ventures possess a cognitive aspect linked to the substantive matter with which they deal was thought promising. Firstly, because student teachers talked about their teaching in what seemed to be a similar way: they spoke of discussing certain topics in order to make certain points. Secondly, close scrutiny of transcripts of students' lessons provided evidence of more than just topical organization. Once a topic had commenced, material appeared to be sorted according to what might be described as "cognitive perspective" on the topic. Thus, there appeared to be a strong preference for dealing with factual information – settling questions asking what, when, where, who or how – before moving on to other aspects such as the reasons why things were said to be as they were, or offering broader interpretations.

Thus, for example, History students typically appeared to move from an initial factual consideration of historical situations, events or personages to a discussion of explanatory reasons that were held to illuminate causation, and sometimes they also asked for retrospective evaluation of historical situations. English students typically began with factual information also, but this time the 'facts' tended to be drawn from the situation created in some literary text, before inviting inferences that sought to explore hidden

implications and so place the facts in an interpretative framework.

Consequently, in order to try and analyse how student teachers operate in terms of interactive discussion with pupils, it was decided to use a modified definition of the venture. For the purposes of the pilot study the venture would be regarded as a unit of discourse that consisted of both <u>content</u> and <u>treatment</u> dimensions. It would be distinguished by the simultaneous occurrence of consistency in terms of topical coherence <u>and</u> overall unity of cognitive approach. That is, ventures would be identified by an overall unity regarding <u>what</u> it is that is being discussed, and <u>how</u> the topic is approached.

A preliminary survey of the sample of lessons to be used in the pilot study indicated it was easier to identify ventures reliably using the concept of cognitive approach[15] in place of 'overarching content objective'. Furthermore, the ventures so identified appeared to help uncover the structuring principles at work in lessons in particularly revealing ways. Thus it was decided that the particular formulation of the description of a venture to be used in this pilot study would be as follows: **A venture is a unit of discourse which can be identified because it consists of discussion of a recognizably discrete topic dealt with from a unified cognitive perspective.** It follows from this that a new venture commences: 1) <u>every time a new and discrete topic is introduced and sustained</u>; and 2) <u>whenever there is a sustained shift in cognitive approach, even although the overall</u>

topic remains the same. The second of these two considerations is nowhere

to be found in Smith et al. (op. cit.).[16]

6.6 Identifying Ventures in the Pilot Study

To show how ventures were identified, and the ground rules that were

adopted, some examples are provided based on student teachers' lessons.

Example 1 consists of the opening section of 'Linda's' first History lesson,

which deals with the Battle of Paschendaele, 1917. It is presented firstly in

terms of the raw transcript when it was first transcribed, and then as

analysed into ventures.

Example 1 - Raw Transcript (Text 15)

S: [Noise of class.] OK. Now! [4 secs] Right, now we're finished looking at Women at War. OK? You'll be thankful to know. And we're going back to.. War in the Western Front. Now I think you got up to 1916, didn't you, beforehand?

P: _____ [inaudible]

S: Should be about 1916. Can you tell me... the most important battles that occurred in 1915 - 1916? You should all have studied.. Yes Ian.

P: Verdun and the Somme.

S: Verdun and the Somme, right! Verdun was first. [To P's talking.] Shhhhhttt! Verdun occurred first - 1915. Why... did Ver.. did Verdun happen? [2 secs] Why... oh fi.. first of all who.. started the attack at Verdun? [2 secs] Yes.

P: The Germans.

S: Right, the Germans! Why did they want to attack Verdun? [Addressing two boys at the front.] Will you settle down boys! Why did they want to attack Verdun? Now you shouldn't need to look this up, you should all know this. Why did they want to attack Verdun? Yes.

P: Because it had never been taken before.

S: Well, it had never been taken before. [Addresses the same two boys at the front.] Boys, will you be quiet! Right, obviously it had never been captured before, but why Verdun?

[At this point the Head of Department walks in and says something (inaudible) to the S. The S. replies: 'Yes, up the back. Yes.' Again he says something not picked up by the radio mike. She replies: 'I'm wired up, is that OK?' He speaks again and the S. replies: 'It's OK, he's here.' It appears that the Head of History is unhappy that the researcher has been taken directly to the classroom by the Regent without going through him. In fact the Head of Department encounters the Regent in the corridor on leaving the classroom and a noisy conversation ensues. This was not picked up by the radio mike as the lesson continued, but the researcher, positioned next to the corridor wall, could hear the Head of History protesting, 'Why wasn't he brought to see me?'. The Regent was apologetic and pleaded pressure of work: 'You know how busy I am.']

S: Yes?

P: It was a salient point.

S: A salient point, what do you mean by that?

P: [Laughter among P's.] A position that went into the German lines.

S: Well... think more in.. in terms of the French defence. Why...? Yes.

P: 'Cause it was a fort to the French.

S: Right, it was pr.. it was practically the most important fort in the French.. defence. OK? Therefore, the Germans wanted to take it. Are you boys listening please! Right, the Somme. What happened at the Somme, then? [3 secs] Why.. why was the Somme... offensive called? [1 sec] Yes.

P: To lure away the Germans.. the Germans from Verdun.

S: Good. To lure the Germans away from Verdun. The British started it to take, em.. pressure off Verdun. [The S. clears her throat. Immediately a boy at the front makes a noise in his throat.] Can a... [The S. sighs in annoyance and then stares at the boy who then coughs as if to clear his throat.] Has anybody got any sort of idea about what happened at.. the Somme? [2 secs] First of all, when did it start? What was the date? [2 secs] Very easy date to remember. Yes.

P: First of July 1916.

S: Good. First of July 1916. Wow, so you got a question right, eh? [2 secs] [A P. gives mock praise to the P. who has answered the question – 'Very good!'] Shhhhtttt! [2 secs] Right, first of July 1916. 60,000 men fell in the first day, OK? Can anybody tell me the commander at the Battle of the Somme? [3 secs]

P: Lord Kitchener.

S: No. [3 secs] Practically led every disaster.. every major disaster in.. in the British...

P: Haig.

S: Haig, good. Right. Now we're going to look at another of Haig's... battles today. OK?

N.B. All pupil names given in transcripts have been altered to protect anonymity.

This opening segment of a lesson is likely to contain much that appears

familiar to anyone who has had a close acquaintance with student teaching.

The 4th. year class have entered the room, gone to their seats, got their books

out, the researcher has been briefly introduced to the class, the student has

dealt with a few individual pupils who need pens or have forgotten their

History notebooks and require paper, and there is much informal conversation

continuing between pupils as the student teacher signals she wants to begin

the lesson. She waits as the pupil talk dies away, then begins by noting that a

particular topic has been completed and that they are now returning to a

previous topic. She checks the stage that they ought to have got up to before

conducting a brief interactive review of battles in 1915 – 16. This both

checks that the class have indeed covered the previous material, and sets the scene for the lesson topic proper.

There are several other features, linked to the way this lesson extract unfolds, that are likely to appear unsurprising. The flow of discussion appears somewhat staccato. This is partly attributable to the student teacher's occasional hesitancy in formulating questions, or apparently changing her mind about which question she wants answered at particular points. It is also due to the fact that pupils sometimes do not appear to respond to certain questions and when they do respond their answers tend to be brief - a word or phrase rather than a sentence or group of sentences. Sometimes a question is repeated before it is answered, on other occasions hints and clues are provided to help pupils to supply the answer required. Additionally, the student finds it necessary to keep insisting that certain pupils stay focussed on the lesson, and there is also an interruption caused by a member of staff. The momentum of the lesson, then, appears to be continuously being created by the student herself, in a somewhat impressive and energetic display of communicative organization, against a background - including some of her own behaviour - which threatens to break down the flow of communication.

However, even the experienced observer is likely to find any exact description of the pedagogical structuring of communication elusive. But this

is what the venture analysis, given below, reveals. Where ventures commence

is identified by // following a double-spaced gap in the text. Headings, down

the right hand side, annotate the venture number as well as other relevant

features of the text relating to the venture structure.

<u>Example 1.2</u> – Transcript analyzed into Ventures (Text 15)

S: [Noise of class.] OK. Now! [4 secs] Right, now   Orientation
    we're finished looking at Women at War. OK? You'll
    be thankful to know. And we're going back to.. War
    in the Western Front. Now I think you got up to 1916,
    didn't you, beforehand?
P: _____ [inaudible]
S: Should be about 1916.

    //Can you tell me... the most important battles that   Venture 1
    occurred in 1915 – 1916? You should all have studied..
    Yes Ian.
P: Verdun and the Somme.
S: Verdun and the Somme, right!

    //Verdun was first.   Venture 2
    [To P's talking.] Shhhhhttt!   (Disruption)
    Verdun occurred first – 1915.
    Why... did Ver.. did Verdun happen? [2 secs] Why...   (Misfire)
    Oh fi.. first of all who.. started the attack at
    Verdun? [2 secs] Yes.
P: The Germans.
S: Right, the Germans!

    //Why did they want to attack Verdun?   Venture 3
    [Addressing two boys at the front.] Will you settle down boys!   (Disruption)
    Why did they want to attack Verdun? Now you
    shouldn't need to look this up, you should all know
    this. Why did they want to attack Verdun? Yes.
P: Because it had never been taken before.
S: Well, it had never been taken before.
    [Addresses the same two boys at the front.] Boys, will you be quiet!   (Disruption)
    Right, obviously it had never been captured before,
    but why Verdun?

[Interruption as in Example 1 above.]   (Disruption)

S: Yes?
P: It was a salient point.
S: A salient point, what do you mean by that?

P: [Laughter among P's.] A position that went into the
German lines.

S: Well... think more in.. in terms of the French defence.
Why...? Yes.

P: 'Cause it was a fort to the French.

S: Right, it was pr.. it was practically the most important
fort in the French.. defence. OK? Therefore, the
Germans wanted to take it.
Are you boys listening please!   (Disruption)

//Right, the Somme.   Venture 4
What happened at the Somme, then? [3 secs]   (Misfire)
Why.. why was the Somme... offensive called? [1 sec] Yes.

P: To lure away the Germans.. the Germans from Verdun.

S: Good. To lure the Germans away from Verdun. The
British started it to take, em.. pressure off Verdun.
[The S. clears her throat. Immediately a boy at the
front makes a noise in his throat.]
Can a...   (Misfire)
[The S. sighs in annoyance and then stares at the boy who then   (Disruption)
coughs as if to clear his throat.]

//Has anybody got any sort of idea about what   Venture 5
happened at.. the Somme? [2 secs] First of all,
when did it start? What was the date? [2 secs]
Very easy date to remember. Yes.

P: First of July 1916.

S: Good. First of July 1916.
Wow, so you got a question right, eh? [2 secs] [A P. gives mock   (Disruption)
praise to the P. who has answered the question – 'Very good!']
Shhhhtttt! [2 secs]
Right, first of July 1916. 60,000 men fell in the
first day, OK? Can anybody tell me the commander
at the Battle of the Somme? [3 secs]

P: Lord Kitchener.

S: No. [3 secs] Practically led every disaster.. every
major disaster in.. in the British...

P: Haig.

S: Haig, good.

//Right. Now we're going to look at another of   Orientation
Haig's... battles today. OK?

The student's opening statement about a topic that has been completed,

indicating the topic that is being returned to, and the attempt to clarify the

date the pupils are said to have 'got up to' is regarded as orientation under

Smith et. al.'s criteria (see Appendix 2, 3.3). That is, such material, which

sets the scene before a lesson topic begins properly, is regarded as preparatory in nature. Here there is a preliminary focussing of attention on the precise period to be considered.

Discussion of a topic begins with the student's question, 'Can you tell me the most important battles that occurred in 1915-1916?' Now, it would seem possible under the Illinois team's criteria to regard this question, together with all the ensuing discourse of ventures 1-5 as forming one unit with the same 'overarching content objective', namely, clarifying that the pupils know some basic facts about the Somme and Verdun, including what are said to be the reasons why these battles occurred. Thus, this whole segment could be regarded as one because the student teacher appears to be engaged in revision and checking of what pupils know, preparatory to the introduction of the main lesson topic.

It would seem equally plausible under their criteria to regard the same segment of text as consisting of 2 ventures - the first of these (including the introductory naming of the 2 battles) dealing with Verdun, and the second with the Somme. That is, the difficulty with operating in terms of topical units would appear to lie in the fact that 'topic', by itself, is a rather elastic term which may be conceived with various degrees of specificity. It is possible to talk of the topic for a term, for a unit of work, for one lesson, or for a particular segment of a lesson. The Illinois concept of 'overarching

content objective' appears to add little that would enable the identification of topics with any great precision. However, the way the transcript is divided up using the revised description of a venture as a unit identifiable on the basis of both content and cognitive treatment dimensions evolved for the pilot study, seems both to yield units that may be identified clearly and which appear particularly revealing of pedagogical structuring.

Venture 1 functions as the opening venture of a linked series where the topic of the important battles of 1915 -1916 is introduced, and the cognitive perspective is that of identifying them by giving their names. Following this, the focus moves to a consideration of Verdun alone. Thus Venture 2 has as its topic one of the battles previously named and the cognitive perspective is the provision of factual details – the temporal priority of Verdun and the German initiation of the attack.

However, Venture 2 is not allowed to run smoothly to conclusion. The student feels obliged to interrupt the discussion of substantive matters to rebuke pupils for talking. Following the Illinois procedure, this is labelled as disruption since the disciplinary hushing of pupil talk is not intended as a contribution to the discussion of the topic in hand, but deals with an extraneous matter, and the participants appear to have no difficulty in recognizing this. Indeed, the 'Shhhhhttt!' is clearly marked off from surrounding utterances by a sudden stridency of tone that contrasts markedly

with the intonation adopted for discussing substantive matters.

Also in Venture 2 there is the introduction of extraneous <u>substantive</u>

matter by the student herself who, after a brief pause, appears to identify it

as such:

S: Why... did Ver.. did Verdun happen? [2secs] Why...   (Misfire)
   Oh fi.. first of all who.. started the attack at Verdun?

That is, "Oh fi.. first of all", verbally signals a change of mind about the

structuring of information here. There is another factual detail about Verdun

that is to be mentioned before moving on to considering <u>why</u> Verdun is said to

have happened. That this event occurs seems to confirm that the student is

indeed structuring the discussion in terms of the discrimination made by the

revised venture criteria: the <u>facts</u> concerning a battle are to be discussed

contiguously, whereas the <u>reason why</u> it is said to have occurred is to be

considered discretely.

Such an event focusses attention on the real-time construction of

pedagogical discourse that student teachers are obliged to engage in as they

seek to disclose their subject to pupils. Again, following Smith <u>et al.</u> (1967),

the attempt to start a new venture (that is, under the operation of the revised

criteria, the introduction of a new topic or a new cognitive perspective on the

same topic) that is not taken up - or is not taken up at the point it is proposed

- is labelled a <u>Misfire</u>.

The way in which a question is retrospectively 'deleted' in the classroom and another substituted for it has been described by Sinclair & Coulthard (1975), who found such events to be accomplished "paralinguistically, by intonation, absence of pausing, [and] speeding up" of speech rate (op. cit., p. 34-35). Such paralinguistic signalling lets pupils know that a previous item is to be disregarded in favour of a later one. The fact that participants clearly understand such speech conventions is indicated by their attending to the appropriate item in the responses that they give.

In the misfire cited above, while the student uses paralinguistic signals to indicate her 'why' question should be disregarded, she also signals her intention verbally. This would appear to be a pre-emptive misfire since the question is dealt with in the following venture. Perhaps the student is eager to deal with the reasons why Verdun is said to have happened and thus pre-empts.

Venture 3 continues with the consideration of Verdun, but does so from a sustainedly different cognitive perspective. Now the previously anticipated move - from factual details to a consideration of reasons as to why the Germans wanted to attack Verdun - is accomplished successfully. One pupil gives the simple response that it remained to be taken. The student directs attention to why this particular spot, implying it was a desirable target. Another pupil suggests that it was a salient point, and when probed about

what he means by this, says it was a position that went into the German

lines. The student hints that the class should consider the importance of

Verdun to the French, whereupon a pupil indicates that it was a French fort.

The student seizes on this and says it was one of the most important

defensive positions the French had.

Thus this whole venture is concerned with discussing why the Germans

attacked Verdun, with pupils making suggestions and the student querying the

adequacy of these, and redirecting their attention, until a pupil is led to give

the response the student is looking for. So, the 'why' question that

commences the venture initiates a discussion that culminates in a 'therefore'

statement that brings the whole venture to a logical conclusion.

However, it must again be noted that the flow of the discourse is marked by

a number of disruptions. Three of these are disciplinary disruptions where

the student feels repeatedly obliged to rebuke the same two boys who

whisper to each other whenever they think she is no longer watching them.

Although the final disruption occurs at the end of the venture after the

student has signalled its logical closure, it is regarded as part of this venture

because the student moves directly from concluding statement to rebuke

without any pause.

One, more sustained, disruption is caused by the interruption of the venture

by the student's head of department. It is interesting to note that as soon as

this teacher leaves, a pupil indicates he wants to answer the question the

student asked immediately prior to the disruption. That is, it appears as if

the interruption is 'edited out' by the discourse participants, thus allowing

the venture to resume at the appropriate point almost as though no disruption

had occurred.

In Venture 4 the student moves the focus of attention to the other battle

already identified in Venture 1. This shift in topic is accomplished thus:

"Right, the Somme." Sinclair & Coulthard (1975) found expressions such as

"Right", "Now", "O. K." and so on to occur regularly in teacher talk, and often

to be accompanied by a following unstressed pause (that is, a pause of one

beat or more). They considered the function of such a phenomenon was to

indicate the division of discourse into sections. Thus the Birmingham

researchers used this feature, which they term Frame, to divide teaching

discourse into units which they call Transactions. However, there are

reasons for doubting that the ideational structuring of classroom discourse

may be satisfactorily revealed by following any such mechanical procedure.[17]

While in this case a venture boundary is marked by a frame, it would appear

that there is no necessity for the commencement of all ventures to be

signalled in this fashion.

There is a misfire in Venture 4 which deals with the reasons for the

Somme offensive. The misfire occurs when the student starts with a 'what'

question that appears to attract no answer, and then moves to asking why the Somme offensive occurred. A disruption occurs at the end of the venture where the student is about to ask a question, but interrupts herself to deal with a disciplinary matter. From what the student says immediately after this interruption, it would appear that she was starting to ask the first question of Venture 5, before she pauses. The pronunciation of "a..." is that of the first sound in "anybody". The possibility therefore arises of labelling "Can a..." a misfire retrospectively, and attaching it to the beginning of Venture 5. However, this is not done because it is not clear from the temporal perspective of the unfolding discourse that a shift in topic is intended at this point. This can only be inferred retrospectively after hearing the first question in Venture 5. Thus the discrimination that is operated when there is doubt whether a verbal event should be attached to the end of one venture or to the beginning of the next – as is also the case with the disruption at the end of Venture 3 – is the perspective of where verbal events appear to fit immediately after they occur, and not the reinterpretation of them in the light of succeeding verbal events. This approach, it was felt, would better preserve the real-time perspective of the discourse as something that participants have to interpret moment by moment.[18]

Venture 5 commences with a general question that invites pupils to give facts about the Somme, which the student then narrows to a question about the date. Next she asks who was the commander. After a pupil responds

incorrectly the student supplies a hint about this man's identity, enabling

another pupil to provide the answer she seeks. However, there is a very

noticeable disruption in this venture where the student is provoked by a

pupil's behaviour and responds to his self-congratulatory behaviour by making

a sarcastic remark "Wow, so you got a question right, eh?". It is important to

notice that this is one of the two boys that the student has repeatedly

rebuked for talking since the lesson began. But, in rising to this pupil's

provocation she appears to encourage the other boy in the pair to join in, thus

magnifying the disruption as she has to rebuke him too.

In this introductory section of a lesson then, the student teacher briefly .

checks that the class possess relevant information about Verdun and the

Somme, before turning in the orientation that closes the excerpt to "another

of Haig's... battles" - the battle of Passchendaele - which is to be the main

focus of the lesson. Thus Ventures 1-5 can be seen to be part of a closely

linked series, which serves to introduce the main lesson topic since the

Somme and Passchendaele are identified as having been led by the same

British commander. The fact that Haig is introduced as being associated with

'disaster' sets up the expectation that the new battle to be introduced will

also prove to be a failure from the British point of view.

In terms of the overall structuring of pedagogical communication, Venture

2, which deals with facts about Verdun, parallels Venture 5 which is

concerned with facts surrounding the Somme; and both these ventures can be seen to be related to Venture 1, since all three are concerned with dating and naming. Venture 3, dealing with why Verdun was attacked, has obvious parallels with the immediately succeeding venture which also deals with why a battle is said to have occurred. Also, Ventures 2 - 5 can all be seen to be linked back to Venture 1 which initially identifies the topic that is to be dealt with in them. Thus, once the lesson gets under way, ventures 1-5 flow from an initial question in what might be described as a kind of 'cascade', giving the discussion a strong dynamic sense as well as considerable logical coherence.

Not only is there evidence of strong structuring links between individual ventures in a linked series, but the student forges a link also between the opening series of ventures and the topic for the main body of the lesson. This serves to illuminate an aspect of the overall structure of the series of ventures which, at first sight, may appear somewhat curious. That is, the order in which the student chooses to run Ventures 4 and 5. If one considers the linkage between ventures it can be seen that there is a strong sense of logical coherence. Venture 1, dealing with the introductory naming of the battles, leads to Venture 2 which focusses on facts about Verdun, and leads naturally into Venture 3 which considers why Verdun happened. When the student turns to dealing with the Somme, however, she chooses to deal with the reasons for the battle first in Venture 4, leaving facts about the battle

till Venture 5. Thus there is an inversion of the order in which cognitive

perspectives are applied to the Somme as compared to the approach to Verdun

in Ventures 2 and 3.

At first, this inversion of the order in which cognitive perspectives on a

battle are introduced may appear counter-intuitive. But there seems little

doubt that the student is doing this quite deliberately. Having originally

sought to begin Venture 4 with a consideration of facts, and with time to

rethink, she decides to commence by focussing upon why the Somme offensive

was called:


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//Right, the Somme.                                         Venture 4
What happened at the Somme, then? [3 secs]                  (Misfire)
Why.. why was the Somme... offensive called? [1 sec]  Yes.
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After a 3 second pause she substitutes a 'why' question for her original

'what' question. Of course, it might be argued that failing to get a response to

her original question she decides to change tack. But the repetition of "Why..

why" with intensified intonation on the second 'why' suggests the student is

correcting herself because she now realizes this question ought to come first.

That is, the intonation pattern is that of the "Oh fi.. first of all" when she

corrects herself and substitutes a different question in Venture 2.

Two reasons may be cited as to why the student decides to run Ventures 4

and 5 in what appears to be an inversion of the previously established pattern

of dealing with facts before reasons. Firstly, it is only by presenting the

venture dealing with the facts of the Somme second that she can lead neatly to the naming of Haig as the British Commander as the final piece of information in the 5th. Venture, thus providing a link with what is to follow: "Now we're going to look at another of Haig's... battles today." Secondly, the reason _why_ the Somme occurred is said to be directly related to events at Verdun - it was initiated to take pressure off Verdun - making it logical to move directly to _why_ the Somme began. In other words, there is a double advantage in running Ventures 4 and 5 in this order: it illuminates the causal connection between Verdun and the Somme, thus making a strong logical linkage between the end of Venture 3 and the start of Venture 4; and it also allows the tying of the opening series of ventures to the main lesson topic through the mention of Haig at the very end.

Thus the apparent inversion has a structuring function that is partly internal to the opening series of ventures and partly external. It both immediately binds the topics of Ventures 3 and 4 together, whilst also anticipating the connection that is yet to be forged between the opening series of ventures and the main lesson topic. So the student teacher appears able to engage in a real-time pedagogical structuring of discussion that possesses considerable flexibility and sophistication.

Her plan is to check that pupils possess relevant knowledge about Verdun and the Somme before introducing the topic of Passchendaele. But the

detailed outworking of that plan in the classroom appears far removed from any mechanical operation of a highly predetermined series of questions. While, in one sense, the student teacher appears to 'know' what she intends to do, in another sense, the exact organization she seeks seems to elude her until it is finally recognized only when it is achieved, after she appears to realize that certain attempted questions are formulated in ways that will not yield the organization of information that she requires.

In this extract of student teaching, then, there appears to be evidence of a painstaking approach to the detailed structuring of discussion. Such structuring would seem to be inherently unamenable to detailed pre-planning for two reasons. Firstly, it seems impossible for anyone to predict with any degree of exactitude what pupil responses will, in fact, arise. Secondly, the student herself appears to have to search for the organization of discourse that will yield the structure of subject matter she seeks. Thus the structuring of discussion would appear, of necessity, to involve improvisation, as the interactive discourse is tailored in ways which are adapted to a uniquely unfolding context as it evolves from moment to moment.[19]

But if dynamic organising principles may be discerned here, equally there are also occurrences which threaten to weaken or undermine the structuring of the lesson: a kind of 'entropy' of the classroom seems to assert itself, so

that the organisation often appears hard won. Disruptions arise from various sources. While there is a notable intrusion by the Head of Department, most disruption arises as the student teacher seeks to keep a particular pair of boys focussed on the lesson. She rebukes them once in Venture 2 and three times in Venture 3. Another minor disciplinary matter is dealt with by a look at the end of Venture 4, but it nevertheless causes the student to break off in mid-question and momentarily appears to make her lose her stride. More serious, perhaps, is where the student rises to provocation in Venture 5, "Wow, so you got a question right, eh?", and so provides an occasion for the other boy in the pair to join in the provocation. These disruptions serve as reminders that the student is not allowed to concentrate her attention solely on the structuring of discourse in the classroom, though that may be held to be a complex enough undertaking to absorb all her energies, but has to contend with incidents that would tend to have a de-structuring effect and counteract them.

It is noteworthy also that the student appears to be responsible for some degree of self-disruption which may be due to lack of technical proficiency caused by inexperience in structuring discussion, as indicated by misfires. In Venture 2 the student asks "Why... did Ver.. Verdun happen?" and appears ready to move on to discussing the reasons for the battle. But this is temporarily abandoned as the student reverts to clarifying another factual detail - who started the attack - before returning to the discussion of

reasons in a later, discrete section. There is another misfire in Venture 4

where the student asks, "What happened at the Somme, then?", before deciding

to focus on the reasons for the battle first.

It may not be terribly serious that the student signals to the class that she

wants to move the discussion in a particular direction and then almost

immediately changes her mind. But this may convey to the class an

impression that the student is hesitant or unsure, the considerable

organisation evident in her teaching notwithstanding, and this may be one of

the factors that makes a class feel less secure in a student teacher's hands

and therefore help to explain the unkind teasing that classes sometimes feel

it is legitimate to expose students to.

It is also noteworthy that all three misfires which occur in this lesson

excerpt are closely preceded by pupil misbehaviour which the student reacts

to with disciplinary disruptions, which might suggest that the need to deal

with disciplinary matters causes a momentary lapse in concentration on the

part of the student teacher. Of course, not every disruption is associated

with a corresponding misfire: it may be that the stage of venture develop-

ment at which a disruption occurs is significant. Where ventures are securely

under way, or where there is no immediate need to improvise, disruptions may

pose less of a threat to the structuring of interactive teaching.

The discussion above has been provided not only to demonstrate the technique of identifying ventures used in the pilot study, but also to argue that such an approach appears to unlock the detailed structuring of pedagogical discussion attempted by this student teacher in a way which appears to possess considerable explanatory power. There is impressive evidence here of the student organising, and sometimes resorting, material so that factual information about different battles is dealt with in discrete sequences, while explanations relating to such factual information is treated separately. Moreover, the order in which factual and explanatory segments are introduced is judiciously altered as necessary to forge linkages which enhance the cohesion, logical structure and dynamic flow of the discussion.

Thus identifying ventures as segments of classroom discourse in which a single topic is discussed from a unified cognitive perspective appears to provide a remarkably perspicacious account of the way in which this student teacher structures discussion in this particular instance. Moreover, analysis of other lessons by the same student teacher, and of the History and English lessons taken by other student teachers, provides evidence that the technique of venture analysis developed here consistently yields a telling description of how all the students in the pilot study set about structuring pedagogical discussion.[20] Not only does the technique appear to discriminate clearly the different approach to discussion adopted by student teachers of History and those teaching English, it also serves to highlight individual differences in

approach between different teachers of the same subject.

6.7 Further Refinements to the Technique for Identifying Ventures

A previous section reports some difficulty in identifying ventures using the Illinois team's criteria, and how this difficulty was resolved by trying to clarify the conceptual difficulty that was caused by having 'overarching content objective' and 'primary cognitive import' as apparently equivalent descriptors for the key attribute of ventures. Now some further modifications to the procedures adopted by Smith et al. (op. cit.) are discussed.

The Illinois report conceives of ventures being signalled by an initiatory topic statement, sentence or question, and that this occurs near the outset of the venture in the first utterance [21] (see Appendix 1, nos 1.1 & 1.2). These initiatory statements, questions, and so on appear to be conceived as 'triggers' which set the discussion in motion. Sometimes the 'trigger' appears to be conceived as being implicit rather than explicit and so only deducible in retrospect (see Appendix 1, no. 1.3). In the sample of lessons transcribed for the pilot study an overt topic statement or question was always found to occur in the first utterance of ventures, and while it frequently occurred in the initial position, it could arise at any point within the first utterance. Example 2 contains a segment of discourse from 'Frank's' second History lesson where the class are looking at problems to do with the Covenant of the League of Nations. The extract consists of Ventures 6 to 10 from the lesson,

and the topic questions of the ventures are printed in bold type.'

Example 2 (Text 12)

S: //**Can ye think of any countries in the world just now which**   Venture 6
  are... have sanctions against them? [5 secs]
P: South Africa.
S: South Africa. It's probably one o' the best examples. [1 sec]

  //**But where's the problem with sanctions?** [1 sec]   Venture 7
  Ye probably hear about this on the news all the time. [1 sec]
  With sanctions.. with South Africa?   •
P: It affects the countries opposing them as well as the countries who are...
S: Yes, that's right. Yeah. It affects.. two or more countries. It doesn't just
  affect the.. villain of the piece, so to speak. But what.. other problems
  might, eh.. be about sanctions, in trying to impose them? [4 secs]
  If you were to sort of, em... if Britain doesn't believe in sanctions, for instance,
  against South Africa? [1 sec] Why not? [5 secs] What might be a
  problem with sanctions? In actually trying to organise them? [5 secs]
  No ideas? No? Karen, any ideas? [4 secs]
P: It's not helping the country...
S: Uh-huh.
P: ... sanctions are put on either...
S: Em...
P: ... so they might feel.. em, badly about it. An', ye know, it'd be harder for
  them to, em... try and face demands about them. So that people are frightened
  of them.
S: That's one argument that's used against sanctions. That ye're actually
  hurting.. the wrong people. [1 sec] But.. well, I was thinking in the first
  place of actually trying to make sure that they're followed.. sanctions are
  followed. [2 secs] There's no guarantee that.. if the League of Nations had
  turned round and said, "We're going to sanction.. put sanctions against
  Germany or Japan", that everybody would follow these sanctions.
  People may just carry on trading. [1 sec] They're rather difficult
  things to enforce, sanctions.

  //**Now... if these failed, then what could happen?**   Venture 8
  [4 secs]
P: Force.
S: The army was brought in at last. [2 secs]

  //But.. if we look at.. item A, "a unanimous vote was needed for all   Venture 9
  vital decisions. This gave all nations the power of veto. However,
  it also meant that few important decisions were ever reached."
  If... for instance.. the.. League of Nations had said, "We're gonny send
  an army to.. Manchuria..." in 1931 or so, **what... did it**
  rely on? What do these armies, even the United
  Nations peace-keeping forces now rely on?[7 secs]   •
  Look at.. number A there. What do these decisions rel..
  rely on? [2 secs]
P: Eh.. a unanimous decision.
S: A unanimous decision, yeah. [2 secs]

//So how easy do you think it is to get a   · Venture 10
unanimous decision? [2 secs]
P: Not very.
S: Not very good, no. [1 sec] That's a problem with.. trying to acheive
unanimous decisions, there's always bound to be someone who will abstain, or
oppose the vote. [1 sec] In effect, the League o' Nations army was never
used. [2 secs] And.. later on, the United Nations peace-keeping force was
often.. unable to take action simply because its.. the Russians or the Americans
or somebody will veto the vote.

There are some immediately notable differences between the interaction

here and that shown in Example 1.2 discussed previously. Here there are

neither misfires nor disruption. Nor is the student engaged in a brief review

of material the pupils should already know. The classroom situation also

differs in that, here, the student is dealing with a very small class of 5th.

year pupils. The lesson as a whole deals with a consideration of the League of

Nations, and the student appears concerned that the pupils should think about

issues that are raised.

There are 2 short ventures which deal with factual information: Venture 6

asks for the name of a country currently undergoing sanctions to be specified,

while Venture 8 notes what could happen if sanctions failed. The other

ventures do not however, as was the case in Example 1.2, deal with the giving

of conventional reasons as to why certain things are said to have happened.

Venture 7 engages in an evaluation of the effectiveness of sanctions, which

are proposed in the Covenant as a way of disciplining recalcitrant members of

the League who are in dispute with the Council. The student asks pupils to

say what makes sanctions problematic and hints that they might find thinking

about the case of South Africa helpful. A pupil responds that even countries

which disagree with sanctions will be affected if they are imposed. The student accepts this but asks for further suggestions, hinting that his interest lies with problems "in trying to impose them" and "In actually trying to organise them". Eventually he secures an answer after nominating a pupil to respond, but altogether the wait times between various repetitions and reformulations of the question amount to 19 seconds. Yet he still does not succeed in eliciting the response he desires and so he provides the answer to his own question.

Venture 9 draws attention to an essential precondition that must be fulfilled before force can be used and is based on examination of a piece of written text. Again, there is a fairly lengthy wait after the question is first formulated, before a direction to look at a particular part of the text and a reformulation of the question secures a response. Venture 10 evaluates the difficulty with operating on the basis of unanimous decisions.

The topic questions of ventures, indicated in bold type, occupy the initial position in all the ventures except for Venture 9. Here the student reads an excerpt from a textbook before asking the question which identifies the topic of the venture with certainty. Although it is not in the initial position, it does conform to the Illinois researchers' observation that the venture agenda is revealed during the first utterance of a venture.

All the ventures in this series, excepting the first, begin with words like 'But', 'Now' and 'So' which seem to signal that the student is leading the pupils through different stages of an argument. It is noteworthy that these intro- ductory expressions are accompanied by pauses in the student's speech, either immediately preceding or immediately succeding them, or both, as in the case of Venture 9: " [2secs] //But..". Thus this student teacher appears to engage in a clear signalling of the structure of discussion. Again, the division of the transcript into ventures using the criteria of topic and cognitive approach appears to reveal the pedagogical structuring of discussion this student engages in, albeit it that his teaching here seems to possess marked differen- ces from that evidenced in the extract from the previous History transcript. It tends to be more expository and to involve more complex argument.

Again, however, this interaction seems threatened by breakdown, either because pupils are reluctant to respond or are having difficulty in responding appropriately. The student's own explanation of this is that the pupils are used to being given notes to write and are thus unwilling to engage in thinking. The interaction appears highly stilted as he repeats and reformulates questions in a struggle to secure the answers he requires in order to be able to move the discussion forward. Again the structuring appears hard won and achieved at the expense of considerable effort. Though here it is less a case of weaving a known set of facts and opinions into a closely interlinked structure, than of leading the pupils through

a demonstration of a complex argument in which they are allowed to participate by giving certain responses, to which the student adds exposition and elaboration of his own.

The somewhat halting nature of the interaction in this lesson may serve to highlight a difference in the teaching documented in the sample of American lessons used in the Illinois research and that examined here. The examples of ventures provided in Smith et al. (1967), if they are representative of the generality of teaching, suggest that when the American teachers propose topics for discussion, this frequently leads to class members responding at some length. This is very different from the present sample of students' lessons in Scottish schools where pupils, if they respond at all, frequently do so with one word answers or a brief phrase. If they do respond with a sentence or two, their answer frequently tails off into incoherence. In the Scottish classes the students often appear to have to work rather hard to secure pupil responses, and pupils seemed unwilling to participate at length, or unused to developing a sustained line of thought before their peers.

However, it was also noted that ventures could equally well be initiated by pupils as by the student teacher. There is no discussion in the Illinois report of this possibility and it appears implicit in their approach that they assume ventures will always be initiated by the teacher. The situation in which pupil-initiated ventures tended to occur in the pilot study was where the

class was working individually, or in groups, at answering set questions, and

the student was called over and became involved in a discussion dealing with

a problem that had arisen. It was decided therefore to note ventures which

were pupil-initiated, rather than student initiated; and it was found that

these were much more likely to occur in English than in History. In English

they accounted for about 26% of all ventures in the lesson sample, whereas in

History they accounted for about only 4%.

Smith et al. proceed by dividing the text of classroom lessons into

monologues - where one participant, usually the teacher, speaks at some

length without inviting any interaction - as well as ventures. All ventures

are by definition interactive units which consist of at least two utterances

dealing with the same topic. However, a few ventures were found in the pilot

study where the nature of the interaction that occurred appeared rather

curious. Consider, for instance, example 3 which comes from 'Frank's' first

lesson dealing with treaties following the First World War.

Example 3 (Text 12)

S: //Now... the Treaty of Trianon, ye remember prior to 1914 there   Venture 8
was Austro-Hungarian empire? Well this is, of course, the other part
of it which is not really that important apart from the fact that it's.. it
makes Hund.. Hungary an imp.. independent republic... and Transylvania is
ceded to the Rumanian.. Rumania. Which people lived in
Transylvania? [2 secs]
P: Vampires. [sotto voce]
S: Sorry? [3 secs - P.'s laugh.] Which ones? [2 secs]
P: Don't know.
S: It's the Magyars of course. [2 secs] Our pals the Magyars. [6 secs -
hushed talk and laughter from P.'s] An' the Hungarian army is reduced
to 36,000 men.

The topic of this venture is the provisions of the treaty of Trianon. The cognitive perspective is that of furnishing factual information. Within this framework the student seeks to clarify that the pupils know which people are affected. As is common with this student teacher, he signals a new segment in the discourse using 'now' followed by a pause. There is interaction here, but the humorous 'Vampires' followed by the same pupil saying later, 'Don't know', can hardly be said to further the discussion of the topic in hand, especially as the student teacher appears to be in the dark about what has happened. His attempt at humour - 'Our pals the Magyars' - perhaps indicates that is aware that the class is sharing a joke from which he has been excluded.

Another sort of minimal interaction is shown in example 4 which comes from 'Mairi's' third lesson. Here the student is going through the comprehension passage in detail with two pupils who have been absent from the previous session, while the rest of the class are writing their answers to the questions set on the passage.

Example 4 (Text 8)

S: ...to the great.. magnate's house steward...' [Reading from text]
   //D'ye know what a magnate is? [2 secs - class noise.] Venture 21
P: Na.
S: He's just really a ruler. Somebody.. high up.. in the hierarchy.

Again, this counts as a venture, one of the shortest in fact encountered, because it fulfils the technical criterion that there must be at least two utterances, but the pupil's contribution could hardly be more minimal. It was

decided to record ventures such as those in examples 3 and 4, where pupil

contribution to the interaction consists only of saying 'No', 'Yes', 'Don't know',

or is solely jocular in nature - that is, where the interactive status of a

venture depends on a pupil contribution which is non-substantive or

intentionally incongruous - as minimal ventures. However, only four

examples in all were found in the 12 lessons involved in the pilot study and so

it appeared that the venture definition adopted led, overwhelmingly, to the

identification of units where the interaction might be considered of potential

pedagogical significance, rather than obviously minimal.

Similarly, the possibility was explored that a student teacher, seeking to

teach interactively, might be baulked by pupils failing to supply answers, as

in Example 5 which comes from 'Frank's' first lesson dealing with the setting

up of the League of Nations.

Example 5 (Text 12)

S: "German Americans were obviously opposed to the whole idea." [2 secs] Anybody not know why a German American would oppose the idea of a.. league of nations an' a treaty? [3 secs] Well.. "Irish Americans hated the British an' as a consequence opposed the treaties an' the league." [1 sec] Well, there's two types of, eh... Americans, the Germans an' the Irish who both opposed the league.

In this example the student is reading from a textbook and pauses to invite

any pupil who doesn't understand to seek clarification. No pupil responds and

so he carries on. Of course, it is possible to doubt whether the student is

genuinely seeking interaction here because of the way the question is framed.

A close perusal of the pilot study lessons, however, revealed only one other

example of a student asking a question and then moving on without securing

any response, suggesting that this was a very rare occurrence. Generally,

student teachers were very persistent in seeking interaction, and if they

failed initially to attract a response to a question, they would nominate a

pupil to reply, or modify the question in some way, or provide hints and clues

until pupils responded.

Of course, student teachers do not continuously seek to teach by entering

into interactive discussion with the class. They also provide explanations,

convey information, give instructions and so on. However, the student

teachers observed delivered brief 'monologues' relatively infrequently:

monologues were found to occur in the ratio of about 1 for every 10 ventures

in the sample of History lessons, and about 1 for every 20 ventures in English.

Given, then, that the major use of teaching talk was to construct interactive

discussion, it seemed reasonable to follow the Illinois team's procedure and

exclude monologues from analysis. Although it seems likely that monologues

might also lend themselves to some sort of topical analysis, the fact that

monologues are, by definition, non-interactive suggests that the principles

which govern their construction might differ considerably from those of

ventures. Moreover, the attempt to teach using interactive discussion would

seem to pose particular challenges for student teachers which, if these could

be clearly illuminated, might prove to be of value for the field of teacher

education. It therefore seemed wholly appropriate to focus the investigation

upon the interactive aspect of student teaching.

Finally, Smith and his associates state that there is no special signal

which marks the end of a venture, beyond the fact that another venture is

initiated. This was found to be generally true, but sometimes a student

teacher was found to mark the end of a venture with a concluding statement.

An example of this is to be found in the extract printed from 'Linda's' first

lesson (see Example 1.2, p 246) where Venture 3, which deals with the reason

for the Germans attacking Verdun, is brought to a conclusion with the

statement, 'Therefore, the Germans wanted to take it'. It may be that

ventures which deal with providing reasons to account for phenomena, events,

circumstances, and the like, lend themselves to such logical closure.

6.8 Classifying Ventures

Analyzing the ventures that they had identified, Smith and his co-workers

found that they could be classified into 8 major categories according to their

'cognitive import' (see Chapter 3, pp. 119 - 120). Classifying ventures

according to these categories, while it was not entirely free from problems,

was not shrouded in the ambiguities that were found to surround the

instructions the Illinois researchers provided for the identification of

ventures. Smith et al. (1967) advise beginning the categorisation process by

considering what the main question or issue dealt with in each venture is.

Since this had already been done in identifying ventures, part of the work had

already been undertaken. Then the ventures were allocated to the above categories according to the overall cognitive perspective on the topic that occurs within the venture.

6.9 Classifying Ventures in the Pilot Study

As indicated above, the process of classifying ventures began with consideration of the topic statement or question around which a whole venture revolves, and which demands a particular kind of cognitive approach. For example, if the topic question is, 'Why does X do a particular action, Y?', then most probably this will be a Reason Venture. But there were several considerations which cautioned against classifying ventures simply on the basis of the topic statement, but checking that the overall structuring of the discussion corresponded. Firstly, the key venture question may be ambiguous. Secondly, just because a particular venture agenda is set in a topic statement or question, this is no guarantee that the discussion which ensues does not actually deal with something else. There were, in fact, several occasions in the pilot study where a pupil called the student over to discuss one problem and the student actually dealt with another. Thirdly, questions in the classroom may sometimes be formulated rather imprecisely, and a topic question which would on the surface appear to imply one kind of cognitive development, may, because of the context in which it occurs, receive another.

An example of the sort of imprecision that may occur is given in Example 7

below, which comes from 'Mairi's' first English lesson, where the student is

engaged in leading the class through a line by line examination of a poem and

the student has drawn attention to an example of enjambment This incident

is all the more interesting because the student's question fails to elicit any

response. That is, she attempts to start a venture but ends by answering her

own question.

Example 7 (Text 6)

S: Why d'ye think he's used enjambment? [8 secs] This is the most important point to this man, isn't it? He wants to highlight this. "Without embarrassment or shame he must announce his most pitiful needs." He has to rely on people. He has to.. em... embarrass himself again and again.

The question, 'Why d'ye think he's used enjambment?', invites pupils to

respond with reasons, but no such response is forthcoming. The student then

gives an answer, albeit an unclear one, to her own question. The argument

that she produces is that the poet has used enjambment here to emphasise

'the most important point to this man', and that enjambment is a technique

for providing added emphasis. But there is no clear discussion of how the

enjambment functions to produce the emphasis the student claims. Nor is

there any necessity for a poet to use enjambment when revealing the most

important thing about a person. While the initial question here would seem to

signal the attempted initiation of a Reason venture, the student's own answer

appears to be concerned with offering some clue as to what the function of

the enjambment might be here. Thus the segment of discourse seems actually

to provide an interpretation of an aspect of literary technique. In other

words, the question which is answered might be more exactly framed as 'Can you explain the function of the enjambment here?'

Smith and his associates note that judges they trained sometimes had difficulty in separating Rule from Reason Ventures. This was not found to be a problem since no discussion occurred in the present lesson sample which could be considered to fit the criteria for a Rule Venture. The concept of the Particular Venture, though, was found to be problematic. In the general discussion of the Illinois report, as well as in the appendices, the Particular Venture is defined as though it covers the discussion of any particulars or set of particulars and so it was initially regarded by the present researcher. However, close scrutiny of Chapter 13 of the report, which deals with Particular Ventures exclusively, revealed that a more narrow definition was operated:

There is a strong resemblance between particular ventures and conceptual ventures. Conceptual ventures are concerned with the characteristics of the referent of a class term. Particular ventures are also concerned with the characteristics of some object. The major difference between the two is that conceptual ventures always discuss the characteristics of a class of things whereas particular ventures always discuss an individual object, event, person or place. The name of a concept is always a common noun or phrase, but the name of a particular is always a proper noun or phrase referring only to a unique thing. (op. cit., p. 243.)

In other words, the particular venture always consists of the discussion of the particulars of a unique particular. Thus all the ventures that had been assigned to this category in a preliminary attempt to classify ventures were re-examined to ensure that they had been appropriately classified.

Some initial difficulty was also found in telling whether certain ventures

should be classified as Interpretative or Concept Ventures. Consider the

following example which comes from the opening section of 'Frank's' second

History lesson which deals with the covenant of the League of Nations.

Example 8 (Text 12)

S: Now... today we're gonny start talking about the covenant,   (Orientation)
   which we'd.. dealt with.. briefly last week. [1 sec] The drawing up
   of the covenant.

//Now first of all, what is a covenant? [3 secs] Anybody any   (Venture 1)
   ideas? [2 secs] Dave? Any ideas? [1 sec] What a covenant
   is? [2 secs] Lori?

P: A document that's.. a symbol. [The S. appears to mishear this.]
S: Yes, they.. signed it, but.... what actually is a covenant? [4 secs]
P: Is it something like a rule.. set of rules that something's based on?
S: That's right. Yeah. It's the constitution, the set of rules. This is
   really the constitution of the... eh, League of Nations. [2 secs]
   The.. em, set of rules by which the League o' Nation (sic)
   runs.. is organised.

It would appear possible to consider the above venture as concerned with

defining a concept, and thus to consider this as a Conceptual Venture.

However, it seems equally possible to consider this to be an interpretative

Venture concerned with elucidating the meaning of the word 'covenant' when

it is used in the specific context of the League of Nations. The second choice

was preferred and the ground rule adopted was that there did not appear to be

the generalisation present in the discussion that would be necessary if a

concept were being introduced, instead what is offered is a translation of the

word 'covenant' into 'the constitution, the set of rules'; and this is akin to

providing a definition of the word such as one might find in a dictionary.

Thus, discourse which simply provided a dictionary definition of a concept

word and nothing else was considered to be interpretative rather than

conceptual in nature.

Smith et al.'s insistence that a venture can have only one overarching objective, and thus can be fitted into only one of the venture categories, was also cast into doubt during the pilot study. Consider the following extract from 'Shona's' third English lesson where the student has marked and returned an exercise on a short story and asks pupils to read out their answers to the questions.

Example 9 (Text 3)

S: //Um... the first question, 'How would ye describe the relationship   Venture 1
between the boy Gerry and his mother? Look at what the author
tells us about them an' the way they behave towards each other.'
Em... Peter, where's Peter? Peter, could you give me your answer,
please? It was a good one!

P: Gerry's mother wants the best for him. And is struggling between being
a disciplinarian and what she sees as being a good mother. She's
determined to be neither possessive nor lacking in devotion. In fact,
she is so unpossessive that when he comes home weak and dizzy and
his nose bleeding, his mother only.. only reaction is, 'I shouldn't
   overdo things, darling, won't you?' Showing her wanting to be
slack and not seem to want to keep him in her _____ . [inaud.]
Surely her wanting to do that...

S: Uh-huh. That's right.

P: ... but also to almost prove to Gerry she cared for him. Gerry's
mother is also a tactful person, as in the first paragraph. 'When
she swung round, "Oh there you are Gerry," she said. She looked
impatient then smiled. "Oh darling, wouldn't you.. would you rather
not come with me?"'

S: Right. I.. I felt that that was a full answer. Ye havty outline the fact
that the mother, on the one hand, wants to protect her son. She wants
to be very close to him, look after him in a very intense way, but, on
the other hand, she knows he's growing up. She knows she has to loosen
the strings a bit, if ye like. So... an' also it's a good use of quotation.
Peter actually.. included a.. a direct quote from the short story. So, I
would say on the whole that most of ye got the general drift. But ye
hadty point out that there was a tension between the way she felt,
a desire to be over-protective, and yet a desire to allow him to grow
up, ye know, stand on his own two feet if ye like.

//'Did Gerry merely long to get away from his mother, or did he   Venture 2
find it hard to decide what he wanted?' Em.. Donna, can I
have your answer for question two? [2 secs]

P: He found it hard to decide what he wanted to do because he was very

attached to his mother. But he also wanted to go down to the beach.
Also, he was worried about her, but he still had this strong urge
to go down to this other beach. He would feel more grown-up if he
went down to the beach.

S: Good! That was a very full answer. I think.. did most of ye get what
she.. what Donna was saying there? [4 secs] Well.. maybe
we should speak up a bit louder. Just the idea of the... he.. he
wanted to get away from his mother in the sense that he wanted to get
an adventure. But he's also tied to her. He also feels when
he.. you know when he's.. when he's alone on the beach, he feels
very isolated. An' he's very, ye know, comforted by the fact
that his mother's so near to him. Ye know, when he can see her
she's a bit of orange peel in the distance.

Here the student returns marked scripts to the pupils and then asks one

named pupil to read out his answer to one question. The student then makes

some approving comments on the given answer before turning to the next

question and asking another pupil for her answer, and so on. The main source

of difficulty in categorising the ventures appears to be that there are

different layers of structuring at work here simultaneously, because a new

use is being made of material whose structure was originally determined by a

previous lesson. Thus in the previous session the discussion of the questions

the student had provided formed Interpretative Ventures. The results of this

interpretative work is caught in fixed form in the pupils' individual written

answers. Then the student has carried out an evaluation of the pupils'

answers and given them grades. Something of the criteria concerned in the

marking is communicated in the discussion, part of which is excerpted in

Example 9 above. Thus it is also possible to regard these as Evaluative

Ventures which clarify what 'good' answers consist of. Finally, the selected

pupil answers that the student has previously noted, and then calls to be read

out, are being used as demonstration answers, thus they fit the category of

Particular Ventures.

This multiple structuring of discourse, though only found in one lesson in the present sample, may be expected to occur again in a wider sample of lessons. The principle adopted for classifying these ventures was to lend greater weight to the most recent element in the structuring, that is, providing demonstration answers, since this is the structure that encompasses all the others. This was checked against what the student said in interview and appears to be supported by a consideration of what the student intended here.[22]

6.10 Venture structure of History and English lessons

The numbers of different venture types that occurred in the lesson sample is given in Table 2 below for each lesson, for each student, and for History and English overall. The finding of Smith and his associates that Particular Ventures predominate in History lessons and Interpretative Ventures in English lessons is borne out by the structure of ventures found in the sample of lessons included in the pilot study. 54% of all ventures in the sample of History lessons were Particular Ventures. The next most popular venture category was Reason Ventures - 13%, followed by Interpretative Ventures - 12%, Evaluative Ventures - 12%, and Procedural Ventures - 9%. For the English lessons 66% of all ventures were Interpretative Ventures, 17% Evaluative Ventures, 7% Procedural Ventures, 5% Particular Ventures, 5%

Reason Ventures, and there was only one Causal Venture and one Concept

Venture in the sample. It is not just in the aggregate data that the results

– except one –

are striking, but in every History lesson Particular Ventures predominate. In

English Interpretative Ventures predominate in every lesson except Mairi's

lesson 2 where there is an extended feedback session after groupwork in

which the results of group discussions is reported back to the whole class

and evaluated by the student. This same student also conducts one English

lesson where there are only Interpretative Ventures.

TABLE 2   Venture Types in History and English

History

	Particular	Reason	Interp.	Evaluative	Procedural	N
'Frank'						
L1	13	4	1	3	-	21
L2	14	2	5	8	-	29
Total	27	6	6	11	0	50
'Linda'						
L1	7	3	2	1	1	14
L2	9	5	-	2	-	16
Total	16	8	2	3	1	30
'Alice'						
L1	5	1	-	-	8	14
L2	13	-	5	-	1	19
Total	18	1	5	0	9	33
Hist.						
Total	61	15	13	14	10	113

English

	Interp.	Eval.	Proced.	Partic.	Reason	Causal	Concept	N
'Mairi'								
L1	66	-	-	1	-	-	-	67
L2	15	24	9	2	12	1	-	63
L3	38	3	4	-	1	-	-	46
Total	119	27	13	3	13	1	-	176
'Shona'								
L1	41	10	2	2	1	-	-	56
L2	28	6	5	2	2	-	1	44
L3	22	11	1	9	1	-	-	44
Total	91	27	8	13	4	-	1	144
Eng.								
Total	210	54	21	16	17	1	1	320

In a large scale study of student teaching conducted in Britain, Wragg (1972) concludes that while the pattern of interaction to be found in English teaching was different from almost all other subjects, it was similar to that found in History. Wragg's study was based on the use of Flanders' Interaction Analysis Categories (Flanders, 1970) to observe student teaching. While student teaching in English and History might appear similar in terms of the pairings of the 10 formal categories of events covered by FIAC, and ratios based upon these; if one is considering the more detailed topical and cognitive structuring of pedagogical discourse caught by venture analysis, then the teaching of these two subjects appears to differ quite markedly.

All 13 History lessons observed during the 1987 teaching practice, although conducted by 3 different History teaching students, adhered to a closely similar format. Lessons all centred around the provision of information, either from a text or in a handout, which was subsequently discussed and formed the basis for individual seatwork. This seatwork consisted either of answering questions which drew attention to significant facts in the materials provided, or of providing a note which summarised the material. Pupils were asked to note particularly items that were signalled as being important to remember. And although only one test was conducted during the lessons observed, tests were frequently mentioned and pupils instructed that their knowledge of areas under discussion would be assessed on a given date.

The predominance of Particular Ventures, which are concerned with illuminating factual details about unique events, people and so on, confirms the overwhelming importance of factual information in History teaching. But, of course, the pattern of ventures reveals that more than a bare provision of information is being undertaken in these History lessons. With 'Alice's' third year class discourse centred on the provision of factual information predominates. In one lesson there is also some focus upon the procedures to be followed in writing a note, while in the other lesson a number of Interpretative ventures arise when a number of individual pupils call the student over because they are having difficulty understanding the vocabulary of questions she has set for individual seatwork.

With 'Linda's' fourth year class the high proportion of Reason Ventures occurs as the class is encouraged to go beyond the facts to consider explanations as to why things happened as they did. With 'Frank's' fifth year group, where the longest History ventures occurred, while discussion of factual material still predominates, there is also a focus on evaluating historical events and characters with the benefit of hindsight. Thus there would appear to be an encouragement for pupils to develop a critical stance. There are also some Reason Ventures, but they are relatively few. However, the reasons that pupils were asked to provide in History often suggested less of an invitation to individual thought than a request to repeat what History texts, or the student, had previously said were the reasons behind an

occurrence. Moreover, all the Interpretative Ventures found in History lessons were of the same simple type, that is, providing the literal meanings of terms.

Reference has already been made to the fact that monologues tend to occur in these History lessons at about twice the rate they occur in the English lessons, typically, where the student is reading a handout or a text and pauses to make some commentary, but without inviting discussion. Similarly, reference has also been made to the small proportion of pupil-initiated ventures compared to English. This appears to suggest a somewhat different attitude to discussion in the History lessons as compared to those in English. It is not that pupils ask questions with much less frequency in History than in English, but that a pupil question in History is frequently answered very briefly, and often by an instruction about what to write down. In other words, ensuring that the pupil has an accurate note of information often seemed to be a prime concern. In none of the History lessons observed during the 1987 teaching practice was there any groupwork, only whole class teaching combined with individual seatwork.

In the English lessons there is a massive predominance of Interpretative Ventures over every other type. So that if the Particular Venture may be regarded as central to student teaching in History, then interactive class discussion in English appears to revolve around the Interpretative Venture.

The relative importance of discussion in English teaching is also evidenced by the relative length of typescripts which are about twice as long as those in History. So even from this very crude measure it can be seen that there appears to be a much greater emphasis on discussion in English as compared to History. Some other features of lessons might also tend to support this view. For example, while both English students were observed using groupwork, no History student attempted to use groupwork during any of the taped sessions. In addition, when a student English teacher interacts with individual pupils about their work – the same is true with groups also – there tends to be extended discussion which can be analyzed into ventures, but this tends not to be the case in History.

The uses to which text is put and the way it is regarded also marked a noticeable difference between English and History. In History the text that lessons centred around, or that introduced topics, whether it came from a textbook or a handout, was usually secondary text. By this is meant that pupils encountered materials that gave, in summary form, details of events, people, and so on, together with a viewpoint on these that tended to be single and was presented as fact. There was only one example of reference to a primary text in the 13 History lessons observed during the 1987 teaching practice. This occurred during 'Frank's' second lesson where he refers to Article 15 of the Treaty of the League of Nations, and is printed in Example 10 below.

Example 10 (Text 12)

S: Now, article 15.. ye probably read through it and seen(sic) that it.. em,   Orientation
out.. in more detail goes through what we've just talked about.. with the
covenant.

//Now... the problem with the covenants(sic) is that quite often they   Venture 1 1
are rather ambiguously worded. If we look at article 15 paragraph 7.
[4 secs] "If the council fails to reach a report which is unanimously
agreed to by the members thereof, other than the representatives of
one or more of the parties to the dispute, the members of the League
reserve to themselves the right to take such action as they shall consider
necessary for the maintenance of right and justice." [1 sec] Now...
what d'ye think this is? Or, what d'ye think that means? [6 secs]
It's all rather complicated. [5 secs] No? Well.. we'll run through it.
Now.. if one or more of the representatives does not agree, it says here...
where is it?.. "the members of the League reserve to themselves
the right to take such action as they shall consider necessary for the
maintenance of right and justice." [2 secs] "To take such action"...
what d'ye think 'such action' would be? [6 secs]

P: Sanctions or that.

S: Sanctions, possibly. Yeah. Or even, what? [2 secs] Lori?

P: _____ . [inaudible]

S: The army. Yes. They could send in the army. [3 secs]

This is actually known as the 'Gap in the Covenant'. [2 secs] Because it   Monologue
was seen.. as potentially possible.. for war to be taken.. to actually take place.
This was seen as a loophole through which people could go to war.
In effect it was never ever used. Simply because the process with which
they had to go to war was rather complicated. [2 secs] An' of course people
like Hitler and.. the Japanese always rather just.. get on wi' the thing
rather than worry about the League of Nations. [1 sec] But that was
one problem. An' this is the thing about the covenant in itself,
that.. the... actual wording itself is all rather complicated. [1 sec]
But.. for our sake articles.. 15 and 16 are amongst the most important
because they.. they discuss.. the actions that could be taken... for ..em,
or by member states in the event of war.

In this venture, 'Frank' reads out the article and asks what it means after

having stated that ambiguous wording is a problem with the covenant. He is

examining the covenant and finding it wanting because, he says, it is full of

ambiguity. It is noteworthy that he does not allow the claimed ambiguity to

be discovered by the pupils, but signals in advance what their conclusion

should be. In this interpretative venture the demonstration of the ambiguous

nature of the article seems less than fully convincing, rather this has to be

taken, largely, on the authority of the student. Thus the primary text is treated in a rather cursory fashion as the student hastens to inform the pupils about the 'Gap in the Covenant', signals that they should regard articles 15 and 16 as most important for their purposes and that they should remember the covenant is worded problematically.

To explain why the discussion is handled like this it may be sufficient to refer to the fact that all the History students mentioned being under pressure from their departments to finish certain topics by given dates, and that as a consequence they had to rush things. Certainly it would appear to economise on time to state that there is ambiguity in the covenant rather than to establish this convincingly.

In English, on the other hand, there is frequent encounter with primary text, usually creative pieces such as poems, stories or longer fiction. In dealing with poems or stories the student is often considering primary texts which she has not studied at university, on which there is no established critical opinion that might inform her teaching, or where any critique of the work that might exist is not easily accessible. One advantage of this is that there can be a freshness of approach as the student tries to lead the pupils to see what she herself has made of the poem or the story, whilst leaving room for pupils to make their own discoveries. The disadvantage is that sometimes students appear to require pupils to find meanings that are almost certainly not in the

text, but which arise from their personal misconceptions.

Thus one of the most noticeable differences between History and English teaching appeared to be the relative importance that was accorded to engaging with primary text. This in turn appeared related to the use of Interpretative ventures in the two subjects. In History, Interpretative ventures dealt almost exclusively with the meaning of terms. In the only attempt to deal with primary text in the sample of History lessons, 'Frank' - in example 10 above - initiates an Interpretative venture by signalling to the pupils what the outcome of their interpretative work should be. In contrast, the English lessons tend to be pervaded by a view of text as inherently problematic, as something that needs to be wrestled with before it can be understood. This approach tends to be reinforced by the notable lack of agreed viewpoints provided by experts. Consequently, the interpretative ventures which occur in English seem to tend to encourage the testing of text against the individuals' knowledge and experience. Thus the attitude that text may be critiqued, argued with, even contradicted - that it need not be accepted without question - marked the most noticeable difference between English and History lessons. And this difference would appear to be closely related to the predominance of Interpretative ventures in English lessons.

Teaching English appeared to be something of a hazardous personal undertaking. No History student, for example, appeared to have to make up

their own interpretation of historical events. But for English students

working out a personal interpretation of a poem or story seemed to be

inevitable. Then the student's personal interpretation is presented to a class

and subjected to a scrutiny by pupils which might result in it being modified

to accommodate difficulties raised by pupils. There was no sense in the

History lessons observed that materials presented could be subjected to this

sort of critical evaluation.

Thus Wragg's (1972) claim that classroom interaction in student teaching

in English and History possesses similarities requires modification. The

similarities which appear to exist at the level of formal interaction patterns

captured by FIAC are not apparent when one undertakes a more detailed

examination of such teaching using the technique of venture analysis. Wragg

has to be agreed with, however, when he notes that the range of classroom

proceedings that may be considered as English lessons is very wide indeed.

Given the complex nature of the real-time structuring of student teachers'

interactive pedagogical discourse that the investigation thus far had

revealed, it was realized that it would only be possible to focus, in detail,

upon one aspect of teaching discourse in the time available. Thus it was

decided, initially, to concentrate attention upon the Interpretative venture in

student English teaching. .

There were three main considerations which informed this decision.

Firstly, there was the finding in the pilot study of the apparent centrality of

the Interpretative venture to English teaching. Interpretative ventures

account for 7 out of 10 ventures in English and their predominance in the

current sample of lessons confirms Smith et al's., finding of the importance

of such ventures for English lessons. Secondly, apart from Smith et al.'s

original study, the Interpretative venture appears to have been relatively

neglected by research. Thirdly, it would appear that student English teachers

have no option but to use Interpretative ventures, yet their usage often seems

to involve a considerable degree of risk; thereby raising the possibility that

details of learning to conduct teaching appropriately may be revealed for

inspection as the student explores how to interpret materials with, and for,

the class.

6.11 Pedagogical Structuring Ventures (PSVs)

The units of interactive classroom discourse which are identified in this

pilot study differ in several important respects from the ventures originally

identified in the Illinois research. In particular, Smith and his colleagues pay

little attention to the real-time aspect of teaching, analyzing lesson

transcripts in a synoptic retrospective fashion which largely ignores the fact

that they are dealing with spoken, not written, text.

The main differences in the present research approach may be summarised

thus:

i) the application of transcription procedures which allow the dynamic features of interactive teaching to be noted;

ii) the redefinition of a venture as a unit of interactive teaching discourse which consists of discussion of a single overall topic dealt with from a unified cognitive perspective;

iii) the recognition that while ventures are usually initiated by the student teacher, they may also be initiated by pupils.[23]

Since a new unit is now considered to arise whenever a) there is a sustained change in topic, or b) a sustained shift in cognitive perspective even though the topic remains the same, these units are likely to break up ventures that might be seen as one in terms of their 'overarching content objective'. Even from the point of view of the original Illinois research this would appear desirable since Smith et al. (1967) recommend identifying ventures at their shortest so as to enhance inter-marker reliabilities. However, the discrimination that is now operated of identifying units on the basis of both topic and cognitive perspective, even if, occasionally, it might lead to identifying the same section of text as one unit as if one were following the Illinois procedure, clearly involves a fundamental redefinition of the venture.

Given, then, that the units identified in the present study differ in their conceptualization from those envisaged by Smith et al. (op. cit.) particularly in the emphasis that is now given to the dynamic aspects of discussion as student teachers seek to organize subject matter discourse moment-by-

moment so as to encompass pedagogical ends, it was considered necessary to

use a terminology which would distinguish such units from those evolved by

the Illinois researchers. Hence these units are now referred to as

Pedagogical Structuring Ventures, or PSVs. The term 'venture' is retained

both to acknowledge that these units were derived from the pioneering

research of Smith et al., (op. cit.) and also because the implication of

tentativeness, of provisional yet somewhat risky and bold endeavour that the

word contains, seemed to render it an entirely apposite descriptor of the

process of interactive discussion that student teachers naturally engaged in.

6.12 The Evidence from the Interviews

Since the aim of the interviews was to seek to elicit how the student

teachers themselves viewed their own teaching, it was thought best to allow

considerable leeway to participants in talking about their lessons.

Consequently, it was decided to avoid a highly structured format. Thus,

following the initial request to talk about the lesson, the researcher assayed

to follow the student teacher's lead by only asking supplementary questions

as necessary, either to clarify what was being said or to encourage further

exploration of the aspects of lessons that student teachers themselves had

raised.

Analysis of the interview transcripts led to the identification of a number

of themes as outlined below.

6.12.1 Commitment to Interactive Teaching

While it had already been noted from the lessons observed that the students

appeared to be highly committed to teaching in a way that involved

interactive discussion with pupils, this was also confirmed by comment in

interview. Thus, for example, Shona, who has shown considerable tenacity in

pursuing answers to questions she has asked, remarks,

I was probing them the whole time till until I got a response out of them.

Similarly Frank complains that he's having to hurry discussion more than he

would like because there are so many areas to cover, and explains that he has

nominated pupils to answer to avoid an over-reliance on the teacher :

It's not an ideal method of teaching. I mean, I wasn't exactly happy with the sort of.. the way the lesson went. I mean, I thought I was doing too much of the talking. There was too much reading.. and, you know, sort of passive on their part. [..][24] But in selecting people.. I was just trying to put a wee bit of, sort of, pressure on them to make them come out with an answer. Rather than rely on me to do the speaking all the time.

6.12.2 The Topical Nature of Teaching

Student teachers of History frequently spoke of the 'topic' they were

dealing with in a particular lesson or series of lessons, and indicated that the

teaching of their departments was organised around a schedule of topics.

Thus, for example, Alice asked,

D'ye know anything about the Waterloo topic?

And Linda explains what has happened in a lesson by naming its topic:

It was just to get them through.. introduced into 1917. And then.. onto the events of the battle of Passchendaele.

While Frank complains he's being

> forced to rush through a topic involving critiquing five different treaties in an allocated six periods.

English students also talk about dealing with topics and the indication of a topic often involves the title of a literary work. Thus, for example, Mairi says

> It was a nuclear poem they were doing - The Horses.

Besides making rather global comments about topics for a lesson or a unit of work, student teachers also talked about dealing with certain topics in order to make particular points. For example, Frank describes a lesson thus:

> Well... basically... eh, what I was trying to do was just to go over the terms of the Treaty of Versailles [..] try and give a background knowledge [..] trying to go back over the points and really emphasize the clauses, and trying to just introduce the idea of criticism - that there was something wrong, perhaps, with Versailles. [..] But that's what I was really trying to do. To show the transformation of the Fourteen Points and why the Treaty of Versailles.. how it came about, because of pressures applied... by the time the Fourteen Points are, you know, refused.. turned out, Germany's getting a raw deal.

Similarly, Shona talks about teaching a story in order to introduce concepts from literary criticism. She refers to pupils' answers to a series of written questions:

> Like, the first two questions were dealing with the concept of point of view, which, however badly explained on my part, I think ... a few of them did understand... that you know.. what is the narrator, and the narrator is not always a character within the story.

Such comments would tend to indicate that student teachers not only have a lesson plan - which includes materials to be provided and referred to, the topic or topics to be discussed, teaching formats to be followed and some idea of how time should be spent on each aspect of the lesson - but also a lesson agenda - which relates to the cognitive viewpoints on the topics that

the student teacher is trying to inculcate, to the structure of ideas that is to

be introduced. That is, the term agenda is used to indicate that lessons, if

what student teachers say is to be taken seriously, not only have a plan which

indicates how they are to be enacted, but also an ideology that is to be

conveyed. This ideological aspect of lessons would appear to relate to the

perspective of the particular discipline the student is teaching (cf. Shulman,

1990).

In a particularly revealing comment that bears on this point, Mairi speaks

of the process of asking questions to secure pupil participation thus:

Rephrasing it in so many ways to try and get the ideas you have thought of.

That is, the process of interactive discussion is described in terms of the

student teacher using questions to control the discussion and lead the pupils

to 'discover' certain conclusions that she has pre-ordained they should arrive

at. If this is an accurate description of the procedure that student teachers

are following, it would indicate that when they invite pupils to participate in

classroom discussion by asking them to respond to questions, they are at the

same time placing considerable constraints upon the sorts of answer which

will be found acceptable. Thus pupils are usually not simply being invited to

say whatever they may think, but to show thinking that is appropriate, given

the context of the subject discipline. In other words, pupils may be regarded

as being invited to participate in a species of demonstration discussion (see,

McAlpine, 1982) that is being stage managed by the student teacher to ensure

that conclusions appropriate to the particular disciplinary perspective are

drawn.   .

6.12.3 Difficulties in Teaching Interactively
(i) Securing a response

Student teachers appear to be acutely aware of the difficulties of

interactive teaching and of the risks that they run in teaching like this. The

primary difficulty appears to be securing a response in the first place:

If ye'd been in the lesson last week it was like drawing teeth. (Mairi)

It's very hard actually because they're... they're quite quiet, ye know. Well actually em..
better today than they normally are. Normally they eh.. I havty struggle to get the answers
out o' them. (Alice)

The problem is there you are trying to get them to speak, but they won't speak back to you. I
mean you've probably noticed that it.. unless you specifically ask one or two people.. even
there they won't sort of.. eh.. they wouldn't take a guess. [..] They won't take the chance in
case they look stupid or wrong. (Frank)

Of course, if pupils are being invited less to 'take a guess' than to respond

in an appropriate way to questions hedged with numerous unspoken

constraints about what will be an acceptable answer, this might help to

explain the general reticence student teachers complained of. But students

generally appeared to possess very little awareness of the difficulties that

there might be for pupils in seeking to provide apposite answers.

(ii) Forseeing how things will go

A key difficulty student teachers mentioned was envisaging accurately

how a lesson would go with a particular class. Sometimes questions which

the student teacher thought should be easy for a class to answer were found

to cause unanticipated difficulties:

I hadn't anticipated as many problems... I thought I would zoom around saying 'Yes, Good, Good, Good. You have done wonderfully.' But instead I was going around... quite often... trying to probe them into seeing the point of the question. (Shona)

Sometimes materials which had been selected because it was thought the class would find them motivating failed to rouse much interest, and this could lead to criticism of pupil passivity:

I was just looking for a poem that might interest them. They had done a lot of nuclear things so... 'Just give me the notes!' [2 secs] That's what I think, if ye give them the notes they'd be quite happy, no bother. (Mairi)

However, unexpected responses were also occasionally found to occur which the student mentioned with pleasure.

I felt I was getting somewhere, especially at the end. I was a bit surprised when the girl sort of said, you know, 'Do you think this was fair?' Because I hadn't covered that area. (Frank)

They obviously came up with ideas that I hadn't thought about, which was good. (Mairi)

Although several students seemed to have difficulty in responding to pupils' answers which they felt were quite inappropriate, only one student, Shona, mentioned this in interview as something she found difficult:

She answered and the answer was completely ridiculous. And it's always hard for me to deal with. If someone gives me.. something ridi.. you know, when there isn't even a semblance of... She said something about the character being positive. [..] I just.. hadn't a clue what she was going on about. And it was... it's very hard with Literature to actually cut someone down. You are supposed to give them credit.

(iii) Getting the level right

Gauging the level of discussion so that it was neither too easy nor overly difficult, with the concomitant risk of thereby losing pupil interest, was also found problematic:

I'm continually having to clarify what I'm trying to say and, you know, simplify it. You've no

idea the difficulty it is to simplify. [..] You're not allowed to use conceptual language. That's right out. You know, don't bother. You're wasting your time. [..] They didn't have a clue what I was going on about. I was bandying about rather grandiose terms that not every third year...

(Shona)

As I say, I've made up notes. And... I dunno whether it's a good idea to actually go through the notes or to go through the poem stage by stage like that. I don't know how much interest ye lose.. working yer way through sentence by sentence. (Mairi)

(iv) Implicit criticism of teachers

There also seemed to be a tendency to attribute difficulties student

teachers had in securing the sort of interaction they were seeking to the

situation prevailing in classrooms generally and, by implication, to the

teachers who presided over such a situation. For example, if pupils are felt

to be generally unresponsive, this might be attributed to the normally

repressive way in which class is conducted:

But it's very rarely they get a chance to, know, actually air their opinions like that. An' they find it very difficult, so I thought I would, em.. just give a lesson over to, ye know, what they actually thought. (Alice)

In similar fashion another student appears to claim that the difficulty she

has had in securing answers is due to the fact that she was asking pupils to

think for themselves:

I wasn't just dealing with literal recall. [..] I didn't want them just to go 'Right... pick out information from the story'. [..] Em... so a lot of the questions were asking them to deduce things em.. about the characters. So, it wasn't explicitly stated in the.. short story. [..] But I think a lot of them were a bit put off by that. 'Cause there were one or two kids who.. who were completely confused by the fact that I was looking for something.. from them. [..] It was requiring them to put in a lot more effort than they normally put in. (Shona)

While it is true that the student teachers spent some time in observation

and so were in a position to compare their teaching with that of the usual

class teacher, the apparent proposition that some of their difficulties are

sourced in their demanding greater intellectual effort or a higher degree of

personal involvement from pupils than their experienced colleagues, seems

doubtful at best. Moreover, the generally self-congratulatory tone of such

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remarks might indicate that such claims should be treated with some caution.

After all, it would appear to be considerably easier for student teachers to

represent difficulties in securing a response as being linked to their attempt

to transcend ordinary teaching, than to face the fact that their questioning

might sometimes be pedagogically inept.

6.12.4 What Was Not Said

Despite the encouragement and freedom informants had to talk at

length about any particulars of their lessons, the researcher was surprised to

note when analyzing the interviews that no student discussed the substantive

details of any interaction that occurred in any lesson. Nor did any student

speak in any detail about the improvisation of discussion they engaged in as

they sought to guide the class from an initial response to a question, to the

answer that they sought. That is, while student teachers spent an enormous

amount of time and effort in a real-time structuring of discussion that was

often complex, and sometimes impressively so – witness, for example, the

excerpt from Linda's first lesson discussed above – no one focussed on such

features.

While students did often indicate that they found securing pupil answers

difficult, such remarks were always rather general. Yet disciplinary

interactions often seemed to be recalled with considerable clarity, as well as interactions that might have had disciplinary implications. Thus, for example, Shona recalls an incident where a girl put her hand up to signal she has an answer, but then changes her mind:

Oh she.. yeah, she put her hand up.. and she said 'Oh, no I don't.. I haven't got an answer for you now' or something. Something like that. She... 'Cause I had added some other statement onto what I'd asked. She had realised that, you know, her answer wasn't right.

This particular girl Shona identifies as 'the girl who smirks all the time' and regards both her and the boy who sits next to her as potential troublemakers. She feels that she might have been being teased by the girl putting her hand up and then saying she had no answer. But when the researcher enquires if Shona can say what the question was and how she actually modified it, she replies, 'I don't remember'. Thus it would appear it is the disciplinary aspect of this interaction which is memorable, while the substantive aspect is recalled only in broad outline.

Similarly, while students talked generally about the difficulties of improvising discussion with pupils, often in terms of repeating questions or phrasing them in a variety of ways, the specific stages in answering a particular question from initial formulation to accepted answer were never discussed. When students mentioned making adaptations in a lesson it was always strategic improvisation that was mentioned. Thus, for example, Frank reports initially intending to show a video at the outset of a lesson. But while giving out cyclostyled sheets he feels that the information they contain

is both important and complex, so he decides to go through these notes in detail with the pupils and then show the video for reinforcement.

In considering why the substantive and detailed improvisatory aspect of classroom teaching was only mentioned in very broad and general terms, though such activity appeared to absorb a great deal of student teachers' concentrated attention during lessons, two main possibilities suggested themselves. Firstly, student teachers might consider this aspect of teaching too obvious to merit any comment, just as they appear to consider the whole idea of interactive teaching itself as being beyond question. That is, they might be able to say something in detail about the interactions they conduct and the ways in which these are improvised, only they do not perceive this as necessary or appropriate. Secondly, it may be that such performance is so bound up with the human ability, whose roots lie in early childhood, to use language flexibly in real-time situations, that the details of how they operate are hidden from conscious inspection. The interview data, however, failed to provide any clear guidance on this.

The first possibility might seem to be the less likely of the two, because of the encouragement of student teachers to talk in detail about any aspects of their lessons. Moreover, the way in which Shona, in the incident recounted above, appears to be unable to say much about the substantive aspect of her interaction with the girl who puts her hand down, might tend to suggest that

even when asked to speak in detail about an interaction a student may not be able to do so.

The second explanation might appear to have merit. It can be readily demonstrated, for instance, that there are many aspects of their own linguistic performance that native speakers of a language cannot consciously explain. Native English speakers are likely to be unable to explain the rules for the use of articles in their mother tongue or to say that these are linked to whether nouns are countable or uncountable, unless they have undertaken some study of linguistics, even though they can use articles flawlessly in speech and writing. That is, such speakers appear to be operating discriminations that they cannot readily bring to their own conscious attention. Similarly, it has been convincingly demonstrated that educated informants may be so unaware of their spontaneous linguistic behaviour that they may refuse, at first, to accept the recorded evidence of their own speech because it contradicts their own, albeit highly inaccurate, views on the principles governing their own speech usage (see, for example, Blom & Gumperz, 1972).

It would seem possible, then, that student teachers' accounts of their own teaching might be likely to be more accurate in some areas than in others. Reference has already been made to the tendency of students to attribute difficulties they faced in securing appropriate pupil interaction to the fact

that they were asking pupils to think for themselves, and this was something pupils were not used to. Other incidents which occurred during teaching practice, and the students' subsequent comments about these in interview, also tended to suggest that they might be unaware of aspects of their own behaviour, and thus unable always to be perspicacious informants.

For instance, Frank, following his first lesson, spoke of the poor participation of the girls in his class and doubted that they had much real interest in studying History. He seemed not to notice that his suspicion was expressed in the unusual position he adopted when teaching - close to and facing the boys, at some distance from the girls and turned away from them - and that this might be related to their lack of participation. Another student, Linda, excluded a boy for part of a lesson and claimed, during interview that the sole principle governing his exclusion was the level of noise he was making. But she appeared to be oblivious to a similarly noisy conversation between two girls. Such incidents provided evidence that participant reports of what has happened may be partial and tailored according to an informant's preconceptions.[25]

Thus it was decided to seek to clarify whether students might be able to talk in detail about the substantive aspects of interaction in later interviews in the main study. However, it was felt that this would still have to be approached circumspectly for two reasons. Firstly, it was judged that the

procedure of allowing students to talk about their lessons as they wished, while the researcher only asked questions to encourage students to elaborate aspects they themselves had raised, provided a valuable discipline which prevented the researcher from leading informants and thus helped ensure that it was the students' own viewpoints which were expressed, rather than those they intuited the researcher might want to hear. Secondly, if it is true that students might not be able to remember exactly how they improvised a substantive interaction with pupils, they might find it disquieting to have this brought to their attention. Besides the possibility that this might make students unduly self-conscious while teaching, it might alter the nature of the teaching the researcher saw.

Given this dilemma, it was decided to seek to apply the research procedures with a few experienced teachers. Not only would this allow the possiblity of providing such teachers with transcripts of their lessons and asking them to comment in detail on how they handle discussion - assuming that experienced teachers will be secure enough not to be seriously discomfited by seeing texts which contain all they have said in class - it would also enable some comparison to be made between student, and experienced, teaching.

6.13 The Context of Student teaching

The detailed structuring of pedagogical discourse is not an area upon which

there is, as yet, any explicit focus in the training of student teachers. Indeed

the flow of events, including linguistic events, in the classroom is so

mercurial that it is difficult to focus in detailed fashion upon what exactly

is occurring without having a written transcript to examine. The present

researcher found it surprising to note, as he prepared transcripts, how much

transient language phenomena had gone unnoticed by him as he observed in

classrooms. Likewise he began to suspect that much of their own discoursing

behaviour is hidden from student teachers who, immediately upon completion

of a lesson, appear to have little to say about the detailed structuring of

interactive discussion upon which they have just bestowed such concentrated

attention. It appeared as if students were constructing pedagogical

interaction in an intuitive fashion to meet the immediate needs of the

moment without much conscious awareness of how they actually set about

doing this.

Thus, for example, Linda runs a cascade of ventures with an impressively

sophisticated organisational flow, even reversing the natural order of

Particular and Reason Ventures so that she can make a striking connection

between one series of interlinked ventures and another. It may be, then, that

some students know how to structure discourse in such ways, in the sense

that they can make it happen, but do not know that they have done it, in the

sense that they cannot say exactly what they did or what were the

considerations that led them to do it like this.[26]

In interview, when Linda recounts the lesson she outlines the planning; but there is a detailed level of structuring that is not pre-planned or at least, not in the same manner. It is not just the student who was unaware; the researcher, who was looking carefully at how lessons were conducted, did not notice the intricate way the discourse was put together as he sat in the classroom watching the lesson unfold. This was only revealed later by venture analysis. Thus it appears such structuring may tend to be obscured by the myriad flow of classroom events. If this is so, it would hardly be surprising if students were to demonstrate in their teaching behaviour that they are capable of a high level of discourse structuring without being entirely aware of what exactly they are doing.

That this structuring is hard won is also demonstrated: witness Linda's misfires. She does not always achieve the structuring she desires first time, but rearranges as she goes along. That is, there is an active search for the 'right' pattern of discourse during the ongoing lesson, and during this process discourse moves are tried which are almost immediately abandoned and substituted by others.

However, the context of student teaching has also to be recognised in all its complexity, and, in particular, the way it intrudes upon the student teacher's lessons in a de-structuring fashion. The school as an administrative organisation may impinge upon events in the individual

student teacher's classroom with the handing in of the daily newsheet; or when someone, usually a pupil, arrives with an announcement that a particular pupil is required elsewhere; or a lesson is interrupted as an announcement is made over the loudspeaker. Or other members of staff may come into the student's classroom to look for books or other items, sometimes without any reference to the student. Thus, the way aspects of the school intrude upon the student teacher's lesson may tend to have a destabilising effect, that is, they can contribute to what has been categorised earlier as the 'entropy' of the classroom, and work counter to the student's attempts to provide a structured experience in a lesson.

Moreover, teaching practice is likely to involve some insecurity and uncertainty for student teachers. This may be seen as linked to the three different audiences for the student's practice: the pupils she teaches, the teachers she works with, and the tutors from the training institution who observe her. Satisfying each of these different audiences is likely to involve *the student in attempting to reconcile conflicting demands*. Her primary audience consists of the pupils she teaches, for if she is unable to achieve some sort of modus vivendi with them, she is unlikely to satisfy co-operating teachers or her tutors about her classroom competence. Yet teachers are likely to demand more of her than that she pleases pupils, while tutors may espouse values that are in conflict with those of the school and expect the student to act accordingly.

Despite careful planning, choosing appropriate materials and so on, if the student wishes to teach by interactive discussion she is, to a considerable extent, dependent on the co-operation of pupils. Yet some pupils, even some classes, appear to be uninterested, difficult or unco-operative.

In addition to the above external factors there may be internal factors, such as aspects of the student teacher's own personal development, which impinge in an unhelpful fashion upon the way they handle discourse. Thus Frank complains about the poor participation of the girls in his class, without noticing that his own classroom behaviour, during his first lesson, would tend to indicate a desire to exclude them. Similarly, Linda's alertness to boys talking while she is teaching and her readiness to rebuke or even exclude them, while displaying a countervailing tolerance of the same behaviour when carried out by girls, appears likely to be perceived as favouritism.[27] These examples of students tending to treat pupils of the same gender as *themselves with a degree of sympathy* that is not extended to pupils of the opposite gender, are raised to indicate that aspects of the student teacher's personal development may affect the possibilities for classroom discussion.

The above discussion of contextual factors may serve as a reminder of the difficulty involved in examining any aspect of student teaching in isolation. Discourse arises in a particular social situation and is affected throughout by the ways in which participants in the discourse are interpreting specific

situational features from moment to moment. It would appear imperative for

any study of the ways student teachers structure pedagogical discourse to

take account of the contextual complexities of teaching practice, and not

treat classroom discourse as though it could be examined, by itself, apart

from the situation in which it occurs. Thus it behoves the analyst to proceed

always bearing in mind a sympathetic appreciation of both the more general,

and often intractable, features of student teaching; as well as the unique,

specific aspects of a given interaction.

6.14 Summary of Outcomes of the Pilot Study

The outcomes of the pilot study which would guide the approach to be

adopted in the main research are summarised below.

i) It was found possible to obtain audio recordings of generally

satisfactory quality for transcription during teaching practice lessons using

a radio microphone worn by student teachers. In the judgment of the

researcher and the student teachers such a procedure did not appear to

affect pupil behaviour significantly. Apart from some initial comments,

particularly at the commencement of the first recording session, the pupils

seemed largely to ignore both the fact that lessons were being taped, and the

presence of the researcher. Similarly, most student teachers appeared to

have little difficulty in rapidly 'forgetting' that they were being taped,

although one student seemed to behave in uncharacteristically nervous

fashion and an excuse was made to withdraw from recording the full schedule

of lessons with her.

ii) Invaluable experience was gained in seeking to provide transcripts of spoken events, and the complex issues which surround the production of such texts were confronted. Drawing upon sociolinguistic research, a set of procedures for transcription were evolved which allowed for the moment-by-moment construction of classroom discourse to be noted in consistent and explicit fashion. In particular, great care was taken to transcribe transient speech phenomena such as hesitation, deletion and repetition accurately so that the dynamic features of interactive teaching discourse might be adequately represented. While the transcription procedure adopted could be time consuming to operate, particularly during lessons where there was a predominance of interactive teaching and the classroom was rather noisy – as when the pupils were engaged in groupwork – it was considered to be the most efficient procedure possible in the circumstances. The transcription times involved were consonant with those cited by discourse analysts for the preparation of wording transcriptions complete with pausing and hesitation phenomena.

iii) The evolution of a method for analyzing classroom discourse draws upon Smith et al.'s (1967) system of venture analysis. However, considerable difficulty was found in operating the Illinois procedure as it stands, both because of some opaqueness in the description of a venture, as well as with

the conceptualization of the analysis which largely overlooks the fact that transcripts represent <u>spoken</u> texts. These difficulties were overcome by modifying the definition of a venture so that it became a unit which was marked both by coherence of topic <u>and</u> of cognitive approach. This modification, based on a close study of lesson transcripts, accorded with what student teachers claimed to be doing in lessons, was reliable in operation, and appeared to highlight the pedagogical structuring in interactive teaching discourse that occurs in real time. It was still found possible to allocate venture types according to the original Illinois categories, which provide a commonsense, pedagogical classification. However, since the units now identified differ considerably in their conceptualization from those proposed by the Illinois researchers, it was felt necessary to indicate this by naming them Pedagogical Structuring Ventures, or PSVs.

iv) Although a previous British study of student teaching (Wragg, 1972) had suggested similarities in interaction patterns between student teaching in History and English, considerable differences were found in terms of the patterns of PSVs which were found to occur. While in History Particular PSVs predominated, English teaching inherently seemed to involve the use of Interpretative PSVs. Pupil initiated ventures were also found to be much more likely to occur in English. In addition, the use of primary text appeared to possess an importance for English teaching, that did not obtain for History teaching. Similarly, English teaching appeared to foster a much more critical

stance towards written texts than was the case in History lessons. These differences in student teaching appeared to be of sufficient magnitude as to warrant a subject specific approach to the analysis of teaching discourse. Thus it was decided to focus upon student English teaching and, in particular, the structuring of Interpretative PSVs, in the main research project.

v) The interviews appeared to illuminate the ways in which student teachers thought about their own teaching. The commentaries provided suggested that student teachers thought about teaching in terms of dealing with topics whose coverage would allow certain discriminations to be made that were considered to be important from the perspective of the subject that was being taught. Student teachers also appeared to be strongly committed to seeking to teach using the method of teacher led interactive class discussion, whilst becoming acutely aware of the practical difficulties involved in such an approach.

A *number of unanticipated outcomes* of the pilot study also emerged which were judged to be significant, but which did not feature in the original set of aims devised to guide how this stage of the research would be prosecuted. These are indicated below.

i) The experience of detailed consideration of how lessons were achieved, which involved the attempt to prepare adequate transcripts and a close

scrutiny of what these revealed, indicated the overwhelming importance of

the dynamic aspects of student teaching. In their lessons, student teachers

did not just provide a pedagogical structure, rather the interactive whole

class discussion, which appeared to be their preferred primary mode of

teaching, obliged them to engage in a moment-by-moment structuring of

discourse that involved rapid improvisation of modified questions in response

to answers that pupils initially gave, in order to move the discussion in

directions the students judged appropriate. Thus it was considered essential

to develop techniques for transcription and analysis which allowed the

real-time aspects of student teaching to be examined.

ii) Similarly, as a result of extended classroom observation, the

importance of the context of situation in which student teaching occurs came

to be considered an essential aspect of the attempt to understand student

teaching. Certain of the contextual features – the low status of students in

schools, including the tendency of pupils to make life difficult in the

classroom and the rather condescending attitude of staff to those they

consider to be at some remove from the real world of teaching; the fact that

student teachers are not just exploring how to practise their craft but are

aspiring entrants to a profession whose suitability is being evaluated; the

demand of the situation that they seek to please the rather disparate

audiences composed of pupils, staff and university tutors – seem to be rather

intractable aspects of the general situation which need to be kept

sympathetically in mind when seeking to analyze student teaching. In addition, there are particular contextual features to do with the relationship with a particular class, what has been dealt with in previous lessons, or the specific context in which a particular question arises which all impinge upon the discourse that occurs and how it is to be interpreted. Moreover, the personal development of a particular student teacher and the context of the subject discipline being taught seem to be relevant factors affecting the discourse, yet these are rarely discussed even by those who have drawn attention to the importance of considering the ecology of teaching. This would counsel that it is imperative in any analysis of teaching discourse to attempt to recognize that a multiplicity of contextual factors are affecting what may occur.

iii) An unanticipated outcome of the interviews was the indirect evidence that students might possess areas of unawareness about their own discoursing behaviour that would affect their capacity to be perspicacious informants about every aspect of their own teaching. While students talked forcefully about the difficulties of interactive teaching, none discussed the details of any specific interaction from initial question to the derivation of the answer sought, though the improvisation of discussion to lead pupils to appropriate responses appeared to absorb a great deal of students' concentrated attention. Two strategies were decided upon to cast further light on this. The first would involve seeing if students might be encouraged

to speak about the details of their improvisation of teaching discourse, without compromising the format of the interviews or unduly alarming students by drawing to their attention things they might not be able to remember. Secondly, lessons would be taped with two experienced English teachers, following which they would be interviewed. Subsequently they would be provided with transcripts of their lessons and re-interviewed to see if this might prompt them to be able to illuminate aspects of their own teaching discourse.

NOTES

1. While 8 students – 4 in English and 4 in History – had originally agreed to participate in the pilot study, the sample size was reduced due to unforseen circumstances. In one school the headmaster and students' regent became markedly unenthusiatic about their school taking part in the research after they had considered the fact that the researcher intended to tape and transcribe everything that was said in students' classrooms. Unfortunately, there were two participating students undertaking their teaching practice in this school – one student in English and one in History. When it became clear that the students concerned might be put in a position of conflict with the school because of their agreement to participate in the research, it was decided, albeit reluctantly, that it would not be in their best interest to include them in the pilot study. Thus the researcher made a tactful withdrawal and noted that it would not be prudent to seek to investigate the teaching of any student who would undertake teaching practice in that particular school in the future. An excuse was also made to withdraw from taping one of the English students who, though she was emphatic about her wish to participate in the research, seemed to become uncharacteristically nervous when her lessons were being taped. The primary consideration in making such decisions was to avoid casting a shadow over any student's teaching practice. Secondarily, it was also felt that the teaching of a student who was made very uncomfortable by the research procedures was less likely to be very informative for the purposes of the research.

2. Regent is the name given in Scotland to the senior member of the school staff who co-ordinates teaching practice.

3 Although the university education department has sought to reduce the perceived importance of tutors' lesson observations, student teachers continue to regard 'crit lessons' as of overriding importance for gaining a satisfactory teaching practice grade. Schools are given three days notice

of a tutor's visit and lessons to be observed are likely to be prepared with special care. On one occasion a student teacher decided to abort a lesson the researcher had arrived to record and give the pupils written work instead "to keep them busy". "My tutor's coming tomorrow", he explained, "and my head of department wants to go through the lesson with me and this is the only time she's got free." The head of department refused the researcher's request to be allowed to tape the conference, but he was able to overhear much of it. What seemed particularly striking was the air of collusion about the proceedings, with the head of department claiming to know, in some detail, what things would 'please' the particular tutor concerned. It was rather as if she believed that the evaluation of the lesson would not only reflect upon the student, but upon her department as well.

4. Labov (1972b) has drawn attention to the 'observer's paradox': one is interested in how people operate when they are not being studied, yet the only way to investigate what they do is by observing them. It is therefore impossible to say with any certainty how closely the behaviour of a student teacher and her class corresponds to what might have occurred if a session were not being observed. In only one first recording session did a noticeable incident occur which might have been attributable to nervousness about being observed and recorded. A student who said in interview later that she had planned to let the pupils hear a tape of a poet reading his own poem, began by reading it herself. To cover her mistake she subsequently asked the pupils to listen to the tape and try to notice any differences between the two readings. Since there didn't seem to be any that the class noticed or she could clearly point to, the lesson began rather awkwardly. Though it is impossible to tell whether this might not have happened anyway, it may be that the fact she was being taped contributed to her 'forgetting' how she meant to begin.

5. While the researcher's main aim was to look at the stories which the student discussed with individual pupils, and so be better able to understand references when it came to transcribing the tape, he looked at the stories of a few other pupils that the student said were interesting.

6 The new portable digital audio tape recorders which have appeared on the market recently might prove a valuable aid to classroom research. Their extended dynamic range should facilitate the task of researchers who seek to prepare accurate transcripts from tapes made under the often rather difficult recording conditions that tend to prevail in classrooms.

7 Of course, this did not solve the problem of speech the researcher could not hear clearly in the class and which was also unintelligible on the tape. However, the amount of public talk that was lost due to this factor was considered to be very small.

8 The fact that the speech of those who have a continuous exposure to written language may come to correspond closely to written forms (Brown & Yule, 1983) may serve to explain why educational researchers initially failed to recognize fully the distinctiveness of spoken language. Some even seem to regard making a written record of speech as so relatively unproblematic that it need not be undertaken by the researchers themselves (Gallagher, 1970). Certainly, the use of audio-typists to provide the first draft of classroom transcripts appears, in

the light of current knowledge, to have been an unfortunate choice that may have unwittingly delegated to clerical staff key interpretative decisions about how best to represent spoken events in a written form, that ought to have been made only after careful deliberation by the researchers involved.

9. It should be stressed that the researcher, while he had made a close study of transcript based classroom research, was only slightly acquainted with linguistic approaches to discourse analysis when the attempt to transcribe the pilot study tapes commenced. It was soon discovered that the educational research literature the researcher had studied provided insufficiently clear guidance about how to proceed with transcribing features of classroom tapes. As Stubbs (1983) has noted, a strange coyness about explicitly discussing the methodological aspects of dealing with taped data appears to have prevailed generally within linguistics and the social sciences. Thus a search of studies in sociolinguistics and discourse analysis was instituted in order to provide additional guidance.

10. There were two sources for such information. In the case of laughter or, say, a door being slammed, the tape provided the evidence of the temporal position of such events relative to speech. In the case of gestures, the field notes provided the relevant evidence.

11. See previous Chapter 3.1.5 for detailed discussion of the venture.

12. It is not enough, however, merely to adopt a linguistic perspective on teaching. As Hammersley (1980b) points out vis-'a-vis Sinclair & Coulthard's (1975) study, the replacement of a 'normative functionalism' by a 'cognitive functionalism' does not eliminate substantial deficiencies in the approach to understanding teaching. That is, explicating the 'rules' which appear to govern classroom discourse is insufficient by itself. What is required is an approach which treats "classroom interaction as composed of interrelated actions which are the product not just of rule following, but also of decision making" (Hammersley, op. cit., p. 55).

13. For example, Coombs (op. cit.), in discussing the division of transcripts into ventures, emphasizes the necessity of ensuring that all the relevant discussion of a particular topic is included when identifying units so that "strategies are not fragmented": "The body of discourse in the unit should include all the contiguous discourse relevant to that particular objective. That is to say, there should be no case in which part of the discourse relevant to a given content objective occurs in a preceding or succeeding strategic unit" (p. 11). Again, the point of view here is that of the division of a written text by an analyst, the temporal aspect of the structuring of spoken text by participants appears to be completely lost to view.

14. Thus, "overarching content objective" is explicated as "primary cognitive meaning" (op. cit., p 293; my emphases), which is elaborated as "the sense or import of the venture taken as a whole" (ibid., my emphases). Later the phrases "the primary cognitive import", and even "the primary logical import", of a venture are used as equivalent to 'overarching content objective'.

15. The dimension of cognitive approach to a topic was implemented in terms of commonsense pedagogical categories which derived from inspection of the sample of lessons transcribed for the

pilot study. It was felt important that the discriminations to be made should derive from the nature of the teaching observed, and be consonant with what student teachers claimed to be doing. This has some similarity with the approach Smith et al. (op. cit.) adopt for classifying ventures, for although they make mention of Bloom's Taxonomy of Educational Objectives (Bloom et al., 1956), the description of the venture categories that they evolve appears to owe less to any taxonomy than to a commonsense description of how teachers appeared to be operating. It is interesting to note that the previous experience of the Illinois researchers, in trying to apply to teaching categories derived from formal logic (Smith & Meux, 1962), appears to have convinced them of the importance of developing a pedagogical description which arises from the nature of teaching itself.

16. Another advantage of the definition given here is that it avoids the seeming redundancy involved in describing the venture as a topic unit with 'one element of content which is the central focus of discussion', and which arises because 'topic' is also a content descriptor.

17. In a later work, Sinclair & Brazil (1981) implicitly concede that frames may not always accompany transaction boundaries. "Teacher use frames a great deal and so regularly that in teacher talk it is safe to assume that there is hardly a transaction boundary without them" (op. cit., p. 28). Moreover, the Birmingham group's failure to notice, in their own data, that a pupil may be allowed to initiate a discussion that appears to differ markedly from the teacher-initiated discussion that has gone before, suggests limits to the usefulness of their analysis for the investigation of classroom talk. Since teachers appear to monopolise frames, pupils who wish to initiate topics - and gain the teacher's support for their initiative - must do so using other means. See Chapter 4.6, previously, for a fuller discussion.

18. It should be noted that the policy adopted here of regarding misfires and disruptions as part of ventures differs radically from that of the Illinois researchers who state that these are not to be regarded as part of any venture. The perspective they adopt is that of the topic that is actually discussed in a retrospective examination of the written text of lessons. Here, the perspective is quite different: how, moment by moment, the structuring of pedagogical communication is achieved, inclusive of false starts, deleted questions, disciplinary interruptions, and so on. That is, the focus upon the real-time aspect of the student teachers' classroom experience in the present research dictates the adoption of a different policy.

19. Of course, the student's performance is only improvised in part. The improvisation appears to occur around a noticeable pattern involving the discussion of what are indicated to be 'facts' and 'reasons'. It also has to be conceded that if the structuring of discussion is complex, the substantive material dealt with in this review segment is relatively simple and dealt with at the level of recall. Though this student teacher shows considerable skill and sophistication in her structuring of discussion for pedagogical purposes, her competence in this regard appears to be largely intuitive. In interview after the lesson she does not mention the interactive teaching she conducts at all. Nor does there appear to have been any element in her teacher training that would

have instructed her how to structure interaction in the particularly intricate way that she demonstrates. Indeed, the researcher could not have illuminated the complexity in the structuring of pedagogical discourse had he not been able to study it in detail by means of first capturing it in transcript form, and then analysing it into ventures.

20. This may be unsurprising as the venture description operated here was evolved both from close consideration of all the lessons transcribed for the pilot study, and of student teachers' comments in interview about their own teaching. In the section which follows ventures are drawn from a variety of lessons to illustrate certain distinguishing features they possess, at the same time providing some evidence to support the claim that the venture definition operated proved fruitfully applicable over the whole sample of lessons transcribed.

21. 'Utterance' is defined as the complete verbal behaviour of one person at a particular point in the discourse, before another participant takes his or her turn at speaking.

22. For Smith and his co-workers such a problem does not arise. See Chapter 7 following for a consideration of this.

23. While a pupil may propose a topic for discussion, though this is usually the prerogative of the student teacher, he or she does not also assume responsibility for structuring the subsequent interaction. This would appear to remain a teaching function which the pupil does not assume. Rather, the pupil has to secure the interest of the student teacher in discussing the proposed topic so that it becomes adopted and structured.

24. The symbol [..] is used to indicate where the text of interviews has been edited to excise material which is over-repetitive or digresses.

25. This presents a challenge to research also, since the researcher, too, is likely to possess preconceptions and, likewise, to remain unaware of his or her own partiality. It is for this reason that the present researcher attempted to adopt an exploratory approach to student teaching. Thus a considerable time was spent in seeking to become thoroughly familiar with lessons before seeking to develop appropriate techniques for transcription and analysis. Similarly, interviews were conducted to seek to broaden the research viewpoint, and the interview procedure adopted sought to minimise the risk of the researcher contaminating informants' reports. While it cannot be claimed that such approaches can ever provide a complete solution to the problems of research, the methodology adopted here sought to pay conscious attention to such issues.

26. It would be interesting to know where Linda has learnt to aspire to construct teaching discourse like this. She mentions being very enthusiastic about History when she was at school, thanks to the lessons of a particular teacher whose teaching inspired her. It is tempting to speculate that the History teaching that she found so stimulating as a pupil may have exhibited the kind of discourse structuring features that she demonstrates. Unfortunately, this is a question the present research was not designed to investigate.

27. During the first lesson observed, Linda excluded a boy from class for talking noisily with his

neighbour. In interview she explained that the principle on which the exclusion was based was the volume of noise the boy had caused. When the researcher asked if anyone else had talked like this, Linda turned the question back on the researcher and asked if he had heard anyone. When the researcher identified a pair of girls and said he thought they had been quite noisy, she responded revealingly, "Oh no, it wouldn't be them. These are good girls."

It should be noted that this was one of the first interviews the researcher conducted and this incident led him to review his interview technique so that he did not again appear to be challenging a student's account.

CHAPTER 7 Towards an Analysis of the Dynamics of Student Teaching
  7.1 Introduction

The previous chapter explains how an approach to analysing interactive discourse

in student teaching was evolved. A careful consideration of tape-recorded lessons,

interview data and field notes, relevant research in education and sociolinguistics,

led to the development of a method of transcription which represented features

considered essential to an investigation of the real-time aspect of student teaching.

Subsequently, a technique for commencing the analysis of the structuring of

interactive pedagogical discourse was piloted. This involved the use of newly

identified units called Pedagogical Structuring Ventures, or PSVs.

PSVs indicate segments of classroom discourse in which a discrete topic is

discussed from a sustained, unified cognitive perspective. They appear to represent

a fundamental level of pedagogical structuring, as well as providing a suitable focus

for beginning an enquiry into the dynamics of classroom discourse. Moreover,

consideration of the types of PSVs which occurred in the classrooms of student

teachers of English and of History revealed fundamental differences in subject matter

discourse. Thus it was decided to proceed, in the second stage of the research, by

focussing solely upon student English teaching. This would allow analysis of the

structuring of Interpretative PSVs which seemed to be central to discourse in this

subject discipline.

7.2 Lesson Sample for the Main Study

The data collection for this phase of the research took place during

teaching practice in the autumn semester of 1988 (hereafter referred to as

TP 2), one year after the first data collection during TP 1. Again

arrangements were made, following the pattern established for TP 1, to

tape-record lessons and interviews with students who would be engaged in

their final teaching practice before graduation. All eight student teachers of

English, from the same university Education department as previously, who

were about to undertake their final teaching practice were approached and

invited to allow the researcher to record in one of their upper secondary

classes on an alternate week schedule. Seven of these students agreed to

participate and arrangements were made to tape 5 sessions, together with

corresponding interviews, with each student.

However, various circumstances arose which prevented the implementation

of the data collection exactly as planned. With only one of the students was

it found possible to record all 5 sessions. For three of the students, factors

such as late changes to teaching practice timetables and the scheduling of

school exams meant that only 4 sessions were recorded with each. In

addition, one student quit teaching practice during the first week to go and

teach in Japan, so that no sessions were recorded with him,[1] while another

student asked to withdraw from the research after only 2 sessions.

Altogether, then, six students were taped over a total of 22 sessions. Four students were in schools with 40 minute periods, one was in a school with 1 hour periods, while the last was in a school which operated periods of 65 minutes. Thus the total data sample for TP 2 comprised tapes of 16 hours and 50 minutes of student English teaching, together with tapes of 22 post-lesson interviews.

Given that student teachers in TP 1 had been found not to say much about the details of their interactions with pupils, nor about the real-time aspects of teaching, an attempt was made in the phase 2 interviews to see if students could, perhaps, be encouraged to speak in more depth about the dynamic aspects of particular interactions. The interview format, however, remained unaltered. After a lesson the student was given an invitation to talk: "Take me through the lesson"; or "Could you tell me about the lesson, then?"

The procedural discipline of only asking follow up questions about aspects of the lesson a student herself had already raised was maintained. This was in an attempt to safeguard against the student attempting to say the sorts of things which she intuited the researcher might want to hear. Many of the students were very friendly, helpful and obliging people. Therefore the researcher felt it was necessary in deploying supplementary questions, - in order to try and ensure it was genuinely their viewpoints which were expressed - only to invite students to reflect at greater depth, or give a

fuller account of, aspects of their lessons that they themselves had raised.

The approach adopted in the TP 2 interviews appeared to have little more success in eliciting commentary about the detailed structuring of interaction than previously. Moreover, problems arose with two students while operating this approach. One appeared to construe the researcher's invitation to talk further about matters she had raised, and his attempt to allow time for reflection, as a sign that her original statements were disbelieved. This was the student who withdrew from the research after 2 sessions. One reason she cited was that she found the interviews 'very uncomfortable'.

The second student, a mature woman, initially volunteered the somewhat curious information during interview that a lesson was entirely of her own devising. As the interview developed, however, it apparently became impossible for her to sustain that claim and she suddenly said that she was following a detailed plan given her by her co-operating teacher: "Look.. it was his lesson, alright. He told me to ask these questions.. to do these things. I don't understand why." Though this student did not ask the researcher to discontinue the lesson observations, she thereafter ran classes where pupils spent the entire period watching a video, or reading a book, or completing written work previously assigned. Consequently, the researcher saw her engage in interactive teaching only once.

Thus it would appear that some students may present an account of their lessons which is meant to deflect enquiry and forestall further inspection. Since the two students in question had not been involved in any previous classroom research, it may be that this strategy had been developed in order to deal with teaching practice tutors.[2] The researcher's behaviour, since it tended to imply that there might be more that could be said, may have thus been found threatening by such students. However, the majority of student teachers did not seem to find the interviews threatening, appeared to try and be genuinely informative, and several said they found the interviews helpful as it gave them an opportunity for reflection on their teaching which they would otherwise not have had.

7.3 Indications of a Need to Reconsider the Intended Approach

A prime aim of this phase of the research was to investigate the structuring of interactive teaching discourse, including its dynamic aspects, at greater depth. Accordingly, it had been thought that an appropriate way to proceed would have been to focus on the Interpretative PSVs in the sample of English teaching and to investigate how these are constructed. However, there were several considerations which arose from inspection of lesson transcripts which cast some doubt on the validity of the intended approach.

It was felt that any analysis attempted ought to investigate student teaching in ways which were consonant with the classroom experience of

student teachers as revealed in the tapes of lessons and interviews. Simply to pursue the analysis of Interpretative PSVs as an end in itself, while it might be of considerable interest, would be of little value in terms of the aims of the research, if PSVs themselves were at some remove from the actions and interests of students while engaged in teaching. Unfortunately, it began to appear that such might be the case.

While students still talked in interview about teaching topics in order to make certain points, no student said anything that suggested they had any inkling that their teaching consisted of assembling units like PSVs. This is not to deny that teaching is, in fact, assembled out of such units, rather their assembly appears to occur at a completely taken for granted, subconscious level, just as students speak grammatically and often in sentences without any conscious awareness of the highly complex grammatical discriminations that they are operating in order to produce such a level of performance. That is, PSVs and their assemblage are not where student teachers are consciously focussing their attention while teaching.

Thus it was felt it might be more appropriate to seek to provide an analysis which sought to take account of the contextual complexities of teaching practice in a way which might more closely address student teachers actual concerns. This might be achieved by focussing upon the ways in which participants appear to be interpreting specific situational features of the

discourse in real time. Such an approach might also avoid any glossing over of the intractable realities faced by learner teachers.

The key difficulty in developing such an approach was that students only appeared able to indicate after a lesson what their moment-by-moment concerns had been during it in a very general fashion. The finding that the dynamic aspects of their interactive teaching performance seemed to be veiled from students themselves, paradoxically, suggested a link with research into expert performance. Experts in various fields often appear unable to articulate clearly the basis of their own expertise, or to explain afterwards exactly what they were doing while carrying out particular expert performances (Schon, 1983).

While the student teachers observed could not, in any sense, be regarded as expert teachers, perhaps it would be mistaken to regard them as complete neophytes in every aspect that teaching involves. If they had little experience of taking charge of classrooms, they nevertheless possessed a lifetime's experience of interpeting and taking part in interactive discourse, including very considerable experience as pupils, and as university students, of participating in discourse of a pedagogical nature.

This led to the consideration that the teaching of student teachers might be viewed as simultaneously displaying somewhat disparate levels of expertise.

If their knowledge of pupils, subject matter, and classroom management, for instance, could often appear somewhat rudimentary, their capability to construct meaningful interactive pedagogical discourse often appeared striking, as in the case of the student teacher of History given in chapter 6 (see Examples 1 & 1.2 and discussion pp. 243 - 262). Thus the capacity to structure intricately complex performances in real-time suggested more Schon's (op. cit.) 'reflection-in-action' than, say, Leinhardt and Greeno's (1986) inexpert performances due to the lack of highly developed routines.[3]

'Reflection-in-action' involves dealing with complex, ill-defined, shifting situations in particularly interpretative fashion where cognition and action appear inseparable: the thinking is in the action, the action itself is a way of engaging thoughtfully with the situation. Since Schon (op. cit.) shows reflection-in-action to be the hallmark of the expert professional, this serves to suggest why experts are often found unable to explain their activities. They know how to produce expert performance in their field, in the sense that they can readily produce such performance in appropriate professional situations, but they cannot easily make their performance itself the object of thought, nor elucidate the discriminations the performance entails.[4] Perhaps, then, the discoursing engaged in by student teachers ought to be regarded more as a species of expert performance, since they display considerable expertise in the real-time structuring and interpretation of discourse. This would possess the considerable advantage of serving to

explain students' apparent inability to elucidate in interview exactly what they were doing, moment-by-moment, in particular interactions with their classes.

There were additonal factors, also, which counselled the researcher to reconsider at this point. Firstly, while it was evident in TP 2 lessons also that student English teaching predominantly involved the consideration of literary texts, and hence gave rise to many Interpretative PSVs, the types of PSVs which actually occurred tended to vary according to the exact nature of the teaching in different lessons. Thus, if a student teacher was returning a literary exercise which pupils had previously handed in for marking, PSVs of the Particular and Evaluative types tended to arise as pupils were asked to read out, for demonstration purposes, answers that were particularly satisfactory, and the student sought to clarify how answers were evaluated. To focus only on Interpretative PSVs would thus seem to exclude, rather arbitrarily, a small but significant proportion of the student English teaching recorded.

Secondly, while English lessons tended to involve a consideration of literature, this was not always the case. While only one lesson in TP1 did not involve Literature, there were several in TP 2, which counselled against viewing English teaching simply as the teaching of Literature.[5] For instance, there were lessons in which pupils were also encouraged to think and write

about current issues. Thus, student teachers occasionally taught lessons which focussed upon the discussion of controversial topics to do with social issues, the environment, cultural matters, and so on. In such cases a very wide range of PSVs tended to occur and Interpretative PSVs no longer predominated. On two occasions student teachers conducted lessons of a hybrid type which combined the consideration of controversial issues with the reading of supporting literary texts that dealt with these same areas.

There were indications, however, that away from the focus on literary texts which marks their subject specialism, student teachers could be uncertain about exactly what they ought to be doing. This view tended to be supported by students' comments in interview. For example, one student who taught a lesson in which she attempted to consider the pros and cons of nuclear energy, remarked afterwards that she lacked the scientific background necessary for understanding the issues involved and therefore was very uncertain how to teach this topic. Similarly, during TP 1, a student whose co-operating teacher had asked her to teach how to write a discursive essay based on a complex examination question, seemed to become confused as pupils encountered difficulty in trying to plan answers to the question. She ended up advising them 'to flip a coin' to decide which point of view they should take and remarked in interview, "I think I confused them totally." But then she added in self-justification: "We've never been shown how to teach the discursive essay."

Thus, while the researcher felt that PSVs did represent a fundamental level

of structuring in the pedagogical discourse observed, and that Interpretative

PSVs appeared central to a great deal of student English teaching, there were

grounds for querying the adequacy of pursuing the research in the fashion that

had been foreseen. To indicate further why some re-conceptualization was

considered essential, despite the fact that this would likely prolong the

research effort, there follows a consideration of the course followed by

Smith et al. (1967) at a similar stage of development in their research. How

the Illinois researchers sought to refine their analysis by investigating the

sub-structures of their ventures, might serve to indicate something of the

difficulties that adhere to the accomplishment of such a task.

7.4 Smith et al. (1967) - The Substructures of Ventures

Having found that interactive teaching in different High School subjects

could be analysed into 8 venture types, each subject tending to specialize in

different venture patterns, the Illinois researchers expected to find that

ventures would be constructed from a common set of sub-units. Contrary to

expectation, each venture type was found to be assembled from a unique set

of sub-units which they call moves. Thus, where the researchers had

expected to locate a level of commonality in teaching, they found another

layer of differentiation.

Take their Interpretative Ventures for example. It was found that these

were constructed out of 8 main types of moves as given in the figure below.

Figure 7.1 <u>Moves within Interpretative Ventures</u> (Adapted from Smith
<u>et al.</u>, <u>op. cit.</u>, pp 312 - 3)

1. <u>Texture meaning moves</u> The characteristic feature of such moves is that the meaning of specific words, phrases, sentences, or paragraphs from a text is given. There are three subcategoies identified:
1.1 Giving the meaning of an expression regarded literally.
1.2 Giving the meaning of an expression regarded as metaphor.
1.3 Paraphrasing a whole passage from a text.

2. <u>Instrumental meaning moves</u> The meaning of words phrases or other expressions which do not appear specifically in the text are defined to facilitate further study.

3. <u>Symbolic meaning moves</u> An object, person or action mentioned in the text is discussed in terms of symbolic significance. .

4. <u>Structure meaning moves</u> This sort of move encompasses the overall meanings which are derived from the consideration of a text such as a short story or a poem. They focus on what a text as a whole, or in large part, is saying.

5. <u>Extrapolation moves</u> These involve making inferences from the text. Four subcategories are identified:
5.1 Judgments are made about persons, events, actions, etc. for which some but not all of the evidence needed for certainty is given in the text.
5.2 Judgments are made as to the cause of, or reason for, an event, action, feeling, etc., for which some but not all of the evidence needed for certainty is given in the text.
5.3 Judgments are made about persons, events, actions, etc., for which there is no evidence given in the text.
5.4 Judgments are made concerning the effects of a literary text upon the reader or listener.

6. <u>Factual elucidation moves</u> Citing the facts as to what took place etc., in a passage.

7. <u>Citation moves</u> Such moves involve making reference to the text. There are three subcategories identified:
7.1 A passage is quoted essentially as it appears in a text.
7.2 A passage to be interpreted is explicitly indicated either by name or by location in a larger text.
7.3 A person, event, or action to be interpreted is mentioned or alluded to.

8. <u>Representation moves</u> Citing a person as speaking or acting for a group or point of view.

9. <u>Evidential moves</u> Evidence for or against a judgment or a particular meaning claimed for an expression or text, etc., is given.

10. <u>Identification of forms and devices</u> Such moves are concerned with the use of literary terms. Two subcategories are identified:
10.1 Noting literary devices, e.g. vignettes, used in a literary work to produce certain effects on the reader or listener.
10.2 Noting the form of the literary work.

It seems possible to have reservations about this description of the structuring elements found to comprise Interpretative ventures. A minor criticism concerns the fact that certain of the moves appear to embody a view of literature, and of literature teaching, which may have been current in some American schools in the late 1950's, but which appears to have little relevance for the description of the literature teaching engaged in by British students three decades later. For example, no student teacher mentioned 'vignettes' or used representation moves. On the other hand, many of the technical aspects of literary technique which they did focus on – narrative techniques, manipulation of point of view, use of imagery, and so on – are not reflected in the Illinois classification.

Nevertheless, student teachers did frequently engage in making citations, elucidating facts, and deriving interpretations by extrapolating from textual evidence. Thus the fact that the student teaching observed could still be described, to a very considerable degree, using certain of the Illinois moves suggested that the categories might be modified to suit the current lesson sample.

Another area that appears susceptible to being dealt with by modification is that under the definition of a PSV operated in the present research, which is somewhat narrower than the original definition of a 'venture', some of the Illinois moves would tend to be identified as discrete PSVs. Thus discourse

which conformed to the description in move category 5 above would tend to be

classified as Evaluative PSVs, except for sub-category 5.2 which would

become Reason or Causal PSVs. Similarly, discourse in move category 9 would

form Evaluative or Reason PSVs.

However, certain intractable problems relating to the concept of a move,

and to how moves are to be utilized to develop a description of venture

structure, remain.[6] The fundamental difficulty is that the description of

what constitutes a move is somewhat opaque. Curiously, there is no exact

definition provided and it appears the reader is meant to intuit what moves

are from the examples provided.[7]

If the exact status of a move, then, remains somewhat doubtful, the way in

which the concept is exploited to provide a description of venture structure

is even more so. The research team proceeds by considering the frequency of

different move patterns which are found within different venture types, and

constructing frequency charts. Popular sequences of moves are called plays

by analogy with American football. Thus the researchers' pursuit of the idea

of the strategies employed in teaching has led to a description of patterns of

teacherly manoeuvring which ensures that certain points (the term has, of

course, dual currency in teaching and football) are made. But which precise

points are made, and when, and how, and the particular pedagogical context

that 'moves' seek to address – these are all matters which are excluded from

the analysis. The admirable emphasis on the fact that teaching possesses

content, and the attempt to link the structure of discourse with pedagogical meaning, which has pervaded the conceptualization of the research, is finally discarded in favour of providing a content-free description of patterns of plays, of form divorced from function.

In marked contrast to this sort of description, a most striking feature of the lessons in the present research appeared to be the intricate, evanescent interplay between what it was the student wanted to teach, and the immediate context of situation manifested in pupil responsiveness, or the lack of it, to a particular question or set of questions. Students were, to a very remarkable degree, dependent on the responses which occurred, and felt obliged to take these into account.[8]

If pupil answers were not felt to be adequate, a rapid improvisation of interaction usually ensued as the student sought to develop the actual responses received into a structured discourse that led to the answer that was required. Such performances could be striking in their rapidity and intricate complexity. It was felt that to provide an analysis here that might oversimplify would not only fail to elucidate the realities of student teaching, it would also tend to undermine the research effort thus far. The image of the carefully pre-planned plays of American football, adopted by the Illinois researchers, with its connotations of a coach who scripts what ought to occur while participating only from the sidelines, seemed entirely

inadequate as a basis for describing the interactive classroom discourse of student teachers.

Consideration of further aspects of the lesson transcripts in the present research provided yet more evidence of the inadequacy of the Illinois approach. Inspection of the citations made by student teachers revealed that this was a much more complex matter than the Illinois research indicated. Citation could equally involve not just the text to be interpreted, but also written questions the student had prepared on the text, or things she, or the pupils, had said previously - frequently, in a previous session.

In one noteworthy lesson, for example, a highly idiosyncratic interpretation of a short story was supported by repeated reference to a student's written questions, as well as to things pupils are claimed to have said in a previous session. In this lesson the student, whose regular procedure is to extract significant meaning from small details of description in a text, has a class working individually on written questions based on the D. H. Lawrence short story, 'The Rocking Horse Winner', which they have read together and discussed previously. There appears to be a recurring problem with question 7: " 'Its red mouth was slightly open, its big eye was wide and glassy-bright.' What picture of the horse does this description suggest?" Many pupils call her over to discuss how to answer it.

She has earlier signalled that this question is of particular interest to her, and that they should make several points in their answers. In the repeated interactions she has with pupils, she refers back to her question and to what she claims pupils have said in a previous lesson: "Remember what you told me last day!" The answer she requires pupils to say is that the first part of the description makes the rocking horse appear 'real', while the second part makes it seem 'mysterious'. While enormous energy is expended making these points, it is striking that she has nothing to say about what the rocking horse symbolises, the irony in the title, or what it is Lawrence is exploring in this story about a grown boy's obsession with a nursery toy. Here, then, is an energetic, but essentially misconceived attempt to apply the literary critical method to derive meaning from a text, but which is supported by various citations.

Thus citation was found to involve reference to a much wider range of 'texts' than Smith and his colleagues had envisaged, and such references could be used to support the derivation of 'interpretations' that appeared somewhat dubious. That is, a student may follow the discourse patterns for developing interpretations without, necessarily, also being engaged in teaching literature. PSVs may be satisfactorily constructed in terms of their formal elements while pursuing chimera: the import of ventures is intricately linked to the making of meaning.

Thus there would appear to be much more to Interpretative PSVs than a well-formed assemblage of subsidiary moves. The production of typical interactive patterns associated with such PSVs is, by itself, no guarantee that literature teaching, as distinct from whimsical interpretation, is taking place. It would seem particularly important in the teaching of literature, since this is an area where no simple tests of truth prevail, that the inferencing that is modelled by student teachers, and which they encourage pupils to participate in, should be reasonable, clearly justifiable, and well-founded in terms of the particularities of a text, the discipline of literary interpretation, and general knowledge of life and people. Otherwise, what occurs may represent less the teaching of literature, than wild speculation unbridled by appropriate standards of reference. If meaning can be wrung anyhow from any aspect of a story or poem, this is likely to lead to pupil confusion, rather than any understanding of, and appreciation for, literature.

In other words, any system of analysis which operates solely at the level of formal principles for the construction of classroom discourse, without considering the meanings that are being communicated through the discourse, is unlikely to provide a sufficiently discriminating account. While it might provide insights into classroom talk, it would only have limited value for the study of teaching.

7.5 Developing an Alternative Approach

7.5.1 Introduction

A notable feature of the student English teaching observed was the difficulty students often appeared to encounter in securing appropriate answers to the questions they asked at the outset of PSVs, and the corresponding persistence students demonstrated in pursuit of the sort of response they required. Sometimes a question would attract no response at all, while frequently, if responses were forthcoming they appeared not to be such as the student could entirely accept. Responses often seemed to answer the question only in a very restricted sense, obliging the student to deploy further questions which served to elucidate the intention of the original question. If it were possible to analyse what was going on during the unfolding of such episodes, then that would appear to be of considerable importance for the study of student teaching.

7.5.2 Towards a pragmatic conceptualization of teaching discourse

The attempt to provide a revised conceptual foundation for the analysis of interactive classroom discourse – one which would allow consideration of the dynamic improvisation of discussion – began with a reconsideration of research involving the pragmatic aspects of discourse. Such research has its origins in the work of the linguistic philosophers who developed speech act theory (Austin, 1962; Searle, 1965, 1969). Thus it became possible to

distinguish what is being <u>said</u> in an utterance, from what is being <u>done</u>; the locutionary form from the <u>illocutionary</u> force.

Pragmatics (Gazdar, 1979; Levinson, 1983; Leech, 1983) focusses upon the contexts in which utterances are made as an essential aspect for understanding how language is used for communication, and indicates the ways in which situational factors interact with linguistic forms in the construction of meaning.[9] It should be noted that context of situation here does not refer to any assemblage of social features that are thought might have some tenuous and unspecified relationship to the discourse. Rather, it is a dynamic concept which involves the shifting definitions of the situation as displayed by interlocutors through the discourse itself (see, for example, Erickson & Schultz, 1981; cf. Edwards & Westgate, 1987).

The foundation for a pragmatic theory of inference that accounts for the ways interlocutors derive meaning from indirect utterances, was laid by Grice (1975) in a seminal paper which deals with <u>conversational</u> <u>implicature.</u> Implicatures arise when what is meant differs considerably from what has actually been said.[10] Grice (<u>op. cit.</u>) seeks to demonstrate that communication is predicated upon certain tacit principles, the pre-eminent one being a "principle of co-operation". He then derives a series of "conversational maxims" of <u>relation, quality, quantity</u> and <u>manner</u> which govern talk. It is the breach of a maxim, it is argued, which allows a

participant to infer what is being implicated, though not actually stated.

Implicit in such an account is the view that discourse involves a system for the signalling and decoding of intentions (see also, Grice, 1957, 1959). Unfortunately, although Grice (1975) introduces a theory of inferencing, his analysis fails to indicate how context acts to constrain a participant into selecting one particular implicature from among various options which might be possible (Coulthard, 1985). Nevertheless, such an approach to meaning, it is considered, may hold important implications for understanding communication in classrooms.

For Smith and his associates the problem of considering teachers' intentions while engaged in structuring ventures does not arise: "It should be clear at the outset that the objective of a venture is not to be equated with the teacher's intention." (Smith et. al., p 21.) And later:

> As one reads the discourse in a venture it becomes clear that the venture has a central point. There is a sort of conclusion to which the verbal exchanges lead, a sort of theme that seems to pervade the exchanges. This constitutes the import of the venture, and it is its import that we have in mind when we speak of the venture's objective. (op. cit., p 22.)

While this neatly avoids entanglement in a conceptual difficulty, it is also a somewhat unsatisfactory position. If ventures are to be considered quite separately from teaching as an intentional activity, this would appear to limit their interest.

In the present research, the inclusion of interviews in the research design allows for student teachers making their intentions explicit. Yet, it may be that the student teacher when she is interviewed may not talk in detail about segments of a lesson that are later found to be difficult to analyze, and though he may become more adept with experience at spotting potential problems for analysis, it is unrealistic to expect either the researcher to have the prescience to probe with wholly consistent foresight, or to expect the student teacher to be willing to talk at great length about every conceivable aspect of a just completed lesson.

A consideration of the lessons and interviews in the research sample suggests that there are various sorts of intentions being operated by student teachers. It seems likely that the student addressing a class will have intentions that the class can recognise and act upon, and that, further, as she interacts with the class she will be checking from pupil responses that these intentions have been accurately understood and acted upon appropriately. It also seems likely, however, that sometimes a student may have intentions that are covert.

To illustrate this point reference is made to a lesson previously discussed. In Example 9 (see Ch. 6, pp. 278-80), it can be seen that the overt intention of the student, which she confirms in interview, is to demonstrate the kind of answers which are appropriate and the criteria which they fulfil – that is,

they have to be full answers, they ought to address all of the question, they ought to incorporate a quote from the text wherever possible, and so on.

However, there appear to be other intentions operating here, which an experienced observer may notice, but which belong less to the public domain. For example, there are 9 written questions reviewed in the lesson and the student asks 9 different pupils to read their answers. Thus it seems probable that the student is trying to involve as many pupils as possible and to motivate the class by distributing praise widely. This intention might not necessarily be perceived by the pupils. That is, unlike the wish to present demonstration answers, this is an intention that need not be explicitly understood by the class.

Moreover, there is one answer that the student asks for and praises that appears noticeably weak: it contains a series of short simple sentences, it is repetitive, and it does not address the question clearly. As a result of conducting a series of observations in this class, all followed by interviews, it is known that the pupil who is asked to read this answer is regarded as something of a problem. The student describes her as "that loud-mouthed girl" and suspects her of not carrying on with her work and of discussing other things than she ought in groupwork. Given the student's expressed concern about this pupil, it seems likely that here the student is trying to encourage this girl for having made some attempt, rather than genuinely

picking this as one of the best answers. But, of course, if this is the

student's intention it <u>has</u> to remain covert. If it does not remain hidden from

the pupil herself, if she does not feel that her answer is selected on the same

basis as the others, the intention to encourage her would likely be

undermined. So that there would appear to be occasions where a teacher has

intentions that are meant to remain more or less covert, as well as situations

where intentions are signalled overtly.

If, then, teaching involves both overt intentions, together with intentions

that are meant to be kept from the scrutiny of the pupils, this would appear

to complicate pedagogical analysis. Some of these covert intentions may be

deducible to some degree by an experienced observer of classrooms, but there

may be other intentions which cannot be deduced and which would only be

revealed if the teacher stated that she had these intentions. However, the

philosophical approach to the problem of meaning outlined above, with its

insistence that signalling and decoding intentions is central to conversation,

would appear to offer some guidance for the investigation of the

characteristic functioning of the public, pedagogical conversations that

student teachers engage in with their classes.

A key problem for the present research was that student teachers were not

found to talk about their intentions moment-by-moment as they interacted

with pupils, though they did talk about more global intentions. Yet, if making

inferences about a speaker's meaning is an integral part of making sense of utterances, then the way in which the intent of utterances has, in fact, been interpreted, may be displayed in the discourse itself.

Teaching would appear to give rise to an unusually explicit interactive discourse by comparison, say, with desultory conversation. Moreover, it is a form of discourse where one party, the teacher, takes responsibility for ensuring that clear communication occurs. Student teachers in the lessons recorded constantly seek to ascertain that messages have been understood and appear to use pupil responses for checking that their intentions have been understood appropriately.

The theoretical position adopted in the present research, then, regards the student teacher's intentions as being inextricably linked to the structuring of classroom discourse. Thus, the failure of student teachers to give a moment-by moment-account of their intentions as they asked questions or responded to answers may not be an insuperable obstacle. For preserved <u>in</u> <u>the discourse itself</u> is the evidence of how the student's intentions at a particular moment were <u>read</u> by pupils - and it is the way in which pupils appear to have understood the import of a particular question that the student is then obliged to work with.

Similarly, the evidence is preserved in the discourse of how pupil

responses were <u>read</u> by the student teacher as to whether, or how far, they

conformed to the intent of the original question. That is, pedagogical

discourse may be regarded as involving a public display in which a student's

response to a pupil's answer indicates whether it satisfies the intent of the

original question, or whether it is viewed as needing some adjustment.

7.5.3 <u>Refinement of the conceptualization – Ventola (1987): The</u>

   <u>Structure of Social Interaction</u>

To guide the development of an analytical approach predicated upon the

view of classroom discourse outlined above, reference was made to linguistic

research into the structuring of interaction in status marked, two-party

discourse in settings other than the classroom, to see how the dynamic

aspects of interaction were conceptualized. Of particular interest was

recent work by Ventola, cited above, which discussed how dynamic "discourse

repair mechanisms" operated in service encounters where information is

exchanged, and where one of a pair of interactants takes responsibility for

ensuring that information is explicitly understood.

Ventola's analysis is a development of the exchange structure analysis

proposed by Berry (1981), which views the exchange as the basic unit for

negotiating the transmission of information.[11] Dynamic systems for

repairing the discourse, it is noted, are liable to arise at any point within

exchanges. These involve systems for <u>suspending, aborting,</u> and <u>elucidating</u>

the discourse.

Figure 7.2 <u>Dynamic Discourse Repair Systems</u> (Adapted from Ventola,
1987, pp 105 - 114)

<u>Suspending</u> systems focus upon "checking and giving assurance about the transmission of knowledge" (Ventola, op. cit., p.105-6). Four types of suspending moves are identified: <u>giving confirmation</u>, <u>back-channelling</u>, <u>requesting confirmation</u> and <u>checking</u>.

<u>Confirmation</u> moves involve repeating the focal point of the previous speaker's message with falling intonation. This both confirms the fact that the previous message has been understood, and allows the previous speaker a chance to correct the interpretation of her message if she is not in agreement. <u>Back-channels</u> are "realized paralinguistically or by a small set of items (yes, yeah) and they typically occur either simultaneously with the message or within the speaker's 'breathing slots' while the speaker is constructing the message" (<u>op. cit.</u>, p. 106). The function of back-channels, it is suggested, is to give the speaker assurance that her message is being received. <u>Checking</u> occurs when a speaker who is giving information says something with questioning intonation to check that this is indeed what the other person wants her to talk about. A <u>confirmation request</u> involves a speaker repeating the focal point of information given by the previous speaker using a rising tone, thus indicating that confirmation is being sought, not given.

<u>Aborting</u> arises when an exchange is stranded by a <u>challenge</u> from one speaker which attacks the validity of what is assumed or affirmed by the previous speaker. <u>Elucidating</u> occurs when a speaker cannot complete an exchange appropriately without the provision of further information by the previous speaker. The information required is sought in a <u>clarification</u>.

The repair mechanisms described above also appear to occur in the pedagogical discourse in the present sample of lessons, but noting these did little to describe the main sources which threatened breakdown in classroom interaction. Nevertheless, the sort of analysis provided by Ventola suggested that it might be possible to make progress by considering how breakdown threatened to occur in interactive teaching, and how students reacted to seek to keep the discussion going.

7.5.4 <u>Averting breakdown - the search for pedagogical discourse repair mechanisms</u>

Ventola (<u>op. cit.</u>) indicates that repair mechanisms are likely to operate

differently in different sorts of discourse. Given the complexity of pedagogical interaction as compared with that in service encounters - after all, people are unlikely to be invited to participate in complex chains of inferential reasoning while asking for information at the post office or travel agents - it was felt that the search for repair mechanisms in pedagogical discourse, while it was likely to prove challenging, was an appropriate way to seek to develop the present research.

As has already been indicated, student teachers tend to seek to avoid long pauses in the classroom. Thus the absence of response appears to be read as threatening breakdown and students usually intervened rather swiftly to introduce modifications to a question which appeared to have led to discussion becoming stalled. Similarly, responses which the student identified as not being entirely appropriate also seemed to be read as threatening breakdown. Again, students seemed to move quickly to try and modify their questioning. Thus student teachers appeared regularly obliged to improvise further questions, or series of questions, in order to reinstate, or seek to sustain, pupil participation in the discourse.

It was therefore decided to explore the possibility of furthering the analysis of student teaching by focussing upon instances where the student teacher appeared to identify that interaction was in danger of breaking down, and was thus obliged to improvise a discussion that had not been pre-planned

in detail because the particular response, or lack of response, could not have been foreseen. This also appeared to be an appropriate place to begin since student teachers were keenly aware of pupil responsiveness, frequently identifying pupils as less responsive than they had hoped, and mentioned finding this troublesome.

There appeared to be two occurrences which obliged students to seek to avert breakdown in interaction: firstly, where a question attracted no response; and, secondly, where one or more responses were given but these were identified as being less than fully acceptable. It was decided to begin the analysis by focussing upon instances which fitted the first of these cases initially. Perhaps, what might be learnt from exploring the case of non-responses could suggest ways to proceed in analyzing what students did in the case of unsatisfactory responses.

Since student teachers did not talk in detail about the structuring of particular *interactive episodes* – indeed, they appeared to have considerable difficulty in remembering exactly how interaction had developed – the proposed analysis would lack the firm corroboration that would have been provided if students had been able to identify what they had intended from moment to moment. Thus it was decided to develop a set of guiding principles which would govern what would, of necessity, be a somewhat speculative procedure.

To guide the investigation into pedagogical discourse repair mechanisms, then, the following principles were adopted as an heuristic:

1. That interactive pedagogical discourse may be regarded as a specific adaptation to its context of features of ordinary conversation.

2. That interactive teaching may be viewed as a species of two-party discourse where the student teacher is one party and the class, regarded as a composite participant for whom any one representative may speak at any particular time, is the other party.

3. That interactive classroom discourse may, in the light of principles 1 and 2, be analysed following procedures that have been established for the investigation of other two-party conversations in general, and those which involve the exchange of information in particular; always keeping in mind, however, the distinctive pedagogical purposes which govern such discourse.

4. That interactive classroom teaching may be regarded as deploying a species of demonstration discussion in which the student teacher seeks to model something of the ways in which the particular subject discipline asks and answers questions, goes about organizing knowledge within its field, and so on. Thus, the invitation to

participate in discussion with the student teacher may be seen as an attempt to induct pupils into operating the viewpoint and procedures of the discipline, while at the same time encountering the sort of subject matter which the discipline deals with.

5. That any interpretation of dynamic development must be capable of consistent application across the whole data set; and must also be consonant with what student teachers do, in fact, say about their own teaching.

6. That, finally, interactive pedagogical discourse may be viewed pragmatically, in the sense that the answer a student teacher is seeking when asking an initiatory question may be regarded as that which she guides the unfolding discourse towards, unless there is explicit evidence in the discourse for assuming the contrary.

Consequently, the analysis began by inspecting a sample of lessons to see what occurred following a non-response to initiatory PSV questions. This led to the development of a categorisation of possible student actions following a non-response. Such non-reponses were identified operationally as instances where the student seeks to ask a question to initiate a PSV, pauses for a pupil answer but receives none and then tries again to seek a response; or where a student nominates one or more pupils to answer immediately after

asking an initiatory question, pauses for a response, receives none, then tries again to initiate interaction.

This sort of analysis attempted here is dependent on first having identified the PSVs in lessons. It is only thus that a particular question may be identified as initiating, or seeking to initiate, a PSV. Close consideration of the lessons taped in the present research suggests that it is not legitimate to regard all classroom questions as of equivalent pedagogical importance. The issues raised in PSV initiatory questions are pursued by students in remarkably persistent fashion. Such questions appear to attempt to set the direction for ensuing pedagogical interaction by allowing the student to set up a discussion that reveals to pupils something she thinks is important to notice about the topic or text under discussion. That is they seem to be linked to the student's <u>agenda</u> for the lesson: what it is that she considers needs to be accomplished with a particular group of pupils, in terms of the chosen topic and materials, and in the light of the particular subject discipline which is being taught.

The discussion that the student intends may be indicated by the discussion that follows until the original question is answered to the student's satisfaction. The ensuing discussion can be read in this way even if the student alters the original question, so that she now builds up what was originally sought in one PSV from a series of linked PSVs. Thus the original

question is answered by constructing a series of subsidiary steps: it is not

abandoned. In contrast, there are some questions which student teachers ask

that appear to be easily abandoned if they attract little response. Such

questions, however, were never found to be PSV initiatory, but only to occur

within PSVs.[12]

Thus the approach adopted deals both with the real-time aspect of student

teaching, and conforms with students' claims that they asked questions in

order to lead pupils to see particular things, or to lead them to understand

things in particular ways. It also recognizes that while a student teacher

might appear to have considerable freedom to set the exact parameters for

discussion, she is, to a very considerable degree, dependent on the actual

pupil responses which arise to a particular question on a particular occasion,

in terms of the possiblities for developing the discussion. Consequently, the

conceptualization of the search for pedagogical discourse repair mechanisms

appears to possess considerable merit in that it explicitly acknowledges

fundamental classroom realities about the structuring of interactive

discourse with which student teachers are obliged to work.

7.5.5 Pedagogical discourse repair in student teaching

The actions taken by student teachers following non-responses was found

to be classifiable into eleven categories which are described in Figure 7. 3

below. No claim is made that the repair mechanisms ennumerated here are

the only ones possible, or that they will necessarily be found to occur widely

in other samples of student teaching. But they do represent the options

chosen by the present sample of student teachers.

Figure 7.3 <u>Student Teachers Actions Following a Non-response</u>

1. <u>Student repeats the question</u> Here the student teacher, after a pause in which no pupil volunteers a response, repeats the question using exactly the same words.[13] This repetition may also preserve the rhythm and intonation of the original question, or these may be varied so that now emphasis is added or heightened on part of the question.

2. <u>Student rephrases the question</u> While the same information, etc., as was sought in the original question is requested, it is now asked for in an alternative form of words.

3. <u>Student clarifies an expression</u> In this case the student takes a word or phrase or other expression from the original question and asks if the class knows what it means.

4. <u>Student seeks to motivate</u> Here the non-response is followed by the student teacher saying something which seeks to motivate pupils to respond, encourage them to try, shake them out of a state of lethargy, by cajoling, rebuking and so on. Often humour is deployed to seek to encourage a response.

5. <u>Student nominates a pupil</u> After a non-response the student might nominate a particular pupil to respond. A student teacher appears to rely on a very small group of pupils, frequently only two or three, who are regularly called upon at such moments. The pupils who are selected appear to be those the student feels she can rely upon to make some attempt to answer. Such pupils are referred to as <u>standby</u> pupils.[14]

6. <u>Student seeks to put the question in a known context</u> Here the student, after a pause, reminds the class of something they already know, frequently something encountered in a previous lesson, and so puts answering the present question in a previously established context.

7. <u>Student narrows the focus</u> In this case the student selects a particular aspect of the original question as being important to attend to and asks about that. Thus the pupils would appear to be given more precise information about exactly what aspect of the original question the student is interested in and, consequently, what sort of response she is looking for is signalled.

8. <u>Student provides a framework for answering the original question</u> Here the student seems to try and establish agreement on some matter, or set of considerations, that appear to be logically prior to , or subsumed by, the question. Thus a foundation for answering the question is provided. In literature lessons this case often involves establishing agreement about what the 'facts' of a situation in a text are, or what the exact wording of a passage is, before returning to seek an interpretation of these.

9. <u>Student breaks a question down into constituent parts</u> Such a procedure may be initiated by students when a non-response occurs after a question whose answer requires complex thinking. Thus instead of being required to answer the question in one step, pupils are invited to answer a series of subsidiary questions into which it is broken down. The

answer, originally sought directly, is now derived in a series of steps.

10. <u>Student gives a clue about the nature of the answer</u> Here the student indicates the sort of answer she is seeking by providing a hint, suggestion, etc. about the desired response. Often, in this case, the student wants the pupils to suggest a particular word she has in mind.

11. <u>Student provides the desired answer herself</u> Ultimately, if the pupils cannot be led to provide the response sought, or to give it in sufficiently complete or complex form, the student herself may state the exact answer she has in mind. This case usually occurs after the student has made several attempts, which succeed only partially, to have the pupils derive the answer.

A most noteworthy feature of the discourse repair that was revealed by studying the transcripts was that frequently the repair mechanisms identified to deal with non-response did not occur singly, but in a series. If interaction threatens to break down, it is not just a matter of instituting a minor repair, rather, the student seems to need to mount a concerted campaign involving a number pedagogical discourse repair mechanisms, in order to be able to ressucitate and manage the interaction. Thus the repair mechanisms originally identified as occurring after a non-response following a PSV initiatory question, are also deployed at subsequent questions in an interaction, as if to forestall, or lessen the chance of, any further breakdown.

Scrutiny of such events suggest that students are not acting randomly, or in a panic, but that there are usually cogent reasons for the repair sequences which occur. Considerable skill appears to be involved, but skill which would seem to be little informed by the official curriculum of teacher training courses.

7.5.6 Demonstration Analysis of Student Teaching Utilizing the Categories of Pedagogical Discourse Repair

The provision of isolated examples of the repair mechanisms described above is eschewed in favour of providing a contextual analysis of particular instances of repair which are followed through to completion. This approach has been followed for two compelling reasons. Firstly, the actions instituted by student teachers to avert the possibility of breakdown in pedagogical discourse often comprise a complex series, frequently requiring several PSVs before the answer to the question originally asked is satisfactorily clarified. Secondly, the nature of the threatened breakdown, and of the repair mechanisms instituted, appears to be intricately linked to the specific situations in which the potential breakdown has arisen. To disembed single repair mechanisms from the context in which they occurred would thus run the risk of misrepresenting the complexity of the discourse structuring that student teachers engage in.

The particular lesson chosen to illustrate repair mechanisms is selected for a number of reasons. Firstly, the student concerned appears highly committed to teaching by entering into a dialogue with her pupils. She is notably fluent in speech, quick thinking, as well as thoughtful and responsive to what pupils say. She appears comfortable when in charge of a class and possessed of considerable self-confidence. There is often an impression of 'seamlessness' about the way she manages interaction with the class.

Moreover, the lesson has a clear logical development, and although the topic being explored presents conceptual difficulties for the pupils, there is a strong sense of direction and purpose. Additionally, the student is obliged to revise her own conceptualization of the topic because of matters raised by pupils, and she is open-minded enough to do this. Thus the illustration draws upon unforseen difficulties encountered by a student who appears generally competent in the classroom, and scrutinizes both the difficulties which occur and how she seeks to deal with them.

In interview, this particular lesson is revealed to have had a rather complex genesis. In a previous lesson the student has discussed two Irish short stories each of which deals with the experience of a character who has left home and is living in London. These characters experience "an identity crisis" and "a feeling of alienation". The student has found difficulty in introducing both these concepts to the pupils. Her diagnosis of the problem is that: "They were just very unclear about this identity thing." Consequently, the present lesson has been undertaken to clarify what is meant by an individual's sense of identity. The student's plan is to discuss elements which go towards building up a sense of identity. However, she wants, eventually, to lead up to a consideration of the place a person's job has in her sense of herself, since she wants to conclude the lesson with a discussion of two texts – one a poem by D H Lawrence, the other a Monty Python sketch – which raise the issue of work and identity. Here is the student's initial

description of what she is seeking to do:

> Well. . . the lesson plan was. . to pick up on the themes that we'd dis. . picked up in the short
> stories which was [sic] family relationships, crisis of identity. . they. . they said last week
> they were very unsure about what an identity crisis was. So I was trying to get them to
> thinking more today about what a sense of identity is and how we. . what we are. . . and how
> people perceive us. [1 sec] So it was just really starting at the beginning. . what they thought
> of. . person's name identifies them obviously. . the. . their appearance particularly their
> clothes. . .and. .then to go on to the a. . . the aspect of a job. They didn't pick up on that as clearly
> as I thought they would. I thought they would. . . when I. . I kept asking them well what else do
> people start asking and [they're] going em. . who your friends are and where ye go at night and
> [laughs]. . . I just wanted them to talk about. . . a job but eh. . . just to get onto those three. . two
> pieces 'cause I thought they were both quite interesting for them.

The student describes the lesson then as partly exploratory, but she clearly

requires the pupils to mention a person's job, at the appropriate time, in order

to be able to lead into the texts she has selected. It is noteworthy that the

student indicates having quite exact expectations of how the class will

perform as interlocutors, and that she indicates difficulties arise because

they did not perform precisely as she had forseen.

In remarks made to the researcher prior to the lesson, she says she is

investigating this area partly for her own benefit: "It's a curious thing, sense

of identity. I'm not sure I understand it completely myself. That's one reason

I'm doing the lesson." This suggests she partly sees the lesson as a joint

exploration of the topic, in which she hopes that a better understanding for

herself might also arise through trying to teach the concept to others. That

is, she claims the lesson is being done for her own benefit, as well as that of

the pupils.

After the student has settled the class down, she asks the pupils to name

the short stories they have read previously. The first PSV thus deals with

establishing an agreed set of basic facts. She then turns to inviting the

pupils to recapitulate what the themes of the stories were said to have been.

Example 7.1 below gives the second PSV of the lesson.

Example 7.1 (Text 24)

PSV 2 - Particular

1.	S: Now what were some of the themes we'd picked up. [2.6 secs]	N-R
2.	Through both of the stores. [sic]	10
3.	Remember things we said they had in common? [0.7]	6 & 2
4.	Bruce?	5
5.	P: /They had a personal/ relationship. [0.9] [Sound of chair being dragged	
	noisily across floor occurs between slashes]	
6.	S: Yes, relationships in general, family relationships. [0.5]	m
7.	P: Identity crisis. [0.2]	
8.	S: An identity crisis, good!	
9.	Anything else that they had in common? [2.2]	m & 2 & N-R
10.	What was the other theme we said? [0.2]	m & 2 & 4
11.	P: How they're livin' in London. [0.5]	
12.	S: Sorry? [0.3]	clfr
13.	P: Livin' in London.	
14.	S: Yes, that's specific things,	m & 10
15.	but the general themes that were.. that were together. [0.2]	10
16.	The general things.	10
17.	Family relationships, the idea of an identity crisis..? [0.4]	m
18.	P: They were both Irish. [0.3]	
19.	S: Yes, Irish, uh-hmm. [0.5] [A P. laughs]	m
20.	P: Religion. [0.3]	
21.	S: Religion. They had religion as a common theme as well. [0.3]	m
22.	And the theme of not being very happy in London.	11
23.	The alienation theme.	11
24.	A feeling... [1.1] unhappy in your surroundings,	11
25.	OK? [0.8]	check

Note: i) The numbered lines indicate exchange slots.

ii) Down the right hand side of the text is given the classification of the exchange slots in terms of dynamic repair: the numbers refer to the identification of categories as given in Figure 7.3.

iii) 'N-R' indicates where a non-response appears to have been identified.

iv) 'm' indicates that the student signals that more is required.

v) 'clfr' indicates a clarification request; 'check' indicates checking that there is understanding or agreement.

vi) All pupil names have been altered to protect anonymity.

A striking feature of the 25 lines[15] the interaction is analyzed into above, is the very high frequency of occurrence of the discourse repair mechanisms previously identified as being possible following a non-response that are used here. No fewer than 11 lines, that is approximately half, involve one of the repair devices. And of the 19 lines spoken by the student this means that almost 58% involve some sort of repair mechanism. This rather heavy loading of repair mechanisms may suggest why students frequently make remarks - "It was like pulling teeth", "They didn't have a clue what I was driving at", "They weren't very willing to talk or take a chance", and so on - which suggest they feel they have had to work very hard to secure appropriate pupil answers.

In interview after the present lesson the student remarks ironically, "Did they talk?" Given that the student was able to maintain a discussion with pupils that lasted more than half an hour, such a remark cannot be taken literally. Rather it would appear that the student is expressing a feeling that the pupils did not participate with the fluency, the alacrity in seizing points, the readiness in thinking that the student has anticipated from the idealized discussion she appears to have had in mind when planning the lesson. The particular difficulty here may lie in the fact that the student does not seem to have realized how little a class may remember of the precise details of a previous week's discussion lesson.

Three other points need to be mentioned. Firstly, repair moves may occur without following a corresponding non-response, although that is how they were first identified in the transcripts. While the pause which follows line 9 appears to be identified by the student as another non-response, the remaining repair moves occur without corresponding significant pauses. Since students do not mention such phenomena in interview, interpretation is somewhat speculative, but it seems likely that moves which can be called upon to repair discourse after a non-response may also be used anticipatively, to guide pupils, in an attempt to pre-empt a non-response, or lessen the likelihood of such an event re-occurring.

Secondly, it also appears that more than one of the repair devices can be incorporated into a single discourse slot. This would appear to accord with the view expressed by systemic linguists that discourse must be regarded as a system which exploits simultaneous, multiple layering of complex information (Berry, 1981a, b, c) Of course, this also entails the sophisticated complexity of the human capacity to produce and decode real-time discourse. That more than one repair device may occur in a single line - as in lines 3, 9, 10, and 14 - provides additional evidence that the functioning of pedagogical discourse must be viewed as highly complex .

Thirdly, it is found necessary to indicate another event common in pedagogical discourse that involves a species of cluing, but which is

relatively imprecise. Thus the student indicates that <u>more</u> needs to be said - hence such phenomena are noted using the letter <u>m</u> - or that the answer as it stands is incomplete, or less than fully satisfactory. This may be accomplished by an explicit indication that more is required as in lines 9 and 10: 'Anything <u>else</u> that they had in common?'; 'What was the <u>other</u> theme we said?' But very frequently it is achieved by intonation. Pupils obviously recognize the unenthusiastic 'yes' (lines 6, 14, 19) or 'uh-hmm' (line 19) with its characteristic, rather dull fall-rise tone, as an indication that an answer is only partially endorsed, as evidenced by the fact that they subsequently produce alternative replies. The same intonation pattern may be applied to the repetition of a response, as in line 21 to indicate that it is not exactly what the student is seeking. Also in this extract, the indication that something additional is required is achieved in line 17 by a repetition of the two themes that the student has endorsed using a listing intonation which rises after each item suggesting that at least one more theme is sought so the list can be completed. This is indicated typographically by [...?] thus: 'Family relationships, the idea of an identity crisis...?'

While interest here is focussed upon repair devices which appear to belong to pedagogical discourse, there are, in lines 12 and 25, examples of general discourse repair mechanisms. Thus in line 12 the student teacher asks a pupil to repeat a response which she appears not to have heard clearly. This is indicated as a clarification request (<u>clfr</u>). Similarly, in line 25, after she has

revealed the answer she requires, the student seeks brief confirmation that

the pupils have understood: 'OK?'. This is recorded as checking (check) that

there is understanding or agreement, or more precisely, that there is no

obvious sign of confusion or disagreement.[16]

The pause pattern of this interaction also seems worthy of comment in

relation to what is going on. After the student's initial question in line 1, a

pause of 2.6 seconds occurs. Appearing to have decided she needs to help the

interaction along, she gives a clue that the answer she seeks is about themes

shared by both stories in line 2. Without pausing, she continues in line 3 to

put the question in a known context by asking them to remember what was

said in the previous lesson, as well as rephrasing the original question in a

way which incorporates the clue given in line 2: 'Remember things we said

they had in common?' Thus the student, appearing to judge that the question

might need modification if it is to secure a response, first suggests a clue

before then using it to generate a modified version of the question. Now,

having modified the question, she allows a brief, 0.7 sec, pause before

nominating a pupil.

It would appear possible, then, to consider that the student is operating

some pragmatic system of diagnosis in dealing with the non-response.

Perhaps the pupils need a clue (line 2), or the question needs clarification by

relating it to a known context (line 3), to enable pupils to respond? Then,

having modified the question, she pauses only briefly before making a nomination: perhaps the pupils are unsure or reluctant to try and answer? The pupil she calls upon is one of whom she remarks in conversation with the researcher, "He's always willing to try and talk". But she is also aware that, "the other kids resent him talking - he's a bit bumptious." Calling upon this pupil, then, might appear to be a calculated risk to try and set the interaction going.

It is interesting to note that just as the nominated pupil starts to answer, another boy, seated immediately in front of the researcher and to his left, hooks an unoccupied neighbouring chair with his foot and drags it noisily towards him. There is a pause of 0.9 seconds before the student accepts, with modification, the pupil's answer in line 6.

Usually with this student, when a pupil gives her an answer that contains something that she is looking for, she responds in less than 0.5 of a second. *The answer gives her one of the themes, but the pause is almost double what* would be expected. It is suggested that the chair dragging incident puts her under some pressure - what does it mean?, should she react? - and that this is indicated in the longer response time. It may be signals such as this that pupils pick up when they sense a student teacher's vulnerability and attempt to throw her out of her stride.

Following a brief pause (0.5 secs) a pupil gives the second theme she

requires in line 7, and to which she responds immediately in line 8. The

question is repeated using an alternative form of words in line 9. Then

ensues another pause of more than 2 seconds before the student asks, line 10,

"What was the other theme we said?" which involves 3 mechanisms

simultaneously : rephrasing the question, indicating that she needs more, and

seeming to indicate that they ought to be able to do this since it is something

that has been dealt with previously. Deriving the third theme, however,

proves to be more difficult than the student appears to have anticipated. She

receives responses in lines 13, 19 and 20 which, though she accepts them, she

does so in rather equivocal fashion, before providing the answer herself in

line 22, and elaborating it in lines 23 and 24.

From line 10 onwards the interaction flows very rapidly. Perhaps she feels

the interaction is getting bogged down as pupils resort to guessing. Also, the

pupil response in line 19 - 'They were both Irish' - together with the ensuing

laughter of a pupil, has to be considered. The student's accent indicates her

Irish background and the response may not just refer to the story, but include

something of a personal jibe. This may also signal the possibility of

discipline problems arising if she persists, and she brings the interaction to a

swift closure.

The analysis of this interaction, based upon the conceptualization

introduced earlier, appears to possess considerable merit. Primarily, it serves to indicate the extraordinary complexity of the activity the student is engaging in as she seeks to guide interactive discussion. The heuristic approach of viewing the student's actions as intentional and, potentially rationally explicable within the framework of seeking to guide interactive discussion for pedagogical ends, would seem to be fruitful. Of course, there is no confirmation in interview that the student is acting out of the considerations mentioned. However, if cumulative evidence can be provided that such a description might be applied with great consistency, that would enhance the credibility of the analytic approach. It would be even more convincing if it were shown to illuminate, in congruent fashion, any episodes in the lesson where some more detailed student commentary is available. The subsequent discussion, then, seeks to provide such evidence.

Following the PSV cited in Example 7.1, the student teacher indicates she wants to focus in the present lesson upon what is meant by personal identity: "What I want us to think about more clearly today. . is a person's identity and how we form our own identity." There then follow a series of PSVs in which the student having elicited that a person's name is central to the way people are identified, goes on to discuss the importance of names.

A pupil has earlier mentioned a person's appearance, and the student now picks this up to initiate a consideration of clothes and how they say

something about a person. This, in turn, leads to a discussion about school

uniform during which the student elicits that a uniform is intended to make

people appear equal or to have something in common, as well as giving

information about what people do. In PSV 12 the student seeks to develop

this last point with reference to school uniform, but this is suddenly

abandoned. In PSV 13 she seeks to explore why some pupils do not wear

school uniform. Both these Reason PSVs are given together in Example 7.2

below, since they appear to be intimately linked.

Example 7.2 (Text 24)

PSV 12 - Reason

1. S: Why is it important that people know that you're at school? [1 sec]		N-R
2. What's a negative aspect of this if you happen to be one of the pupils that's smoking in the back of the bus...		7/10/4/6
3. or any other unmentionable things? [4 secs]		4
4. P: They could report it to the school.		
5. S: Right, they're going to say it's a Central High School pupil if you're wearing a uniform.		
6. OK?		check
7. The purpose of that is.. [0.5]		PSV abandoned

PSV 13 - Reason

8. S: Now some people in this classroom aren't wearing the uniform. [1.3 secs]
9. Why.. why do you choose not to wear uniform?
10. Senga? [0.5]   5
11.P: Don't want to go around looking like everybody else.
12.S: Right. [0.6]
13. So Senga's making a.. a point about trying to be individual.
14. We're saying is it all equal...[0.8] [S starts to write on
                        board Everybody the same .]...
15. everybody is the same. [6 secs - pause continues till S stops writing]
16. It's also supposed to give you a feeling be.. of belonging. [1.7 secs, then S starts to write]
17. OK? [S still writing- 3.2 secs.]
18. Belonging...[1sec] to an institution. [1.5 secs S continues to write Feeling
                        of belonging to an institution]
19. So that you feel part of that institution. [0.5 S writing, then stops]
20. Senga's told us that she ch.. chooses not to wear a uniform for a
       different reason. [0.4]
21. You don't want to look like everyone else. [1 sec]
22. Uh-hmm. [0.4]
23. Anything else? [1.4 secs]   N-R
24. Why else would you not wear a uniform?   2
25. Bruce?   5
26.P: It's boring. [0.4]

27.S: Right.
28. P: Everybody the same.
29.S: It's boring. [0.4]
30. So how can your clothes that you don't wear..[0.5]   interrupt
31. Julie, sorry? [0.9]
32.P: Ah don't like the colour. [0.6]
33.S: Right. [1.8 secs: S & Ps laugh]
34. A person.. a personal aversion to the colour, OK?   4
35. You think, right if.. certain colour of hair might just clash with the   4
    uniform or something..
36. with the.. the blazers. [0.9: Ps laugh]   4
37. That's.. that's probably a fair enough assumption.
38. Linda? [0.5]   P volunteers
39.P: Boys might ca' us Jessie. [0.7] [then Ps laugh: 0.6 secs]
40.S: Sorry? [1.6 secs - S & Ps laugh.]   clfr
41. Boys might think it's...? [0.7]   clfr
42.P: Ties an' blazers an'.. [0.4] jumpers an' a' that. [0.3]
43.S: So boys might think it's..[0.3] it's dressy?   check
44.P: Naw! It's Jessie. [0.6: Ps laugh.]
45.P: Cissy! [0.5]
46.P: Cissy.
47.S: Oh, Jessie.   cf
48. Oh is this..? [0.4: Ps laugh]
49. sorry I've.. [0.4: Ps laugh]
50. so cisthy. [sic]   check
51. Boys might think it's cissy to wear blazers an' things,
52. OK?   check

    Note: 'cf' indicates a confirmation.

Here the student is seeking to make the connection between clothes and

personal identity relevant to the pupils by raising the issue of school uniform.

If a function of uniform is to indicate what people do, why is it important to

signal that pupils go to school? This is the initial question at line 1. But the

student only waits for 1 second before reformulating the question at line 2.

Either the student is expecting a near instantaneous reply, or it now occurs to

her to phrase the question in a more provocative fashion.

This question seems to carry a very heavy loading in the sense that it

utilizes no fewer than four of the actions possible to deal with a non-

response simultaneously. Firstly, it narrows the focus to a consideration of

the negative aspects of being easily identified (7). Simultaneously it also

gives a strong clue about the answer sought (10) by the negative example

provided. It also seeks to motivate the pupils (4) by the use of an amused,

ironic tone to talk about a disciplinary matter the school treats with great

seriousness, whilst also putting the question about uniform in a context the

pupils know very well (6). In line 3 the motivational use of irony is repeated.

Following line 3 there is a 4 second pause which is not treated as a non –

response. It is intriguing to speculate why there is such a relatively long

pause before a pupil replies, and why the student is content to wait for a

reply to come. Perhaps the student feels sure a reply will be forthcoming and

so waits. Also, the density of discourse functions that occur in lines 2 & 3,

together with the student's risqué use of irony – which implies a degree of

detachment from the school context – might take time to absorb as well as

give the pupils pause about replying.

The reply given appears to be such as the student anticipated, since she

endorses it immediately. But in line 7, where she seeks to use the

information that has been established to indicate the purpose of school

uniform, she suddenly stops in mid-statement, pauses for half a second, then

initiates a different approach to considering school uniform. Why?

It has probably occurred to the student, as she is improvising this

interaction, that the conclusion the discussion is moving inexorably towards is unsatisfactory. It might be argued that the easy identification of a nurse, say, is of benefit to the nurse as well as to anyone who needs to find a nurse. But it is hardly of benefit to a miscreant pupil to be easily identified. That is, the original question, 'Why is it important people know that you are at school?', appears to be leading to the conclusion, 'So people can can easily report you to the school authorities when you misbehave.' The student appears not to have foreseen this inevitable conclusion earlier and so is forced suddenly to abort her line of argument. This would tend to confirm that the student has not planned out aspects of the lesson in detail, and is engaged in an exploration that involves considerable improvisation while seeking to seize opportunities of the moment as they present themselves. But this episode also serves to indicate the risks for a student teacher in operating in this fashion --it may lead to an impasse.

Although PSV 13 cannot be said to begin with a question receiving a non-response, it immediately follows the previous aborted PSV and appears to be instituted to repair the breakdown that the student's leading the discussion into a logical cul-de-sac has caused. That is, in the last analysis, a student may abandon one aspect of a topic and replace it by another in order to keep discussion going. While she has not succeeded in tailoring the discussion of uniform to pupils' interests in a way which also allows her to make logical progress in the discussion of clothes and identity, she now tries

to achieve this by asking pupils about why they choose not to wear uniform.

Having asked the initiatory PSV question in line 9, she immediately

nominates a girl who is not wearing uniform. Her reply in line 11 is swiftly

acknowledged by the student's 'Right', followed by a brief pause, and a

translation of the pupil's answer into another form of words in line 13. But

this is also followed by an abrupt, albeit temporary, suspension of discussion

while the student recapitulates some points about uniform and notes these on

the blackboard.

The decision to suspend the discussion at this point seems to be

illuminated by the student's comment in interview that the pupils seemed to

equate 'conventional' with 'boring', and yet even the pupils who are not

wearing school uniform are dressed in very predictable fashion: "Senga was

saying she wanted to be different and.. she looked so.. ordinary." The student's

tone of amazement here suggests that she has been caught by surprise at the

claim by this girl that her clothes, which as far as the student is concerned

are run-of-the-mill adolescent dress, mark her out as different.

Having just had to abandon a PSV because she found she was leading the

discussion towards an illogical conclusion, the student may have been taken

aback by a pupil appearing to make an illogical claim, though she seeks to

disguise this. Thus it seems possible that the student's decision to call a

pause here by summarising some points on the board, may give her some respite while she considers how to proceed. A pause is necessary since a huge, and apparently unexpected, gap in perception has been revealed to the student between her view of the pupils and their view of themselves.

In lines 20 and 21 the student recapitulates the point Senga has made while pausing after 21 for confirmation. The pupil's nodded confirmation is acknowledged by 'Uh-hmm', line 22. The fact that the student takes pains to confirm that she has understood aright here might tend to support the view she is having difficulty crediting this.

The student then attempts to continue the discussion by asking for further responses to the original question. She appears to identify a situation of non-response, line 23, before rephrasing the question and nominating her primary standby pupil. In line 30 she appears about to initiate a new PSV, but abandons this in mid-question to ask a girl, seated immediately in front of where she is standing, to repeat the comment she has made to her neighbour.

There is no hint of rebuke in the student's tone or behaviour here. It appears she simply wishes to incorporate the overheard remark into the public discussion. This appears to be entirely consonant with the student's general sensitivity to pupils and her wish to have them speak in class.[17] This pupils comment is endorsed jocularly by the student in lines 34 to 37.

The acceptance of this pupil response, then, appears to encourage another girl, code-named Linda, to indicate she wishes to contribute. Linda's remark "Boys might ca' us Jessie" (line 39) seems disarmingly honest both in its content and its use of a local dialect term. Linda says that girls not wearing uniform is related to peer pressure from boys. Unfortunately, this remark causes the student conspicuous difficulty.

After a 0.7 sec pause, the pupils begin to laugh – the student dramatizes looking puzzled. After her request for clarification (line 40), the student and pupils share in laughter. Here, then, something of a reversal of roles occurs. While usually it is the pupils who are striving to understand what she is seeking to say, here the student is striving to understand a meaning that is absolutely clear to the pupils. It is not surprising that such misunder- standings should occur in the classroom, but what may noted here is the operation of general discourse repair mechanisms that may be used to track down the source of a misunderstanding so that communication is restored.

In line 41 the student again seeks clarification: "Boys might think its...?", her questioning intonation indicating she is not sure of the final word. The same pupil replies in line 42, not by providing the final word, but by an elaboration of the features of the school uniform that boys find 'Jessie': 'Ties an' blazers an'.. jumpers an' a' that." The student responds by making a checking move. She repeats the pupil's original contribution in a questioning

intonation that indicates she is guessing the final word: "So boys might think it's.. it's dressy?" (line 43), appearing to interpret what has been said in terms of her own frame of reference. Whereupon the same pupil indicates 'dressy' is wrong, and repeats the original formula loud and clear. Another pupil, who has apparently diagnosed that the problem is not just mishearing 'Jessie', but of not understanding what the expression means, then steps in to provide a translation: "Cissy!" (line 45), which another pupil repeats.

Now the student appears to realize what is meant. In line 47 she indicates she now knows what actual word has been said, while in lines 48 and 49 she appears to acknowledge that she now realizes that this is a local expression and that she has misunderstood. In line 51 she confirms the communication by summarizing it while asking for a final check that it has all been sorted out in line 52.

Note, however, that in line 50 when she tries to repeat the translation of the word 'Jessie' that has just been provided, her speech falters and she says 'cisthy'. Since this student rarely makes slips in her classroom speech, despite the fact that she often talks with great rapidity, it may be that the slip here is an indication of the pressure she feels as she has found herself unable to decode what a pupil means. Since all the pupils appear to understand, it seems likely she is pressured by her isolation and exclusion from a meaning shared by the class as a whole.

The student mentions the 'Jessie' episode in interview, in terms which

indicate that she suspects the pupils may sometimes wrong-foot her in an

almost deliberate fashion:

Hadn't a clue what that was. They con.. they continually do that to me. They talk about being 'melted'. I said, "Sorry, do you mean 'belted'?" "No!, melted'!" It means being.. like belted.. being hit. "I got melted!"

It is possible that since the student was making a self-conscious effort to

introduce these Scottish pupils to aspects of Irish culture, the pupils were

returning the compliment in the form of good-humoured, mild teasing.

The repair that occurs following the pupil's remark in line 39 is

particularly interesting because, although it occurs in order to clear up a

misunderstanding during interactive teaching, it cannot be regarded as a

pedagogical discourse mechanism, since it employs repair mechanisms which

are employed by interactants generally (see Ventola, 1987).

To summarise what has occurred by this stage of the lesson from the

student's point of view: she has sought to make the consideration of the

relationship between clothes and personal identity relevant to the pupils'

interests by focusing on school uniform – something the school expects all of

them to wear, but many of them don't. In a similar attempt to excite interest

she asks a provocative question about the negative consequences if a

uniformed pupil smokes or otherwise conspicuously breaks the rules. But she

breaks off suddenly as she begins to try and explain what the function of the uniform in this regard is. It seems likely that she has realised that the argument she is pursuing leads to a non-sequitur. Thus the student, at this point in the lesson, has experienced failure in seeking to improvise a logical argument that links school uniform convincingly with the need to know what people do.

Next she attempts to improvise a discussion about uniform that interests and motivates pupils to participate by asking why pupils choose not to wear uniform. She appears to be taken aback by a pupil's claim that she doesn't wear uniform because she doesn't want to look 'like everybody else'. This pupil strikes the student as dressing exactly like everyone else. While the student accepts the pupil's answer, it appears not to have been such as she expected. Given pause by the huge gap that she has discovered between her view of the pupils and the pupils' view of themselves, she takes refuge in writing on the board.

In seeking to continue to pursue the discussion of pupils' reasons for not wearing uniform, she interrupts a question to ask a girl to repeat for the benefit of the class a comment about the uniform she has made to her neighbour. The pupil states, with some feeling, "Ah don't like the colour." The student's acceptance of this comment, which she elaborates in jocular fashion, appears to encourage another girl to volunteer her genuine feelings

about uniform: "Boys might ca' us Jessie". However, having elicited a genuine response, the student is unable to capitalize immediately on this since she is unable to understand exactly what the pupil means.

While the student appears to have succeeded in eliciting pupils' genuine feelings about uniforms in this improvised discussion, she runs into difficulties because of the differences which are revealed between herself and the class. They have a view of themselves which she can scarcely credit and which appears hopelessly out of touch with the reality that she perceives. Moreover, they speak a different idiom, which can make classroom communication difficult. In other words, precisely as the student succeeds in having pupils say what they genuinely think and feel, she runs up against differences of perception and language which separate her from the class, thus inhibiting pedagogical communication.

Immediately following this discussion which the student has sought to personalize, with equivocal success, she turns to what might appear to be the safer territory of clothes worn by TV personalities. Unfortunately, the improvised discussion attempted here also reveals considerable cultural differences between student and pupils. Example 7.3 below contains PSVs 14 -19, this series of PSVs again begins with a question followed by a non-response, and illustrates how a series of PSVs may be required before a student teacher succeeds in completing the sort of discussion that appears to

have been pre-figured in an initiatory question.

Example 7.3 (Text 24)

PSY 14 - Particular
1. S: Can you think of any.. characters on TV.. [0.4] any personalities.. [0.5]
   who've particularly outrageous clothes? [1.7 secs]   N-R
2.   Mike?   5
3. P: Lenny Henry. [0.8]
4. S: Lenny Henry. [0.6]
5. P: Yeah. [1.6 secs - chorus of Lenny Henry imitations.]
6. S: Lenny Hen..[0.2] is he.. [0.2] the black comedian? [0.5]   clfy
7. P: Uh-huh. [1 sec]
8. S: Right.. [0.4]
9.   I can't imagine.. [0.1]   m & 10
10.   I was thinking of some really flamboyant characters. [0.5]   10
11.   Julie?[0.3]   P volunteers
12. P: Billy Connolly. [0.5]
13. S: Billy Connolly,
14.   yes sometimes he goes out of his way to be different. [0.5]   m & 10
15.   Geena? [0.4]   P volunteers
16. P: Dame Edna. [0.3]
17. S: Dame Edna,
18.   that's the one I was thinking of as well. [0.4]
      PSY 15 - Particular
19.   What are Dame Edna's clothes like?
20.   How can /we describe them? [Chorus of P noise breaks out at /]   2
21.   Shhh! [This hushing is loud and extends for 0.5 secs and silences P noise.]
22.   Rose? [0.3]   P volunteers
23. P: Loud. [0.4]
24. S: Loud. [1 sec]   m
      PSY 16 - Interpretative
25.   Another word for loud.   m
26.   What's a.. a more specific term than loud? [0.4]   2 & 10
27. P: Flamboyant. [0.3]
28. S: Flamboyant, right.
29.   She's a very flamboyant dresser.
      PSY 17 - Interpretative
30.   And what's the point of that? [1.4 secs]
31. P: Stand out.. [0.4]
32.   so she can be identified by people. [0.3]
33. S: To stand out.   m
34.   Does it link to her personality at all? [0.3]   7 & 10
35.   Or his personality, I'm not sure what to c.. [0.3]   4
36.   Yes? [0.4]   P volunteers
37. P: Part o' her image. [1 sec]
38. S: Part of their image.   m
39.   What kind of image does she have? [0.5]   7
40. P: Poof! [0.7, then P's laugh - 0.9 secs]   (challenge)
41. P: Funny.
42. S: Right! [0.3]
43. P: Queero. [0.4]   (challenge)

44. S: So the clothes and the personality kind of match.. [0.3]   11
45.   right? [0.6]   check
46.   They've got the clothes which are flamboyant and loud   11
47.   and Dame Edna, the personality, she's just as outrageous as her clothes,   11
      isn't she?
48.   The way she /insults her guests./ [A P says something out loud between //]   11
      PSY 18 - PI Evaluative
49.   Sorry, Bruce? [0.4]
50. P: Just saying, she would probably do anything for the money. [Ps & S laugh - 3.9 secs]
51. S: OK. [0.7]
      PSY 19- Interpretative
52.   Right, can we think of the opposites (sic) end of the spectrum then?
53.   People who dr..
54. P: No. [0.4]   (challenge)
55. S: ...dress... [1.3 secs] the way teachers dress.
56.   What's a way of describing the way teachers dress?   2
57. P: Boring. [Ps laugh]
58. S: Boring.

The student's question at line 1, while it seems to allow the pupils

freedom to choose any outrageously dressed TV personality, initiates a

curious interaction during which it becomes clear that pupils are to guess a

particular character the student has in mind. The pupil nominated in line 2

names a comedian, familiar to the pupils, but whom the student seems to

know little about.

The relatively long pause after the pupil's response in line 3 (0.8 secs),

together with the pauses in lines 4 to 9 serve to reinforce the impression

that the student is unsure here. Cumulatively, from the moment the pupil

names Lenny Henry to the moment she indicates in line 10 she is not really

willing to accept this response, there are 5.4 seconds occupied by pausing

and hesitations. Moreover, if the student allows noticeable pauses where

the pupils expect swift confirmation, it appears the pupils may fill a

perceived vacuum with actions of their own, as with the Lenny Henry

imitations at line 5.

In line 10 the student gives the clue that she is looking for 'really flamboyant' personalities and selects another pupil at line 11 who volunteers to answer. There is a shorter pause after Billy Connolly (0.5 seconds) is named in line 12. This is not the response the student seeks, but at least she seems to be sure who the pupil is referring to. The 'yes' in line 14 effectively signals that this is not the name she is seeking, while the comment 'sometimes he goes out of his way to be different' is analyzed as a clue that the personality she is thinking of <u>always</u> dresses ostentatiously.

The next pupil who volunteers to answer and is given leave to speak in line 15, provides the name the student seeks. Note the swift confirmation of this pupil's answer: there is only a 0.3 second gap between the pupil's response and the student's confirmation of it in lines 17-18: 'Dame Edna, that's the one I was thinking of as well.

This sequence of events serves to suggest that the student moves swiftly to endorse a response when it is one she is anticipating. If the response is unexceptionable – that is, not exactly as she seeks but nevertheless predictable – she responds a little more slowly. Where a response is unpredicted and, moreover, she appears unsure of its validity, her response is a little slower still. A similar pattern appears to occur

with pupil response times. Where a pupil volunteers an answer, the pause between the student's naming of the pupils and the pupil's response appears similarly swift: in lines 11 and 22, 0.3 seconds, and in lines 15 and 25, 0.4 seconds.

This would tend to suggest that there is a finite time lag between a pupil giving a response the student is seeking and the student's endorsement; and between a pupil volunteering to answer, being named, and commencing to respond. If such is the case, it begins to appear that the apparent seamlesness of much classroom interaction may be an artifact of the human consciousness, a post hoc reconstruction of a series of separable moments into a sustained flow that did not, in fact, occur. That is, it appears similar to the phenomenon discussed earlier which involves the 'editing' of another's speech by hearers so that minor hesitations and slips are deleted in favour of constructing a more polished version of what is being said.[18]

This sequence also illustrates the situation where pupils are invited to guess a unique answer that a student has in mind, on the basis of information that is insufficient to allow them any real chance of success.[19] There would appear to be little pedagogical justification for such a procedure. But given that this occurs immediately after the student has been put at a disadvantage, and made to appear confused by the use of the

local term 'Jessie' - and that the pupils have notably enjoyed this - it seems possible to regard the student's procedure here as a means for re-asserting her predominance in the classroom.[20]

A chorus of excited chatter breaks out as the student invites the class to comment on Dame Edna's clothes, which the student silences with a long, loud 'Shhh!' A pupil describes the dress in one word (line 23): "Loud." The student asks for a more specific term, and seems to want another one word answer. In line 27 a pupil suggests the word "flamboyant" which the student has originally given at line 10.

Having elicited this somewhat bare description of Dame Edna's clothes, the student turns to considering the purpose they serve. In lines 31 -32 a pupil volunteers that they make Dame Edna easily recognisable. The student *accepts this in line 33, but in line 34:* "Does it link to her personality at all?" she gives a clue about the sort of answer she is seeking and narrows the focus by pointing to a link between clothes and personality. In line 35 the student adds a note of sexual ambiguity, probably to motivate the pupils to respond by using risqué humour. This seems to rebound upon her, however, in lines 40 and 43 as pupils exploit the licence her reference to gender confusion has apparently given, in order to air their sexual prejudices: "Poof!", "Queero".

The student's response to this challenge to her discipline is to say 'Right!' firmly, line 42, before moving to give the answer she seeks in line 44 and then elaborating it in lines 46 to 48 where she speaks with great speed and fluency. That is, she uses her ability to speak rapidly to try and defuse the difficulty by quickly moving the discussion forward, so distracting pupils attention away from the area found problematic. Thus it is suggested that one reason why student teachers often seem to speak rather quickly is because they are seeking to avoid breakdown in discussion with its attendant risk of disciplinary problems arising. Consequently, students may wait for only 2 seconds or less after asking a question before apparently identifying the situation as a non-response and instituting some repair procedure.

This would also serve to explain the swift endorsement of answers that are acceptable as an attempt to keep the interaction flowing. However, it would appear that students may be compelled to respond less swiftly than they would wish, particularly if the response is not as they anticipated. Presumably, a finite time is required to consider an unpredicted answer. And the more unsure the student is about an unexpected response (as in the case of the Lenny Henry example discussed above) the longer she is likely to take to deal with it. Thus the student appears to exist in a state of dynamic tension: on the one hand wishing to keep interaction moving swiftly in order to obviate disciplinary problems, while on the other being forced, for

pedagogical and other reasons, to take time to consider unanticipated responses that pupils give.

A consideration of laughter in this episode would appear to lend support to this view. In line 40, after the pupil (this is the same boy who at the commencement of the lesson created the chair dragging noise) shouts out "Poof!", there is a pause of 0.7 seconds before pupils start laughing. While there is normally a time lag between something being said and pupils laughing in response, it is usually not as long as this, unless what has been said is rather complex. This complexity is absent here, so it is suggested that the reason for the relatively long reaction time is due to the risqué nature of what has been said.

It appears that there may be a momentary hesitation on the part of pupils about how they ought to react here, since their school experience is *likely to have taught them that endorsing a response like this* – which issues a challenge to the orderly development of pedagogical discourse – may result in some sort of disciplinary action being taken against them. That is, there would appear to be a momentary hesitation that would allow the student to step in and seize the initiative, but it is precisely at this point that the student's capacity for swift speech lets her down: almost 2 seconds elapse before she responds in line 42. It seems she has not anticipated that pupils might behave like this, and she appears momentarily

disabled by the rudeness of the challenge. Her uncertainty over how, or whether, to react is signalled to the class by the slowness of her response, and also encourages another boy to join in her discomfiture with "Queero" at line 43.

The origin of this episode, however, may be traced to earlier events in the lesson. The outbreak of pupil noise at line 19 when the student encourages the class to consider Dame Edna's clothes, has apparently not alerted her to the possibility that problems might arise. Consequently, her allusion to sexual ambiguity in line 34 appears unwise, in retrospect, because it appears to have legitimated for two boys the possibility of admitting the vocabulary of sexual prejudice.

The disciplinary implications of this episode also seem to have a proleptic effect. The student appears to have recovered the situation at line 44 to 48 by a display of rapid fluency, and feels confident enough to allow herself to be interrupted by her primary standby pupil. His contribution leads to sustained laughter by both the student and pupils. Yet her attempt to initiate a new PSV at line 52 contains a slip: "Right, can we think of the opposites (sic) end of the spectrum then?" This may signal that while she is seeking to display calm control, she actually feels under pressure. The pupil challenge at line 54 follows. Certainly, pupils seem to possess the uncanny ability to mount a challenge when it would likely cause maximum

damage to a student's attempted recovery of confidence.

It is the same boy who said "Poof" previously, who now says "No" (line 54) loud enough to be heard all round the classroom, but with his head bowed. This is the same boy who dragged a chair when Bruce was asked to speak at the lesson commencement. It may be that he is insisting on the same right to interrupt her that Bruce has, but this is asserted in a deviant fashion.

The effect on the student is very noticeable. She hesitates for 0.4 seconds in mid-statement before attempting to press on regardless, but this rude public challenge to her authority so throws her out of her stride that she is forced to pause again, for a lengthy 1.3 seconds, before she can continue. It may be that she is not entirely sure who has spoken or how best to respond. Moreover, this student, like all the others in the sample, shows a marked reluctance to deal with disciplinary challenges.

Students persistently seek to evade such problems, attempting to move the focus of attention to something else. Yet, frequently they stop short in the midst of what they are saying, almost as if temporarily incapacitated. It was noticeable that students were trying to treat pupils with sensitivity and it may be that they were completely taken aback when this was not reciprocated. The hesitation and momentary bafflement they appeared to

exhibit, often tended to suggest some difficulty in crediting that pupils had actually made the rude challenges which, in reality, they had.

Paradoxically, the way student teachers rely on speed and fluency of speech to maintain orderly interaction, whilst seeking to avoid entanglement in disciplinary matters, appears to serve as a signal to certain pupils who may wish not to co-operate, indicating how they may put students under pressure. Thus pauses may signal potential breakdown to the student teacher when they occur at moments when pupils should speak. They may also be interpreted by pupils, when they occur in the student teacher's speaking turns, as evidence of a vulnerability to disruption, and indicate how her tendency to rely upon orchestrating swift performances may be exploited.

While consideration of the features discussed above indicates something of the complexity that interactive teaching involves, student teachers given the opportunity to discuss their lessons in detail are not able, or do not wish, to say very much about the way in which particular episodes of interaction evolved, or the considerations which led them to read the situation in one way rather than another, nor how this affected the action they took. This appears to be illuminated, to some extent, by what the student has to say in interview about the lesson presently under consideration.

Following the discussion given in Example 7.3 above, the student seeks

to have the class think about conventional dress. But pupils' thinking in this

area seems to revolve around two poles - being different, and being boring.

The student mentions in interview finding this a bit perplexing and the

researcher asks her if she could talk about this part of the lesson in more

detail.

Convention.. they.. I think they got a bit mixed up there with conventional dressing and boring dressing. I didn't want them to think.. think about people who dress boringly. People who dress in the ordinary run-of-the-mill way with jeans and a sweater don't particularly stand out from the crowd. Someone who doesn't particularly want to get noticed.. and Linda said about people being relaxed and happy in these.. eh, relaxed and comfortable in these kind of clothes. [1 sec] Em.. so that we.. we got all these.. [3 secs - student reaches for her note pad and starts to flick through it.] .. practical dress, conventional.. [4 secs - student looking through her note pad] .. happy and content with their lives.. don't make.. don't want to get noticed.. anything for a quiet life.. people who don't want to particularly.. be 'slagged off' as Julie said earlier. (N.B. all timings here are to the nearest half second.)

Although the student does mention what some pupils have said, she

appears to have considerable difficulty, immediately after the lesson, re-

constructing how the interaction flowed and her moment-by-moment action.

What is very noticeable is that she seems unable to focus in any detailed

way on what exactly happened, without seeing the interaction in terms of

what ought to have happened as captured in the lesson plan she has in her

notes. This being the case, it is difficult to see how she might learn to

alter the details of her performance in interactive discussion by reflecting

upon what she has done afterwards.

Similar difficulties surrounded all attempts to have student teachers

speak in detail about interactive episodes in their lessons which they had

very recently conducted. On some occasions students asked the researcher what had been said, seeming unable to recall how particular interactions had developed. It would appear, then, that student teachers may be so busy seeking to maintain the impetus of interaction, and striving to turn whatever responses that they can secure to fit the needs of the lesson, while also trying to sidestep disciplinary problems by sustaining speedy interaction, that they are unable to capture a more detached representation of what is going on for their future consideration. That is, the dynamic aspects of improvised interaction appear so closely bound up with the immediacy of the moment, that when the moment has passed, the student is unable to recollect the individual details of the interaction in separate fashion.

However, students do sometimes mention moments in lessons where they encountered unexpected difficulties. There is one such episode in this lesson, where the student mentions the discussion did not go as she had anticipated. A pupil's response causes her considerable difficulty because it reveals a fundamental weakness in her conceptualization of the topic. The interactional sequence does not commence with the initiation of a PSV by a question which is followed by a non-response, but is shown in Example 7.4 because of the student's comment in interview that breakdown was threatened, not because pupils failed to respond, but because she was unclear how to assimilate this response into the lesson. The student's comment is given below the lesson text.

Example 7.4 (Text 24)

PSV 23 Concept

1. S: Can you think of a character, then.. [0.3] on TV who particularly
   wears.. [1 sec] clothes that suggest a very boring or dull
   personality? [1 sec]   P volunteers
2.   Rose? [0.4]
3. P: Bob Geldof. [0.7 sec pause; then Ps laugh - 0.7]
4. S: Bob Geldof.
   PSV 24 Interpretative
5.   Right, what do his clothes make a statement about.. something? [0.2]
6. P: He's a tramp.[0.3 sec pause; then Ps & S laugh - 1.3 secs]
7. S: Right. [1.4 secs]
8.   He dresses like.. he dresses in a very trampish way
9.   very old clothes. [0.8]   m
10.   What's.. what's he trying to say through his clothes? [0.6]   2
11. P: He says he's revolting against the system. [0.7 sec pause;
   then Ps laugh - 0.5]
12. S: He's revolting.. [Ps continue to laugh & S joins in - 1.6 secs]
13.   Right! [1.6 secs]
14.   There's different things you could..
15.   you could interpret it in different ways, why he
   dresses in that way. [0.7]
16.   'Cause he's definitely.. [0.2] although he's a conventional dresser [0.6]
   he's also making a statement, isn't he?
17.   He's not wearing outrageous clothes,
18.   but he's making a statement that he... [0.8]
   PSV 25 Evaluative
19.   What might we expect a very rich pop star to wear, Kate? [0.7]   5
20. P: Eh, he doesn't care what he looks like. [0.6]
21. S: Right.. [0.2] he doesn't care about his appearance.
22.   So you.. [0.2] your clothes can say you don't you just don't
   care about your appearance,
23.   OK? [0.8]   check
   PSV 26 Particular
24.   So what kind of s.. [0.2] statements can clothes
   make? [1.5 secs - S turns up board.]   N-R
25.   What kind of information can we gain from looking
   at a person's clothes? [3 secs]   2
   Rose?[0.3]   P volunteers
26. P: Their background.[0.2]
27. S: Right.. [0.2] background.. [0.2] good. [S writes on board - 4 secs Background.
   Ps start to talk among themselves and S then talks as she writes]
28.   What kind of background features? [1.7 secs]   m & N-R
29.   Linda mentioned one. [1.2 secs]   4&6&10& N-R
30.   What can we tell by looking at someone's clothes?[0.3]   2
31.   The first thing you said was? [0.3]   4&6&10
32. P: _____ . [inaud] [1.6 secs]
33. P: _____ . [inaud] [0.4]
34. P: _____ . [inaud]
35. S: No, before that.   10
36. P: _____ . [inaud]
37. S: Shh! Bruce don't shout out please. [2.3 secs]   N-R
38.   Tom?[0.4]   5
39.   What did we think about the.. [0.5]clothes can tell us about

a person's background? [3.2 secs]   2&4&6&10& N-R

40. Attention! [This is a complaint that they haven't been paying attention,   4 & N-R
     but it is said in semi-jocular fashion; pause -3.4 secs]
41. Rose? [0.7]   5
42.P: Whether they're rich or poor. [0.6]
43.S: Right. [0.6] Background.
44. So it can tell you something about their.. [0.4] their money
     and their background.

The Bob Geldof one completely threw me! I couldn't.. imagine.. is he conventional or is he
unconventional in his dress. Or does he dress conventionally with a very.. it was such a
mixture of things that.. I he.. that quite threw me at the time.

The student's comment here clearly identifies this episode as a critical

moment in the lesson for her. The problem appears to be that the example of

Bob Geldof that the pupil raises does not fit easily into the conventional –

unconventional polarity that she is using to guide the conceptualization of

the area. Consequently she is unsure how to fit this into the lesson. Though

she tries to hide her discomfiture here from the class by pressing on with

the discussion, there are signs of her difficulty. Firstly, there is a 1.4

second gap, partly filled by pupil laughter, between the pupil's naming of

Bob Geldof and the student making a verbal response (line 3). This is an

uncharacteristically long response time for her. Secondly, as has been noted

before, this student appears to use recapitulation of what has been said

together with noting items on the blackboard (line 24 -44) as a means of

gaining time to consider what to do next. Also this review is very laboured.

The student attracts a series of non-responses and seems to be having

considerable difficulty securing a reinstatement of interactional flow.

It would have been advantageous if the student had said more about this

episode, but she only volunteered the remarks quoted above. It might also

have been better if the researcher had pressed her at this point. But he did not. The researcher was reluctant to do so for two reasons. This was the first session he had observed with this student and he judged it unwise to persist, before he had more evidence about how resilient she might be. Particularly as she seemed somewhat crestfallen as she recalled this episode. Moreover, the researcher suspected that Bob Geldof had been named not just because of his clothes, but because he is Irish. That is, this response was felt to be linked to other pupil answers which involved mentioning things and people from Ireland in a kind of teasing of the student that was sourced in racial stereotypes. Unsure whether the student was ready to talk about this, the researcher decided to let the moment pass.[21]

To consider this segment of interaction in more detail. The student's argument up to this point in the lesson has been that clothes can be seen as reflecting personality or as related to the nature of the work someone does. She confirms in interview that at this stage in the lesson she was seeking to indicate that while for certain performers flamboyant clothes are appropriate, for other television personalities, such as news readers, such clothes might distract from what they do. However, a pupil volunteers an answer – "Bob Geldof" (line 3) – which does not help to move the discussion in the direction she has anticipated; neither can it be ignored.

That the class see the naming of this famous Irishman as a challenge to

her is suggested by the laughter which breaks out after a 0.7 sec pause - which is presumably when some of the pupils have begun to see the implications of this answer. Altogether 1.4 seconds elapse before she repeats the pupil's answer in a flat tone (line 4). It is noteworthy that the student herself does not join in this laughter, further suggesting that she may identify it as being at her expense. She immediately accepts the challenge of dealing with this decisively: "Right, what do his clothes make a statement about.. something?" she says, speaking quickly in line 5. But the solecism - apparently she is unsure whether to frame her words in the interrogative or indicative mood - somewhat mars the impression that she is trying to give that everything is under control, that this answer does not throw her.

At line 6 a pupil gives the answer: "He's a tramp!" without putting her hand up and waiting to be selected. There is a brief pause (0.3 secs) while this is absorbed, before the student and pupils join in hearty laughter. It appears that this criticism of Bob Geldof is no threat to her. However there are still indications that she is hesitant and uncertain, that she is unsure exactly how to integrate this example into her argument. Note the lengthy pause in line 7 (1.4 secs), and the considerable clumsiness in expression which marks lines 8 and 9: "He dresses like.. he dresses in a very trampish way very old clothes." This repetition and compression is not how she sounds when she is sure of her ground. In line 10 she asks, "What's.. what's

he trying to say through his clothes?" There is again some uncharacteristic hesitancy here, as the student asks a question to which she does not have a pre-determined answer that she is trying to steer pupils towards.

The pupil's response in line 11, "He says he's revolting against the system", appears to offer an indication to her about how to deal with this. After 0.7 secs pupils start to laugh - the relatively long rise time for the laughter suggests that this statement takes some time to be absorbed. Altogether 1.2 seconds elapse after the pupil response before she reacts, starting to repeat rather flatly, "He's revolting.." (line 12) before breaking off and joining in the laughter. Her "Right!" in line 13 is full of warmth and enthusiasm, as though she now sees a possible line of development. Still she pauses for 1.6 seconds before continuing. Her remarks in line 14 to 18 suggest that this may be because she has been considering the complexities of this example. This is not only reinforced by what she explicitly says about being able to 'interpret it in different ways', but also by the self interruptions to indicate a qualification - 'although ... also' - and a careful juxtaposition 'not ... but', together with the breaking off in line 18 to ask the question: "What might we expect a very rich pop star to wear, Kate?" All of which suggest, together with the extremely rapid speech from the second part of line 16 through to the end of line 18, that she is excitedly sorting out ideas which are just occurring to her.

Unfortunately, as she cuts short her own musings to seek interactive

discussion, she appears to make an injudicious selection of pupil to answer

what she apparently regards as an easy question. Instead of responding to

the question she is asked, this pupil answers the question previously asked

at line 10, probably an indication that she has been left behind a bit by the

speed and complexity of the argument the student is now seeking to work

out: "Eh, he doesn't care what he looks like" (line 20). The 0.6 second pause,

together with the flat tone of response in line 21: "Right.. he doesn't care

about his appearance", tend to indicate that this is not the sort of response

she was hoping for. Yet she seeks to disguise this, probably out of respect

for the pupil's feelings.[22]

Having made something of a recovery from the initial citing of Bob Geldof,

which she later states "completely threw" her, she now appears to be

discouraged from proceeding with the argument she is developing by a

pupil's response which seems to indicate that some, at least, of the pupils

are not following this line of reasoning. The question raised in line 19,

which appears designed to draw attention to the fact that Geldof's clothes

may be deliberately chosen to defeat expectations, is left unanswered as

the student now turns to making a summary of points on the board. As has

been suggested previously, this is something this student tends to do when

there is an apparent impasse in the interaction.

However, she has considerable difficulty in eliciting from pupils the summary information she requires. Six non-responses occur between line 24 and 44. There is a repeated series of prompts to cajole the class into saying what has been said before: line 29, "Linda mentioned one"; line 31, "The first thing you said was?"; line 35, "No, before that"; and line 39, "What did we think about the.. clothes can tell us about a person's background?" In line 40 she makes a complaint that they haven't been paying attention, and although this is made to seem somewhat jocular, it appears she feels under some pressure around this point. This impression is reinforced at line 37 when she rebukes her primary standby pupil, who normally appears licensed to 'shout out' an answer whenever he pleases, thus: "Shh! Bruce don't shout out please."

The extreme awkwardness of the interaction here, with the pupils failing to contribute on cue, also suggests that the class have become somewhat confused about what exactly is going on at this point. This may suggest that the confusion she has felt when Bob Geldof is cited, and which she has tried to hide from view, has in fact been communicated to the class, who suddenly appear at a loss as to how to participate in the way she now wants. It is surely the memory of an episode such as this, where the student appears to experience considerable frustration in securing the sort of participation she wants, despite the considerable loading of repair mechanisms in this section of discussion, that leads the student to remark in interview: "Did

they talk?"

Furthermore, a series of pupil answers are spoken very quietly – lines 32, 33, 34 and 36 – which tends to suggest they have become very unsure about the answers that are required. Moreover, the student herself becomes confused and appears to lose track of her own question asked at line 39: "What did we think about the.. clothes can tell us about a person's background?" A pupil responds at line 42: "Whether they're rich or poor." And the student, as if in confirmation says, line 43: "Right. Background." She appears to have realized the solecism when at line 44 she amends her response to include the pupil's answer while also linking it with her own, as if to mitigate the effect of her prior response: "So it can tell you something about their.. their money and their background." The hesitation may serve to reinforce this suggestion.

Following the summary on the blackboard the student steers the lesson back to her planned agenda – that there are certain clothes for certain jobs. She claims that nurses uniforms are "specifically designed for the heat of hospitals and hard wearing for the work they've got to do." She then asks about how people dress for the city and then elicits that business clothes look "smart". However, the same two boys as before again take the opportunity to air their prejudices and discomfit her. In reponse to a question which asks how business dress makes people look, one shouts out

"Snotty", and the other "Nowds". The student ignores these responses and seeks to press on. If such people look smart, "what do we assume about them?" she asks. A nominated pupil replies: "Got money." The student's response, though said as if it confirms this answer, actually substitutes another: "They're quite sophisticated."

At this point a pupil who has been withdrawn from the class for disciplinary reasons comes in, and the student gives a brief resumé for his benefit. Then she asks whether the information clothes give about a person's "financial status" is "always reliable". A chorus of pupils replies "No!" and one says: "Look at Bob Geldof. He's got plenty o' money." While another adds: "Once people have got a lot of money they can.. sorta dress down." *The student then adds a qualification here - people without money may dress as if they are poor, but* "if you recognise a designer outfit on someone... it's.. certainly.. that they've got plenty of money."

Thus the Bob Geldof example has, finally, been integrated into her lesson agenda, but with considerable difficulty, and this difficulty has been communicated to pupils, despite her attempt to disguise it, and appears to have encouraged two boys who seem to give deviant answers whenever they see signs of uncertainty and hesitancy which they feel can be exploited.

If the student's remark, "Did they talk?", suggests she is disappointed

with the class's participation in the lesson on the whole, there is no balancing recognition expressed of how much she, in fact, owes to pupil contributions. For example, the key ideas which suggest how the Bob Geldof example might be interpreted in terms of her lesson agenda appear to originate with pupils: "He's revolting against the system"; "Once people have got a lot of money they can.. sorta dress down." That is, the conceptualization of the topic she has worked out in her lesson planning appears to possess limiting aspects.

Not only, then, is she completely thrown, as she explicitly admits, by a pupil raising an example of clothes conveying a message that she has not considered and has difficulty integrating into the lesson; her perception of *the contribution that pupils have made* to the outworking of the lesson in interview afterwards also appears to be constrained by her plan which tells her what <u>ought</u> to have happened, but which provides little help in considering unanticipated discussion. This tends to reinforce the evidence given previously: the student, asked in interview about the details of an interaction, makes recourse to the planning notes in her note pad. That is, if the student is, in a sense, limited while conducting the lesson by what she has been able to foresee; she also appears, to some degree, to be beholden to her plan when reflecting on the lesson immediately afterwards.

Yet the difficulties that may arise when the student is working without a

clearly thought out plan are also made clear in this lesson. In interview the student speaks of "wanting to lead them onto" the topic of how people are perceived in terms of their jobs: "How people perceive your job as... fusing with the man you are." This is because she wants to lead up to a poem, 'What is he', by D. H. Lawrence which deals with this theme:

> To link it, I was trying to get them to say how.. how ye dress for a job or how businessmen dress. And then the importance of having a job. And eh.. how that identifies you as a certain type of person..... I wanted them to come up about your job and what.. what you do for a living.... They just didn't catch onto it as quickly. They kept on mentioning other things.

What is notable is that the student has a particular answer that pupils must say in mind, but she seeks to derive this by asking an ostensibly open question:

> S: The first question a person's likely to ask you is? [1 sec] What's your name? You give them your name. What's the next question they're liable to ask you?"

Having managed, with some difficulty - since the pupils cannot foresee exactly where she wants to lead the discussion - to raise the topic of employment as a factor in personal identity, she gives out a set of books and reads the poem.

Immediately after reading the poem she asks: "So what's the.. what's the point of this little poem?" Then immediately adds: "What... we've got two characters here, a questioner and an answerer." She comments on this in interview thus:

I think I meant to ask that one at the start. I meant to ask sort of.. the relationship. But I wasn't sure if we would get onto the poem and I hadn't done out a list of questions in a specific order, so I was really just saying them as they came to my mind.

To anticipate, a similar pattern occurs later in the lesson when she introduces a Monty Python sketch for "light relief" because she had noticed "some of them were.. yawning." Immediately after reading this dialogue she asks, "So what's it all about?" Her interview comment is:

I don't know why I did that either, but I often do it. I think it's.. it's what immediately.. what immediately comes to mind to fill the silence.. at the end of reading something.. there was silence.. so I thought.. well what's it all about. The first question which is the most difficult question that comes to mind.

Thus, the student indicates she normally has a written series of question to guide her teaching, but in these particular instances she did not. Consequently, in both cases, she pre-empts by asking the question she is really interested in immediately, although she realizes it is too difficult for pupils to answer directly and ought to be approached more gradually by clarifying other matters first. That is, the student appears to possess some notion of a pedagogical hierarchy of questioning. Some questions are used to clarify preliminary matters and to establish a framework for answering more complex questions. But the student, in seeking to improvise an unplanned discussion in these instances, feels pressured and thus is unable to operate in the heat of the moment as she later feels she ought to have done.

It is important to notice that the pressure she feels, which constrains her

to initiate interaction in ways she realizes are not really pedagogically

desirable, derives from silence: "what immediately comes to mind to fill

the silence"; "there was silence". This tends to confirm the impression,

gained from listening to lesson tapes and closely studying the transcripts,

that silence in the classroom, even if it only occurs for a moment or two,

tends to be felt as compelling the student teacher to fill a perceived vacuum

which is felt as threatening interactive breakdown. In other words silence,

because of the threat of breakdown which it represents, appears to place a

severe constraint upon a student teacher's ability to improvise appropriate

pedagogical interaction.

Returning to the discussion after the poem, printed in Example 7.5 below,

there seem to be other difficulties which occur because she has not worked

out a detailed plan in advance. Immediately before this segment she has

established that the upper classes, at the time the poem was written, were

"well enough off not to have to work."

Example 7.5 (Text 24)

PSV 46 - Interpretative
1.   So why is he saying, obviously, he's not one of the leisured class? [1.4 secs] N-R
2.   What does that show us? [0.8]   2 & 7
3.   Anyone else?   4
4.   Mildred? [1.3 secs]   5
5. P: He's poor. [1 sec]
6. S: Uh-hmm. We might think his appearance. [1 sec] [S mishears?]   m
7.   Bruce? [0.5]   5
8. P: He's got a job. [1 sec]
9. S: Has he got a job? [1.4 secs]   challenge
10. P: He works. [Underlining here indicates simultaneous speech]
11. P: No, but he works. [1 sec]
12. S: What does he do? [1 sec]   challenge

13. P: He makes chairs. [0.6, then S & Ps laugh - 1.5 secs]
14. S: Does he make chairs for a living? [0.6]   challenge
15. P: No! [chorus] [0.4]
16. S: No. [confirming tone][0.4]
17. P: It's just a hobby. [0.4]
18. P: The way he speaks, like... [0.7] they're no. [0.2]
19. S: Right, so there are different things.
20.   Obviously he's not one of the leisured class, this man says.
21.   So maybe by his appearance he looks quite scruffy.
22.   He doesn't look well off. [1.2 secs]
23.   Maybe by the way he speaks... [0.9]
24.   he doesn't look particularly well off.
25.   So if you're not well off you've got to work. [0.9]
       PSY 47 - Reason
26.   Why have you got to work? [2.2 secs]   N-R
27.   If you didn't work what was the alternative? [1.5 secs]   2 & 7
28. P: To die.
29. S: Dennis? [0.6] [Names pupil who has just answered, who repeats]
30. P: Die. [0.4]
31. S: Right. [laughs as she speaks] You die. [0.4]
32.   You don't get any money.
33.   You either worked for your money or you begged or something like that,
34.   but you had to earn your own daily living.
35.   There wasn't a.. so.. social security office to walk into and
       ask for some... [0.7] handouts.
36.   So, he must have a job of some sort. [7.3 secs]
       PSY 48 - Interpretative
37.   S.. [0.3] have we decided that he doesn't work? [1.7 secs]   N-R
38.   Neil, what do you think? [3.6 secs]   5 & N-R
39.   Do you think he is a c..   2(aborts)
40.   what do you think he does? [1.3 secs]   2
41. P: Nuthin. [0.5]
42. S: Nothing, he doesn't seem to do anything? [0.7]   challenge
43. P: He makes chairs for a hobby but.. [0.4] he disny work [0.7] [Same P]
44. S: Right, do we think he doesn't work? [0.3]   check
45.   Or do you think the question.. [0.2] the... [1.3 secs] the person who's
       giving the answers is.. refuses to tell him. [2 secs]   11
46.   He doesn't distinctly say that he doesn't work, does he? [0.3]   11
47. P: He just refuses to tell him. [0.3]
48. S: He just refuses to tell him.

The poem that is being discussed consists of a dialogue in which the first

speaker is questioning the second about a mutual acquaintance. The first

speaker appears to judge people in stereotypical fashion according to their

job or profession. When he asks, 'What does he do?', the second speaker

teases the first by playing upon the ambiguity in the question. While the first

speaker intends 'do for a living', the second frustrates his intention by

interpreting 'do' as 'like to do' or 'live to do'. Consequently the poem takes an

ironic view of the human tendency, or need, to stereotype: to reduce to very

simple, and easily managed categories the irreducible complexities of being.

The first speaker in the poem insists that the second tell him what the

man they are discussing does for a living because "obviously, he's not one of

the leisured classes." It is this the student refers to at the outset of Example

7.5. By her own admission the student has not prepared carefully how to

teach this poem. There is also independent confirmation from the confusion

that the student guides the discussion into that there are deficiencies in the

student's own understanding of the poem. She appears to have thought that

the poem, being rather simple, she will be able to improvise discussing it

without really having considered how to teach it in advance. Unfortunately,

this proves to be more difficult than she anticipated.

In line 1 she asks the initiatory question of this section of discussion: "So

why is he saying, obviously, he's not one of the leisured class?" Her use of

"obviously" indicates she thinks this is a very easy question to answer, and

after waiting 1.4 seconds she appears to have identified a potential

non-response and so adds the question in line 2 - "What does that show us?" -

which asks for the same information as previously, but in a form of words

which also narrows the focus to the evidence the first speaker in the poem's

statement provides the reader. A brief pause of 0.8 seconds occurs before she

asks "Anyone else?", seeking to encourage participation from another member of the class, immediately followed by the nomination of a girl who never volunteers to participate in whole class discussion.

The sequence of events here suggests that the student intially judges the class might need additional guidance about the intended focus of the question, but the somewhat minimal nature of the guidance provided by the supplementary question at line 2, together with the way she cuts down wait times, and then asks an apparently shy girl to answer, reinforces the impression that she believes they ought to be able to answer easily.

The pupil takes a relatively long 1.3 seconds after nomination to reply, "He's poor", in a rather quiet voice. The student's response also appears relatively slow, taking a full second, to acknowledge a short, non-complex answer. The difficulty that this time lag suggests is revealed when the student confirms the pupil's answer incorrectly at line 6. She appears to have misheard "He's poor" and interpreted it as "his appearance."

There are several points to notice here. Firstly, if the student is unsure what the pupil has said why does she not ask her to repeat her answer? Perhaps she judges there is little to be gained from seeking to press a rather shy pupil to speak up. Also, since she appears to have identified the response she seeks as rather obvious, she may wish to establish her point swiftly,

rather than spend time clearing up a minor confusion. This interpretation would seem to be supported by the fact that she subsequently nominates her principal standby pupil to answer at line 7.

Secondly, even though the answer the pupil has given is not such as she requires, she nevertheless says "Uh-hmm" and repeats what she thinks the pupil has said, albeit in a neutral and unenthusiastic tone. That is, she is seeking to be sensitive to this shy pupil by reinforcing her participation, but at the same time she needs to signal to the class that this is not exactly the answer she is seeking. Consequently, while the form of her utterance at line 6 appears to accept and confirm the pupil's response, its intonation pattern, lacking warmth and enthusiasm, tends to contradict the formal message. Thus the student appears to try and have it both ways.[23]

Finally, is it possible to explain why the student selects "his appearance" as the misheard version of "he's poor"? Of course, the unstressed pronunciation of 'he's' sounds identical to unstressed 'his', and in both versions this is followed by a stressed 'p' sound. So there is some degree of close similarity at the phonic level. However, the student's version of the pupil's response contains more syllables, so that there would appear to be some degree of optimism over her accepting that the pupil has said "his appearance". What the student says at line 21, "So maybe by his appearance he looks quite scruffy", suggests that "his appearance" forms part of the

answer that she has been seeking and that by mishearing the pupil's answer in

the particular fashion that she does, she is interpreting what the pupil has

said by fitting it into her own framework of ideas.

Unfortunately, the class appear to be having more difficulty than she has

expected and her primary standby pupil, selected presumably to help clear

things up, provides an incorrect response. Her attempt to step in and

challenge this, ultimately, leads to even worse confusion. To examine this

segment of interaction in some detail, the pupil's response at line 8, 'He

works', is queried by the student. "Has he got a job?", line 9, is said with

heightened pitch, added stress, and correcting fall-rise intonation on 'has'.

Thus the student directly challenges the information the pupil has just

provided.[24] Simultaneously the same pupil says "He works" (line 10), before

continuing to respond to the challenge by saying, "No, but he works", at line

11. This does little to dispel the confusion.

It is interesting that at this point the discussion becomes embroiled in the

same semantic ambiguity that the poem itself exploits. Perhaps this could

have been cleared up by reference to the text and a closer look at the

ambiguity in "what does he do?", and the different ways in which each of the

poem's interlocutors interprets this. But instead she seems to become

entangled in persistent challenging of this pupil.

When the student asks "what does he do?", this is less to draw attention to

the ambiguity in the poem, than to challenge what the P has said. The

series of noticeable pauses of a second or more which occur at lines 8, 9, 11,

12 and 13 suggests somewhat stilted interaction. When the student asks, line

14, "Does he make chairs for a living?", there is the usual time lag before

pupils say 'No" in chorus. Then at lines 15 - 18 the pauses become shorter as

the interaction establishes consensus and agreement.

The student speaks lines 19 - 22, in which she summarises the answer she

has originally been seeking, with great rapidity, as if to seek to keep the

momentum of the discussion going. But it appears that she can only maintain

this sort of fluency for a short time. At the end of line 22 there is a 1.2

second pause. Line 23, where the student raises the question of the man's

accent, is aborted, perhaps because she realizes this is dangerous territory

for her: she has a very noticeable accent which probably stigmatizes her in

the eyes of these Scottish pupils among whom Irish jokes appear popular.

Line 24 "He doesn't look particularly well off" merely repeats line 22 with a

minor modification, which in turn, rephrases the information in line 21. Thus

it appears her attempt to sustain momentum is floundering as she is repeats

herself in quick succession, her attempt to suggest something additional

having had to be aborted. More significant, perhaps, the student appears to

have begun to air some of her own prejudices in lines 21 and 23.

This temporary hiatus is resolved by the student asking, line 26, "Why have you got to work?" After 2.2 secs this appears to be identified as a non-response and she adds, line 27, "If you didn't work what was the alternative?", which both asks for the same information from a slightly different perspective and narrows the focus. After a 1.5 second pause a pupil volunteers the somewhat melodramatic answer "to die", line 30. The student names him and gives him official permission to speak. In lines 32 - 35 the student continues to express her prejudices about work. The hesitation and pausing in line 35, it is suggested, might occur because the student realises, as she is speaking, that the parents of some of these pupils are almost certainly unemployed and receiving social security support. Then the student concludes in line 36, "So, he must have a job of some sort". This is followed by a very noticeable silence of 7.3 seconds.

The fact is that the student has just reached a conclusion which directly contradicts what she has said previously. The long, embarrassed silence indicates that she has realized the contradiction and is wondering how to extricate herself. The student stands looking at the text. The pupils sit silently. It is noteworthy that even those who sometimes make disruptive comments or drag a piece of furniture are also silent.

The question in line 26 which originated this segment of discussion occurs immediately following signs that she is in difficulty. It has been suggested

that the student wants to keep the discussion going and so introduces general

speculation about the need to work. She seems to speak lines 32 to 35 with

considerable emotional intensity. Under pressure to improvise discussion on

a poem she has not considered carefully, she appears to find herself uttering

prejudices which she begins to realize is inappropriate. However, in seeking

to turn attention back to the text, and to integrate what she has just said

with consideration of the poem, she contradicts herself.

This appears a very human moment in the classroom of a student teacher.

The silence of the pupils suggests they feel something like this, too. The

student may be learning something about how demanding a task it is to behave

professionally in the classroom: that it is necessary to leave aside the

scarcely acknowledged prejudices of one's particular background, and to have

adequately prepared how to teach a text.

At line 37, the student tries to recover the situation, albeit rather lamely,

"S.. have we decided that he doesn't work?". After 1.7 seconds she appears to

have identified a non-response. She nominates a pupil to answer. There is a

lengthy pause (3.6 seconds) before she again identifies a non-response. At

line 39 she attempts to provide a supplementary question but aborts. It

appears she has been going to ask a polar interrogative - "Do you think he is a

carpenter?" But she now asks the more open question, line 40, "What do you

think he does?"

The nominated pupil now replies with one word, "Nuthin", which she challenges in line 42. Then the same pupil provides an elaboration in line 43. In line 46 the student addresses the question to the class in general, prefacing it with "right" as though she is trying to ascertain whether a point is clear. Probably she feels she needs to check because she has confused them completely. After only a very brief pause she appears to ask a question at line 45 whose actual function appears to be to give the answer she seeks. Although a 2 second pause occurs, this is not analyzed as a non-response since it appears the question may be rhetorical. In line 46 she makes a clarifying statement, which she turns into a tag question: "He doesn't distinctly say that he doesn't work, does he?" Whereupon a pupil, agreeing with her, adds, line 47, "He just refuse to tell him", which she moves swiftly to confirm by repetition at line 48.

Although the student teacher, in interview, says nothing further about what occurs in Example 7.5 above, she does comment about two other aspects of teaching the D. H. Lawrence poem. Both comments are made in response to prompts to say more about things she has mentioned briefly. Firstly, she tells the pupils that the poem is "quite ironic at the end", giving the word 'ironic' particular stress and heightened pitch. She remarks on this in interview:

> I think I do that with all literary terms. When I come to a literary term.. CONNOTATION!
> [laughs - 2 secs] METAPHOR! [laughs - 2 secs] In a very loud voice, I don't know why. I
> think that's a.. I really do that. Ironic. I think maybe eh... [3 secs].. what I usually do with
> words like that is to put them on the blackboard and say.. what... what's irony? But I didn't do
> that as I was getting confused enough with the.. all that was going on.

It is interesting that the student mentions highlighting literary terms for pupils in her classroom speech, but this is an aspect of her teaching technique that she says she cannot consciously explain. While it is possible to provide a plausible explanation - this serves to focus pupils' attention on key literary terms as part of an effort to teach them an appropriate critical vocabulary - she uses this technique, but is unable, for the moment at least, to explicate. Indeed, she seems to find her own behaviour in this regard something to wonder at. Thus confirmation is provided that a student may make use of a perfectly reasonable pedagogical technique without being able to explain it.

Moreover, she makes explicit mention of her 'confusion' at this point in the lesson, attributing it to "all that was going on". Since she was operating, by her own admission, without a clearly developed plan for this part of the lesson, this tends to indicate just how complex the improvisation of a pedagogical discourse may be for a student, in the classroom context, even when dealing with subject matter from her own discipline that she seems to regard as rather simple.

The second matter she raises in interview deals with the analogy of a thrush - does it sing for a living? - that the poem makes:

Eh.. just the analogy of the... the eh... [5 secs] I'm trying to remember what they said to me about it. I'm trying to remember what they said. [2 secs] Em... [3 secs].. I just really wanted.. it was back to the same as the beginning what's the point of the poem. Like, what did.. what you do... doesn't necessarily... define what you are. [2 secs] So a thrush can sing, it doesn't mean it's a singer. Then, a man can make chairs it doesn't mean he's a carpenter.

What is most striking here is that, invited to talk about an interactive

discussion she has led not 15 minutes previously, the student is in

conspicuous difficulty to recall what she, or anyone else, actually said. On

this occasion she cannot make reference to her lesson notes, because she has

none for this. But when she gives up trying to recall what was said, she

provides a description which is reminiscent of that she gave in the previous

incident when she was able to refer to her notes. That is, the description she

provides appears to derive from her idea of the key points to be made in

interpreting the poem: she makes reference to the outline plan that she

seems to have had in mind. In both instances then, the details of the way

interaction flowed cannot be recalled, only what it was the student originally

intended should happen. Again, there appear to be marked limitations in the

capacity to remember details of interactional structuring shortly after a

lesson is completed.

7.6 Overview of the Analysis of Pedagogical Discourse Repair

The attempt to analyze the real time aspect of student teaching through

focussing upon repair mechanisms in pedagogical discourse, appears to have

provided a fruitful perspective on classroom events. There are four main

factors which commend it. Firstly, it provides a description which

recognizes the cognitive complexity of the teaching processes which students

seek to operate. Secondly, it suggests how pauses, or silence, may tend to be

read by participants as threatening breakdown, thus constraining students to

act to institute repair of the discourse. Thirdly, it provides an approach which illuminates 'the invisible world of teaching' (Feiman-Nemser & Buchmann, 1986), by extrapolating in coherent and self-consistent fashion from what student teachers do say about their teaching. Thus students' comments in interview provide a framework for interpreting areas they do not comment upon. Lastly, the analysis suggests how dynamic features of the student teaching situation tend to have disciplinary implications.

Progress in understanding the dynamic aspects of student teaching, it is considered, might be of considerable value for teacher education. The following discussion comments, in turn, on each of the four areas highlighted above.

7.6.1 The Complexity of Discourse in Student Teaching

Student teachers are at an initial stage in their professional development and much of what they do in the classroom suggests that they still have much to learn. Nevertheless, in terms of their ability to discourse, they must be regarded as possessing a highly sophisticated level of expertise. This fact may tend to be obscured since obvious weaknesses in managing classrooms, in subject matter knowledge, and so on, are also manifest in the discourse. Application of the method of analysis described above to segments of interaction taken from lessons by all the student teachers in the sample, reveals that the complex, dynamic structuring of discourse, as described in

relation to one particular lesson, occurs in all the classrooms studied.[25]

Of course, students exercise considerable control over classroom discussion by virtue of the fact that they provide the questions to be discussed, as well as guiding and evaluating pupil responses.[26] Nevertheless, the attempt to teach through interactive discussion puts students in a highly vulnerable position. The student is dependent on whatever response pupils actually provide. If no response is forthcoming, students are extremely persistent in seeking to alter the situation so that a response is enabled. This is particularly so with questions which seek to initiate PSVs. Obviously, in the absence of any pupil response, the student has to operate without a clear indication of the reasons for the non-response.

On the other hand, if she does manage to secure a response to a PSV initiatory question, there appears to be a high probability that the first response will not be entirely adequate. Thus she may need to reinforce pupil responsiveness, while simultaneously indicating that the answer needs some modification or development. Consequently, the student appears to accept the challenge of working with such responses as she receives. She utilizes what these may reveal about how pupils are understanding her questions, in order to structure a discourse which illuminates the points she seeks to make, or the information she wishes to elicit, and so on.

Students were found to deal with situations of non-response by instituting pedagogical discourse repair mechanisms. These were found to be distinct from the more general discourse repair mechanisms identified by discourse analysts, and which students employed, for example, when they were not sure what a pupil had said, or did not grasp what a pupil meant.

Eleven distinctive mechanisms for repairing pedagogical discourse were identified, together with a general system for indicating that more needed to be said. While these were originally identified by an inspection of what occurred in cases of non-response, they were also found to operate where modifications of responses was sought. Moreover, several of these repair mechanisms could be used simultaneously to guide pupils towards an appropriate response. It is suggested that mechanisms which are intended to repair breakdown are also used, anticipatively, to lessen the chance of its recurrence.

The question that was raised earlier, of whether situations of non-response need to be considered separately from situations of inadequate response, is thus settled. Indeed, the primary way in which student teachers seemed to deal with a situation of non-response, was by creatively transforming it into a situation where a response was given. When a response is given which is not such as the student seeks, she appears constrained into a rapid improvisation of an interactive discourse which attempts to construct

some sort of logical progression from the given response, to the response

that is actually desired and which is frequently more complex than that which

pupils have volunteered. The student knows the answer she seeks, but does

not know what response she will be given. Thus students seem constantly to

be accepting the challenge from pupils to derive the answer that they require

from whichever point of origin a pupil answer obliges her to start from.

7.6.2 The Communicative Force of Pauses and Silence

Student teachers appear to be acutely aware of pauses in interaction,

particularly where these seem inappropriately long or occur in unanticipated

fashion. After a question that seeks to initiate a PSV, a silence of only 1 or 2

seconds appears to suffice for a student to identify a situation of

non-response and seek to intervene. There would appear to be pressure

exerted on the student teacher by the failure of pupils to fill their

appropriate interactional slots. It is suggested that such silences are read as

indications that an interaction is in danger of breaking down altogether.

Since the student's role as teacher obliges her to assume responsibility for

sustaining and repairing interaction, she is thus put under pressure to

improvise a way forward.

Timing substantial sequences of classroom interaction to the nearest

tenth of a second revealed certain interesting patterns. Such interaction may

often appear, to the classroom observer or the auditor of a recording, to flow

in seamless fashion. However, finite pauses were typically found to exist between turns of interaction even when transfer between interlocutors appeared to occur very smoothly. Thus the apparent seamlessness of interaction would appear to be an artifact of human consciousness. It is suggested that this is congruent with with the way participants in a conversation appear to edit out slips and hesitations in a speaker's performance, in favour of representing to themselves a more polished and, presumably, more easily intelligible version of events than actually occurred. If participants are to be enabled to construct for themselves an experience of seamless interactional flow of discourse, it would appear that pauses might have to be kept brief enough to be easily disregarded.

If a pupil volunteers to respond and is nominated by the student teacher, usually about 0.3 to 0.4 of a second elapses between nomination and response. In this case the pupil, presumably, has an answer in mind before being selected, yet a finite time lag occurs. Similarly, if a pupil response appears to be such as the student is seeking, because she confirms it unequivocally, there is a time lag of 0.2 to 0.4 of a second. Yet listening to recorded examples of such events, without a stopwatch in hand, suggests that the student's response is likely to be experienced as unhesitating.

In cases where a pupil is nominated to respond without having volunteered, a response is unlikely to occur in much less than 0.8 of a second, and may take

several seconds if, indeed, it occurs at all. Perhaps the time lag occurs because the pupil has not expected to be asked, and may also need time to work out an answer.[27] Similarly, if a student teacher does not find a response fully acceptable, she tends to take around 0.8 seconds, or longer, before confirming it. Presumably, if the answer is not such as she anticipates, it takes longer to assimilate. In general, more complex preceding contributions lead to longer response times. In cases where problems with the audibility or intelligibility of a preceding contribution arise, response times rise markedly.

Whatever the difficulties, it appears to be the student's responsibility to keep interaction flowing as smoothly as possible. It is thus that silence or unpredicted pauses become translated into pressure upon the student teacher to act in order to ensure the orderly interactional experience that participants seem to expect.

7.6.3 The Invisible World of Teaching

This apt description, drawn from Buchmann and Feiman-Nemser (1986b), emphasizes an essential limitation to student teachers learning by observing experienced teachers in action. The overt activities of teaching are easily visible and student teachers may seek to replicate these in the apparent belief that this is all teaching involves. However, the pedagogical thinking which informs the activities of experienced teachers, and which makes these

activities meaningful in their context, remains part of "the invisible world of teaching" (op. cit., p. 40). Thus student teachers may be sometimes found to conduct 'teacherly' performances which lack any pedagogical point.[28]

The analysis of student teachers' discourse with their pupils undertaken here suggests that there is a great deal of attempted pedagogical thinking implicit in the real-time interactive discourse student teachers seek to lead. Such thinking appears related to making diagnoses concerning non-responses and unsatisfactory responses and seeking to adapt the discussion accordingly. Students' pedagogical thinking would appear also to be intimately related to their understanding of their particular subject discipline, and to the particular topic, issue, materials, and so on that are being discussed, as well as to the particular points that it is thought important to make in order to further pupils' understanding.

Unfortunately, just as co-operating teachers do not seem to make their pedagogical thinking explicit for students, perhaps because they cannot, student teachers do not comment in interview on the details of their pedagogical thinking. Indeed, they frequently seem unable to remember after the lesson the way in which a particular interactive sequence developed. Instead, when pressed, they tend to talk less about what actually happened, than about what was intended to happen from the perspective of their lesson plan.

It seems likely, then, that student teachers, too, do not make their own moment-by-moment pedagogical discriminations explicit because they cannot. It is suggested that, in this regard, students' performance shares a characteristic with that of experts. Further, if student teachers are to be regarded as tyros in terms of taking charge of classrooms, this ought not to obscure the fact that they demonstrate a high level of expertise in interpreting and structuring real-time interactive discourse. Thus it would probably be more accurate to consider student teaching as displaying markedly different levels of expertise simultaneously, according to which aspects of teaching are being focussed upon.

The approach adopted here seeks to elucidate pedagogical thinking by closely inspecting overt features of the discourse, finding patterns, and making inferences about what is going on. The sort of inferencing that is engaged in is founded in such things as students do say about their teaching. Moreover, the evidence which is presented carries a cumulative conviction and appears to suggest that the analysis which has been developed may be applied with consistency across the whole sample of student teaching. The fact remains, however, that the analysis remains speculative to the extent that it is not explicitly confirmed by participants' accounts.

7.6.4 Discourse Structuring and Classroom Discipline

The description developed here also sheds some light on problems in

classroom management common in student teaching. If pauses at certain points in interaction tend to foreshadow breakdown, student teachers are under constraint to intervene to seek to minimize such pauses. Moreover, if students feel compelled to operate interactive discourse rather swiftly in an effort to avoid discipline problems arising, and such speedy operation appears highly cognitively demanding, pupils who wish to cause difficulties may do so by behaving in ways which tend to impede the orchestration of swift, well co-ordinated interaction.

Pupils may, for example, shout out responses which are not co-operative, thus issuing a challenge to the structuring of a well-formed interaction. This tends to make student teachers pause, apparently involuntarily, as if taken aback by the unexpectedness of this response in the context of what may be anticipated to occur at this point in the discourse. Such hesitation appears to be readily noted by pupils and may lead to further challenges, particularly as student teachers seem to wish to avoid dealing with disciplinary challenges altogether. Their preferred approach is to seek to use their capacity to improvise discourse very rapidly to distract attention from a challenge and redirect it elsewhere. However, in doing this they may tend to make slips in speech which, it is suggested, indicate to pupils that despite the attempt to give the impression that such behaviour may be completely ignored, it actually succeeds in putting students under considerable pressure.

Such a pattern of action often seems to lead to a vicious circle of events. On one hand, students pay very careful attention to certain responses, while at the same time asking the class to pretend that other responses did not occur. However, the student's hesitation followed by an attempt to move the discourse rapidly forward, together with accompanying slips in speech, indicates that a challenging remark, far from being successfully ignored, has actually had a very marked affect on the student's behaviour. Such an effect would appear to indicate to pupils where a student is most vulnerable to a disruption of her performance.

Thus it would appear that analysis based upon consideration of pedagogical discourse repair mechanisms possesses considerable potential for explicating real-time classroom events in ways which appear highly informative for understanding student teaching. Of particular significance would appear to be the possibility of focussing upon the dynamic aspects of classroom teaching which are of notable importance for student teachers, but which hardly feature in the educational research literature.

NOTES

1.   Since this student and the one who declined to be involved were the only male students of English taking part in this teaching practice, the data collected represents an unbalanced sample in terms of the gender of student teachers. While it would have been preferable to have a more balanced sample in this regard, this was not considered an insuperable obstacle given the exploratory nature of the present research.

2.   The researcher also saw the mature student in question behave in ways which tended to suggest marked dependency. On two occasions, in the researcher's presence, she pressured her co-operating teacher into giving her lesson ideas and instructions for their implementation. On both occasions the co-operating teacher was clearly rather embarrassed by her request, at first tried to resist, but then gave in to her pleading: "You've got to help me. I really don't know what to do."

On one of these occasions the reason for the student's importunity was the impending visit of a tutor. She appeared very concerned about this indeed. On the researcher's next visit to see her the student mentioned her 'crit lesson' in casual conversation and the researcher asked how it had gone. "Oh it was just great", she replied.

The particular tutor concerned, she explained, had a very unusual car of which he was very proud. "I had them all pumped up to ask him about his car. Soon as he came into the classroom they were all at him – 'Sir, is that your car?' 'Did you really build it yourself?' He hardly saw me teach. He spent most of the period driving up and down the car park giving them shots in his car. And I got a good crit!"

While the student's account of what happened hardly seems credible, it nevertheless serves to suggest that the view she has of herself is that of a clever manipulator. It therefore would seem important for researchers to take account of such possibilities. Student teachers may sometimes be operating an agenda which might militate against the attempt to explore what was actually going on during a lesson.

3.   Studies which have been conducted comparing novice and experienced teachers tend to link expertise with the possession of fluent, well-rehearsed routines and suggest that novices' lack of such routines tends to produce a cognitive overload which may prevent them from being able to deal adequately with the less forseeable aspects of lessons. However, Berliner (1987), in a study which seeks to investigate how teaching situations are interpreted from a pedagogical viewpoint, reports finding that some individuals with little teaching experience appear to 'read' classrooms like more experienced teachers.

The view adopted in the present research is that student teachers' performance cannot simply be regarded as all of a piece and inexpert overall, but appears to display varying levels of expertise simultaneously, depending upon which aspects of teaching are being considered. The capacity to conduct meaningful interactive subject matter discourse with pupils is one aspect which appears, largely, to have been overlooked. Thus the present research is complementary to those researches which seek to highlight what teaching expertise consists in by making a comparison with the teaching of novices. But it does seem to have been much easier for researchers to notice the flawed nature of student teachers' management of routine performances than to notice that they may also exhibit high levels of expertise in terms of discourse performance.

4.   Care has been taken to try and explain Schon's (1983) concept of 'reflection-in-action' in a

fashion which corresponds with his description. However, the very condensed description given here - Schon's account is mediated by detailed case studies of different experts in action in their field - necessarily involves a highly interpretative characterisation of the concept. Schon has also been criticised for burdening his account with an 'unnecessary dualism' (Shulman, 1990). The description given here seeks to avoid this problem.

5. There were 5 lessons out of 22 which did not involve the consideration of a literary text.

6. These problems are additional to those noted previously in chapter 6, namely, that the venture description the Illinois researchers provide is that of a synoptic retrospective which fails to engage with the dynamic aspects of teaching.

7. Dunkin & Biddle (1974) seek to remedy this omission in their account of the Illinois research, by quoting from personal correspondence with a member of the original research team. However, the explanation provided is not very helpful and tends to indicate why the original research report might have preferred to leave the matter somewhat vague.

8. It should be noted that this is not an idealisation, but a description of what most student teachers, in fact, did most of the time.

9. Somewhat ironic testimony is borne to the importance of pragmatic considerations and the necessity for a thorough familiarity with context before making interpretations in Cole & Morgan (1975). The editors note that, "Linguists and philosophers have attempted to take cognizance of each others' work, but it has not always been certain that the interpretation of linguistic research by philosophers, and of philosophic research by linguists, bears more than a superficial resemblance to the intent of the author of the research (op. cit., preface p. xi).

10. One striking example Grice (op. cit.) considers is that of the British General who captured the town of Sind and sent back the one word message Peccavi: "I have sinned." But implicatures need not display this sort of elegance. Often cited in the literature is the hypothetical case where a duke says to his butler, "It's hot in here", and which the butler understands as an instruction to open the window, though this is certainly not what the utterance literally means.

11. A more detailed discussion of the development of exchange structure analysis is provided later in chapter 9. There the possibility of integrating the pedagogical description of classroom discourse developed in the present research with the systemic description of conversational structure evolved by linguists, to produce a unified analysis, is explored.

12. There are, of course, misfires, although these occurred very infrequently in the sample of lessons. These are questions which seek to initiate PSYs but which appear to be abandoned before any interaction develops. However, inspection of the cases of misfires suggests that students produce misfires when they have anticipated a discussion that they realise, often as they are speaking, ought to be introduced later. In other words, misfires involve the suspension of a particular issue while some prior considerations are dealt with, then the

misfire is reinstated as the initiatory question of a later PSY. Thus misfires involve the attempt to initiate new PSYs, but the anticipated discussion is temporarily suspended to be reintroduced later. Abandoned questions, on the other hand, arose amidst PSYs already in progress, did not seek to initiate a new PSY, and were not reintroduced later.

13. The pauses which were found to occur were at least 1 second and could extend to 3 or 4 seconds or more. The longest such pause encountered was 8 seconds. Most often, however, pauses tended to be around 2 seconds, by which time students appeared already to have decided that no response was likely to be forthcoming, and to react accordingly.

14. As one student said, explaining why she often nominated a particular pupil, 'He's always willing to try, even when he's not sure.' Since these pupils are particularly likely to be called upon when the discourse appears to be in danger of breaking down, they are regarded as the students' standby interlocutors for dealing with situations where no pupil is willing to volunteer an answer. The limited number of pupils so relied on might also be linked to difficulties students have in learning the names of all the pupils in their classes during
· teaching practice: among pupils that a student learns to recognise first are likely to be those who are more willing to interact in ways the students find helpful. There were noticeable differences between students in confidently naming a range of pupils in the classes observed. Several students appeared to have only a vague awareness of the names of most members of their classes.

15. In order to present the interaction in a principled way and not just invent arbitrary line divisions, each numbered line represents an exchange slot as defined by Ventola (1987). Moves which fill the slots within exchanges are defined as units which select independently for mood. This leaves open the possibility of later integrating the pedagogical description of real-time structuring developed here, with the exchange structure analysis developed by discourse analysts for investigating the conveyance of information in social interaction. See Chapter 9, following.

16. While 'OK?' can appear to have a variety of functions in the speech of student teachers, and can sometimes appear to be little more than an unconscious verbal habit, here the student scans the class and it appears to function as a check that the pupils are with her. While experience of classrooms suggests that it is unlikely a pupil would respond verbally to the student's questioning 'OK?', it is possible for pupils to indicate confusion by facial expression or a gesture such as shrugging their shoulders. It would appear that it is the absence of such signals that the student is checking for here.

17. The girl, code-named Julie, whose comment is overheard by the student, probably wants to contribute to the class discussion - why else speak in a stage whisper right in front of the student? - but is unsure how her remark will be accepted. After all, in front of the class the student represents the authority of the school. The student, then, appears to recognize the wish to contribute and arranges for the pupil to do so publicly, in a non-threatening fashion.

18. It seems likely that the time lag before responses has to be kept brief if participants are to be able to sustain the impression that they are involved in an interaction that possesses a coherent flow. See later.

19. The tactic of inviting an audience to guess an answer that a speaker is thinking of, is not confined to student teachers on teaching practice. In the televised Royal Society lecture in 1987 a very distinguished scientist put up a slide which contained pictures of a number of famous historical people, including Darwin, and invited the audience to say what they had in common. After a number of erroneous guesses had been made, the lecturer revealed, somewhat triumphantly, that they all sufferred from a rare bone condition. Since the lecturer appeared to have been fairly certain that no one would be able to point to this factor, there would seem to be little <u>pedagogical</u> point in asking the question in the first place. It seems possible, then, for a teacher to appear superficially to be following a pedagogical procedure, when in fact it is the power relationship between teacher and taught that is being celebrated.

20. This is not to suggest that the student did this in a conscious or deliberative fashion. The student does not possess the analyst's perspective of replaying a classroom event over and over until she can make apparent sense of it in its context. Rather, it is suggested there is a subconscious need to reassert the balance of power here. Neither, of course, is the analyst privy to what is happening in the student's consciousness, or to what subconscious factors are involved. Until a way is found of confirming the analyst's account with participants in future research, the best that can be done is to seek to make speculative interpretations, rooted in the comments of student teachers about classroom realities as they experience them, which prove consistent over a sample of lessons and so carry a cumulative conviction.

21. Of course, it was hoped that there might be occasions in later sessions when the student would mention being 'thrown' by a pupil response. However, this did not happen.

22. This is the only time this pupil is called upon to answer in the four sessions recorded. Nor does she ever volunteer an answer. Clearly the student knows her name, but avoids selecting her. One can only speculate why. It is suggested that this is possibly because she is regarded as a weak, or shy, pupil. The careful handling of her response here, which is not such as the student seeks, may indicate the student's sensitivity. The student apparently prefers to temporize here, than to draw the pupil's attention to the fact that she is not keeping up with the developing argument, by persisting in seeking an answer to the key question she has asked.

23. Whether this strategy actually works and pupils feel better about having their answers disconfirmed in this way, rather than with a negative without emotive or judgmental overtones, is a question the present research was not designed to answer. Nevertheless, all the student teachers in the sample went out of their way to avoid saying 'No' to a pupil response. One student remarked, "You're never meant to say to a pupil 'that's wrong'." Whether students have actually been instructed to behave like this, or whether they are

operating on the basis of some sort of folklore about classroom interaction, the fact remains that students seem to be constantly trying to signal rather contradictory intentions. This suggests that they tend to see teaching as a rather tricky business involving the constant provision of (ostensibly) positive reinforcement.

24. This incident is particularly interesting because here is a rare example of a student directly challenging what a pupil has said. It is important to note, however, the identity of the pupil so challenged. Since it is her primary standby pupil, Bruce, who is challenged, this might suggest that she feels he is capable of sustaining a fairly robust, public challenge. Pupils who would appear to be shy, or reluctant to participate in public interaction, are treated very differently when they make unsatisfactory responses.

25. In the preparation of transcripts timings were originally given to the nearest half second. For the consideration of pedagogical repair mechanisms tapes of extracts of lessons were timed to the nearest tenth of a second. Given that this procedure was both onerous and time consuming, it was not possible to apply it universally. Selected extracts from two lessons taken by each student teacher were therefore chosen for analysis. The extracts were chosen because they seemed to be fruitful locations for examining discourse repair. The evidence of the analysis suggests that the description of the dynamic features of discourse which is demonstrated in this chapter is applicable over the whole sample of student teaching.

26. The same structuring of discourse can be seen to occur in whole class interaction, or when the student is interacting with a small group or an individual. The main differences which appear to arise when the student is interacting with a small group, or one pupil, are that the discussion is frequently initiated by a pupil asking the student for help, and that in more intimate interactions pupils appear to be under more of an onus to attempt to respond to the student's questions. However, though a pupil may initiate interaction by seeking the student's help, responsibility for structuring the interaction is not retained by the pupil, but is immediately conceded to the student. Thus the same structuring and repair mechanisms are operated as when the student is interacting with the whole class.

27. Of course, a pupil may have an answer in mind and yet not volunteer a response. Students sometimes talk of pupils 'looking as if' they have an answer. For example, one student commented in interview: "I asked him because I thought he looked like he had an answer.. but it seems he didn't." This would help to explain the occasional instances where a pupil who has not volunteered responds somewhat quicker than one would usually expect. While the examination of what exactly contributes to particular time lags lies outside the scope of the present research, it is broadly assumed that there are two elements to interactional fluency. The first involves accurate anticipation of the formal structuring of particular interactions, while the second includes time for processing the content of a preceding message so that a congruent response is made.

28. Buchmann and Feiman-Nemser's research (1986 a, b, c), it should be noted, involves

trainee elementary school teachers. It seems likely that the teaching of such trainees on teaching practice differs from that of the students in the present sample who were all specialists in a single subject observed while teaching in the upper secondary school. However, the difficulty of interpreting the pedagogical thinking which informs teachers actions remains the same. Although all the student teachers in the present sample were supposed to follow a schedule of lesson observations, several indicated that they had stopped doing this soon after the commencement of teaching practice. One student remarked: "I don't observe lessons. What's the point of that? It's a complete waste of time."

CHAPTER 8   A BRIEF COMPARISON WITH EXPERIENCED TEACHERS

8.1 INTRODUCTION

A difficulty that had arisen with student teachers was that, interviewed immediately after a lesson, they appeared less than perspicacious informants about the actual development of sequences of interaction they themselves had recently conducted. Nor was it felt legitimate to seek to confront them with the evidence for such a claim from their own lessons. This might prove damaging to their self-confidence, and might also make the research too much of an intrusion on their forbearance. Yet, the fact remained that if a student's initial question did not attract the sort of answer anticipated, she appeared obliged to improvise a - frequently complex - sequence of interaction to seek to lead pupils to the understanding required. Thus students were manifestly capable of producing performances which involved the rapid improvisation of pedagogical discussion in real time. Nevertheless, the apparent inability of students to recall accurately their real-time structuring of interactive discourse, far less provide illumination about what it was they were doing moment-by-moment when so engaged, was intriguing, to say the least.

Students seemed constrained, when asked to think about such episodes, to give very approximate summaries of what had happened. Moreover, they tended to talk about what it was they had planned should happen, not what actually transpired. However, if improvised substantive episodes appeared to

have become rather forgotten, particular moments in the discourse which had disciplinary implications seemed to be recalled with considerable clarity. Thus the view a student seemed able to take of a just completed lesson appeared strangely partial. Certainly, this finding, if it were to be confirmed by other research, would make it difficult to see how students might learn to improve their skills in the improvisation of interactive discourse by reflecting on previous performance.

The present research invoked consideration of the pragmatics of discourse to unlock the detailed pedagogical structuring of such episodes, and thus sought to make explicit how features of interactions are being read by participants. The fact remains that, if this were all that was done, the interpretation of features of pedagogical discourse provided would remain largely uninformed by any sort of detailed participant commentary.

However, it was considered that it might be possible to ameliorate this situation by utilizing similar research procedures with a few experienced teachers. It was thought likely that inability to remember accurately the features of improvised classroom interaction was a general feature of teaching, and not something associated merely with being a student teacher. If this proved indeed to be the case, perhaps it would be possible to provide teachers, who were both experienced and confident, with transcripts of their own lessons and ask them to attempt to provide detailed commentary on what

they were doing.

If it were possible to secure the co-operation of, say, two experienced English teachers who were self-confident, curious about teaching and articulate, it might be possible to operate the research approach with them, but with an additional element. A copy of each lesson transcript would be posted to the relevant teacher and a second interview would be recorded in which the teacher would be invited to comment on what had actually been said in the lesson.

This procedure has some similarity with interviews using the technique of stimulated recall in which, shortly after taking a class, a teacher is played a tape of her teaching and asked to comment on her decisions at particular moments in the lesson (see, for example, Calderhead, 1980). However, the typescript interviews were not asking teachers to recall particular moments in the lesson, thus there was no necessity for them to be conducted within a few days. Rather, teachers were being invited to seek to explicate the action that is predicated by ostensible events in the discourse. That is, an attempt was being made to see if teachers could make explicit the teaching acts that were being accomplished through the verbal acts of interactive discourse.

A number of further considerations informed the decision to ask teachers to comment upon typescripts of their own lessons. Firstly, the very complex

structuring that occurs so rapidly during improvised interaction appears to be difficult to notice while attending to real-time performance. Interpreting discourse appears to be such a taken-for-granted human capacity that to be able to notice the complex structuring of spoken events requires that the real-time aspect of speech production be mitigated by attending to a written text of spoken performance. Secondly, it was felt that a typescript might act as a distancing device enabling teachers to inspect their own behaviour from an unwonted perspective, by drawing to their attention the essential 'strangeness' of their taken-for-granted performance. Thirdly, it was intended to use English teachers whose training in literature meant that they would be accomplished at scrutinizing patterns in texts. This might yield dividends when they considered their own lessons as text. Finally, having a researcher who showed close interest in their teaching and in what they had to say about it, and who would also provide a permanent record of lessons, might prove to be motivating and serve to encourage teachers to disentangle some of the mysteries of teaching.

Thus, the development of the analysis presented in Chapter 7 also drew upon the explication of their moment-by-moment handling of interaction that was provided by experienced teachers.[1] This is, admittedly, a somewhat novel procedure – utilizing accounts provided by experienced teachers in the development and validation of an analytical approach for application to lessons conducted by student teachers. It was adopted because of the

undesirability of asking students to comment on transcripts of their own

teaching. Moreover, it rests upon the finding of the present research that, <u>in</u>

<u>terms of the dynamic improvisation of interactive discourse</u>, student

teachers must be considered as possessing an already high level of expertise.

8.2 <u>Procedure</u>

It is important to emphasize that the inclusion of a few lessons by

experienced teachers was not conceived as an attempt to conduct a study

comparing 'expert' and 'inexpert' teaching performance (see, for example,

Leinhart & Greeno, 1986; Borko & Livingstone, 1989; Berliner, 1987). For

one thing, the research effort thus far had produced evidence that, in so far as

discoursing behaviour is concerned, student teachers cannot be considered as

inexpert. For another, due to time constraints, it would only be possible to

observe two teachers and transcribe two lessons for each. Rather, the

intention was to explore whether it would be possible to gain insightful

commentary regarding an aspect of what has been variously described as the

normally "invisible world of teaching" (Feiman-Nemser & Buchmann, 1986), or

the "reflection-in-action" (Schon, 1983) that teaching appears to require but

which is difficult to make explicit.

No attempt was made, therefore, to identify supposedly "expert" teachers.

All that was required was the English teachers who participated should be

reasonably experienced, having taught for a minimum of five years. They

should be confident individuals so that they would be unlikely to find the research procedures too intrusive, and would be capable of speaking up for themselves. Moreover, if they had some interest in teaching itself as a subject for inquiry, this would likely facilitate the research. The sort of teachers sought were likely to have been co-operating teachers and capable of successfully supervising students on teaching practice.

The Regional Education Authority Adviser in English was thus consulted about suitable candidates to approach. Two teachers who were employed at different schools already being visited by the researcher were initially approached. The research procedures were explained and discussed. The purpose of the research was indicated as being an attempt to understand teaching better, in the hope that this might prove of benefit to student teachers in training. Both teachers invited to participate readily agreed. The researcher indicated that he did not wish the teachers to prepare special demonstration lessons, but rather that he wished to observe lessons more representative of what they ordinarily did. It was further indicated that the classes involved, to allow comparison with the sample of student teaching, should be at the upper secondary school level. Both teachers selected third year classes to be involved in the research observation.

The teachers are here designated Teacher A and Teacher B. Teacher A was the male Head of Department in a comprehensive school with approximately

1,500 pupils. Teacher B, a female, taught in a smaller, and older, split-site

comprehensive secondary school with less than 1,000 pupils. It transpired

that both teachers had also completed part-time Masters Degrees in

Education, but the researcher was unaware of this at the time the teachers

were approached.

Arrangements were made to tape two lessons (L1 and L2), each a week

apart, with each teacher. Post-lesson interviews (P 1 and P2) were

conducted and taped as for student teachers. Subsequently the L1 typescripts

of their lessons were to be sent to the teachers 14 days after the lesson.

This was to allow adequate time for transcription and typing, as well as to

ensure that both lessons were taped with each teacher before they received a

typescript, thus avoiding any interference with the way they taught the

second lesson due to consideration of the L1 typescript. Interviews (T1 and

T2) based on the typescripts were to be taped with each teacher at mutually

convenient times, after allowing the teachers a few days to read and consider

the typescript. L2 typescripts were to be sent out after the T1 interviews.

It proved difficult to schedule the typescript interviews within the time

frame envisaged. This was partly due to the hectic nature of school life in

the final term before examinations, as well as other factors. The T1

interview with Teacher B was delayed since the teacher also fell ill. Thus

the interview was conducted just over a month after the lesson. This meant

the T2 interview was delayed by a similar period. With Teacher A the T1

interview was conducted four weeks after the lesson. However, the T2

interview was repeatedly postponed by the teacher, until it finally took place

some 12 weeks after the lesson. While the time that elapsed between lessons

and typescript interviews was greater than the researcher had envisaged, this

factor did not seem to inhibit the teachers' ability to comment. This was,

perhaps, because the researcher was not asking them to say what they were

thinking during the lessons, but rather to use the discourse evidence to

consider what was being done at particular points in interactive teaching.

8.3 The Lessons

With Teacher A the first recording session was vitiated by a technical

failure shortly after the lesson commenced. The researcher only discovered

that the radio microphone had failed after he had left the school and started

to transcribe the tape. Thus it was necessary to ask the teacher if another

session could be taped. While Teacher A immediately agreed to this request,

the researcher felt that he subsequently became more guarded during

interview. Although he continued to talk at length, much of what he said was

felt to be somewhat diversionary.

The new L1 lesson taped for this teacher involved a session which was very

similar to that observed when there was an equipment failure. Individual

pupils gave talks to the class on a novel they had read and wished to

recommend. At the same time their performance in giving a talk was being assessed by the teacher.

The L2 lesson formed part of a series on a topic the teacher described as dealing with "bias and judgmental language". Here the pupils were working on photocopied materials which contained four newspaper editorials dealing with the same controversial topic, and were asked to analyze one of these, working in pairs. The duration of Teacher A's lesson periods was one hour.

Both of Teacher B's lessons formed part of an ongoing unit which she described as dealing with the topic of "astronauts in space". In the L1 lesson there is extended whole class discussion of a Ray Bradbury short story entitled Kaleidoscope, about an accident to a rocket. The main focus of the teaching is upon the use of figurative language in description.

In the L2 lesson the pupils work in groups to answer a set of questions the teacher has provided on a poem – "An Astronaut Space-Walking". Again the focus is upon the use of figurative language. The duration of Teacher B's lesson periods was 40 minutes.

8.4 Teachers' Commentary on Their Own Lessons

The attempt to see if experienced teachers might be able to look closely at what they were doing as they taught and provide perspicacious commentary,

was more successful with Teacher B than Teacher A. However, a number of

interesting considerations were raised with both teachers. The procedure

adopted therefore is to provide a brief discussion of matters which arose in

consideration with Teacher A, before turning to Teacher B and discussing at

more depth.

8.4.1 Teacher A

For a session which ostensibly focusses upon pupil talk, Teacher A's L1

contains a very considerable amount of teacher talk. This is something that

Teacher A has immediately noticed on looking at the lesson typescript.

Indeed, he explains that when he first read the transcript he was rather

shocked:

> It.. it was.. I mean I kept thinking it was some other fella. That was my first reaction. Alright,
> and at other times I kept thinking, Oh God! that is me and it's horrible. Times when, for
> example, [turns pages] eh.. you see, just for example [points to transcript] T speaking for half
> a page and I think, Good Lord! when did s... when on earth did they find the time to get anything
> done in class because I spoke that amount.

It is probably important to see this remark in context as Teacher A's

reaction to seeing a transcript of his teaching for the very first time.

Nevertheless, the researcher noted that the part of the transcript the teacher

indicates appears carefully selected, though his speech might suggest this

was done almost at random. Had he pointed to the following page, for

example, there the teacher can be seen to embark on a monologue that

continues for a page and a half. Furthermore, while seeming to acknowledge

that he may have spoken too much, he manages to suggest he spoke less than

he did: the "half a page" of teacher talk he refers to actually occupies closer

to a whole page. This may suggest he is having some difficulty in fully

accepting the transcript evidence.

Immediately after the lesson, in the P1 interview, he has adopted a

resolutely self-congratulatory stance. He is delighted with the performance

of the pupils making presentations: "I hadn't seen anything like that." Later

he adds: "I mean.. that.. that was beyond the realms of expectation." He also

appears pleased with the audience participation as the class ask questions of

the speakers after their talks:

They were coming up with questions about characterisation, about description and so on. [..][2]
It was pleasing to hear them actually.. talking on the same wavelength as I would have talked to
them about their novel.

At one point in the P1 interview, however, he admits the possibility that he

might have an exaggeratedly favourable impression of the lesson: "Again, you

know, when you.. when you listen to the tape it may not be, maybe I'm being

slightly rosy."

In neither the P1 or T1 interviews was the researcher successful in

engaging Teacher A in detailed discussion of particulars in the lesson.

Questions about a specific episode often led to somewhat diffuse

commentary. Frequently, Teacher A tended to be reminded of similar

incidents in lessons the researcher had not witnessed and which he described

in general terms.

One reason Teacher A has felt constrained to talk at length in this lesson is due to the fact that one of the three pupils scheduled to give presentations is absent. He deals with the problem, he says in the P1 interview, by extending the time the each of the pupils has for their presentation and by spending "a little longer on the, eh.. the wind up at the beginning of the lesson, and a little longer on the.. the wind down at the end."

The absence of one presenter seems to make the girl who now must go first very reluctant to begin. Indeed, she seems to want to postpone her talk to another day. Perhaps the researcher's presence contributes to her reluctance. She makes a number of complaints culminating in the claim that she's not had enough time to prepare. While the pupil's obduracy would likely cause considerable difficulty for a student teacher, Teacher A hardly seems to remember a problem, as if he knew he could easily overcome such objections. In the P1 interview, when the researcher suggests the pupil seemed a bit concerned about beginning her talk, he says: "I mean, if the girl was concerned I didn't actually.. I don't remember that kind of thing."

The way the teacher deals with the difficulty in having the pupil begin is by launching a monlogue which is delivered with great speed and fluency. He offers reassurance and jokes about being called upon to make speeches at

weddings and retirements. Chiefly, though, he seems to carry the class forward on the tide of his oratory. It is almost as if his high energy performance sweeps aside all resistance. When he is finished there are no more objections and the pupil comes forward, unresisting, to deliver her talk.

This episode was found interesting because it suggests where student teachers might learn to aspire to override disciplinary challenges by seeking to speak quickly and fluently, and so seek to deny their potency by obscuring them. However, there are two main differences in what tends to happen when student teachers attempt to use a similar technique. Firstly, Teacher A's monologue does not contain the slips of the tongue, deletions and hesitations that occur when students engage in rapid improvisation to seek to cover up a disciplinary challenge. Secondly, the pupil's behaviour in this situation, although it might have disciplinary implications if not responded to effectively, is primarily a sign of her anxiety about performing publicly, not a direct challenge to the teacher's authority. This gave rise to the consideration that, perhaps, student teachers attempt to operate a technique they see experienced teachers use, but without discriminating carefully in which situations it may be effectively deployed. The experienced teacher would be unlikely to try and talk over a deliberate and public challenge, as student teachers were found to do, since that might appear evasive and weak.

Teacher A's second lesson was disconcertingly similar to some taken by

student teachers in that there was conceptual confusion that appeared due to a lack of adequate planning. The first part of this lesson is taken up by a pupil repeating a talk because she wants a better grade. The teacher remarks in interview P1 that this is unfortunate but he can see "no alternative". The main part of the lesson concerns a continuation of a series of lessons on judgmental language and bias. The pupils have a sheet containing four newspaper editorials, two from tabloids and two from broadsheets. On the previous day the class have considered one of the tabloid editorials. Now they are going to look at a longer editorial from what the teacher indicates is a "quality" newspaper.

Since the editorial is complex the teacher has the pupils, working in pairs, seek to underline the topic sentences in each paragraph to "get the gist of" the passage. The teacher reminds them of his definition of a topic sentence: "A topic sentence - a sentence which sums up what the writer's been talking about round about that area." However, pupils soon seem to be having difficulty with the allotted task and pairs call the teacher over for help. The teacher seems to be remarkably unclear about the topic sentences himself. Some of the interactions that occur during the course of the lesson are given in Example 8.1.

Example 8.1 Extracts from Teacher A - L2 (Text 45)

P: Sir! Is it the first sentence o' the paragraph that ye look or is it through it?
T: No I sa.. I said read through the whole paragraph and it may be the first, it might be the last. It doesn't always have to be at the beginning or the end but often it's at the beginning or the end. One or the other, OK? _____

P(a): Sir!

T: Right. [T walks over]

P(a): The last sentence in the second paragraph is one o' the sentences, is it?

P(b): Naw! It's no that one, is it?

T: It is one of them, you're right.

P(b): Yeah, but can it be the first and the last?

T: If you like, yes, alright. If you think that both of them are equally important.

P: Sir, in this one right, well.. there's.. this is one sentence here so, like... we think that one would be one, em.. would ye havty underline all o' that, or would ye just, like, underline that bit and the end bit so that ye would know that it would be the topic?

T: Yes, OK. If you think that not all the sent.. if it's a long sentence and not all of it is topic, then just underline the bits that are topic then. Yeah.

P: Do ye underline the bit.. the bit that sums up the whole paragraph an' that?

T: Underline the sentences within each paragraph which you think are the topic sentences, the key ones which sum up what the paragraphs are about.

P: Will there be one in the paragraph?

T: There may be one, there may be two. Maybe the first one and the last, but look at the beginnings and ends largely of paragraphs, OK?

P: Sir!

T: Ella.

P: Is it down to there.. down to there?

T: Down to there?

P: No.

T: From there down?

P: I think. Or just the last wee bit that we've actually underlined.

T: It may be that half a sentence is a topic sentence in that case.

P(c): [P calls T over by putting her hand up.] I'm panicking.

T: Oh heavens! Maybe getting a wee bit carried away, but for the purpose of this, as long as ye understand what the thing's about, that's the main thing.

P(d): Yes, we do.

T: You do.

P(d): Yes we understand...

T: You sound convincing.

P(d): Yeah. [T moves away.]

T: Who's finished? Hands up! [T moves to a pair who have indicated] You have a lot underlined there. And this poor paragraph gets.. only the last paragraph.. eh, only the last sentence. Em.. there's one topic sentence there right enough, but it's an awfully long paragraph to merit only one topic sentence. It may be the first on might be worth looking at. Have a look at that. Not all of it, but some of it.

In short, Teacher A appears to be remarkably unclear about exactly what

constitutes a topic sentence. The difficulty would appear to lie in the initial

definition of it as a _summary_ of the paragraph. That is the topic sentence is defined in terms of the use the teacher wants to make of the concept, rather than in terms of its function for a paragraph. In the P2 interview Teacher A remarks:

> The term topic sentence is one which I borrowed from other members of the department. Although, initially when I used to teach the summary eh.. even as a very strict.. line of.. line of teaching I didn't know the term then. It's just something I found handy to latch onto recently.

Just how recently this has been is revealed when later, over a coffee, Teacher A remarks to the researcher:

> I'd never come across the idea of a topic sentence before until yesterday. Two minutes before class I was looking at that sheet of editorials and I said Good Lord! how am I going to get them to see the gist of these? And Charlie [naming another member of the English department] said, Get them to identify the topic sentences. What are they? I said. And he gave me a quick explanation. But up till then I'd never heard of a topic sentence.

While it seems extraordinary that a teacher with A's experience should never have encountered the concept of the topic sentence before, this would serve to explain his apparent uncertainty during the lesson. The researcher also noted that while Teacher A was prepared to be more candid in his comments when he was not being taped, he nevertheless seemed to maintain denial of the evident confusion that pupils had exhibited during the lesson.

Throughout the P2 interview Teacher A seeks to maintain the impression that everything was fine and went as planned:

> And they picked up topic sentences fairly straightforwardly. And from what I saw today, it rather looks as if they're not finding that too tricky. [..] And I think from what I've seen today,

they're managing to come up with the idea of a topic... sentence and.. to get the gist of what this rather complex piece of writing's all about. Taking the bull by the horns I thought they coped with it and they seemed to be coping quite well.

Teacher A's extreme reluctance to have the second interview, however, tends to suggest that he felt embarrassed by the typescript of the lesson. After the second transcript had been mailed to Teacher A, difficulties arose in arranging the T2 interview. After several cancellations, when the researcher finally arrived to conduct the interview, Teacher A managed to 'lose' the transcript. After searching for approximately 10 minutes, he found it only to 'lose' it again when a pupil called for him. This necessitated another search lasting some 5 minutes.

During the T2 interview, the teacher appears to have forgotten his earlier candour over a coffee and initially claims to have been "playing daft laddie" to check the pupils understanding. Later, however, as he considers further examples of difficulty in identifying topic sentences he admits the inconsistencies in his comments thus:

> Yes, this is where the chickens come home to roost. Yes. For me. Because this is where I find my little hard and fast rule of thumb which I had on my shelf.. in my brain ready for bringing out on this occasion suddenly had to be put back.

Subsequently he notes his definition "didn't work", in fact " it's impossible." Still he blames this on the nature of the writing being examined, rather than on an inadequate definition:

> For.. meaty stuff written by very, very top class writers.. who as editors of newspapers are trying to cram as much into a paragraph as they can, everything was a topic sentence.

Later in the interview when Teacher A appears to have become more relaxed, the researcher tentatively suggests that perhaps he didn't have sufficient time to prepare the lesson. He responds thus:

Yes, I think, eh.. no, I think you're right, I think somebody less experienced or more cautious would have, actually, read through the thing again beforehand before they went on to it.

Teacher A had previously mentioned his administrative work, together with the fact that he might suddenly have to cover for an absent colleague, as things which lessen his preparation time. At the end of the interview he appears rather relieved - "I think everybody should do this!" When asked to elaborate he adds:

It's reassuring that you and I are sort of agreed on the way the lesson went... if I do have doubts myself it's for the right reasons and... yes, right, well I was wrong to do this and wrong to do that in the circumstances. [..] I mean, had we been on totally different wavelengths this could have been quite a different experience.[3]

Thus the sessions recorded with Teacher A were not informative about teaching in the way that had been hoped. While in the post-lesson interviews he demonstrated an inability to remember exact details of interactions similar to that found with student teachers, consideration of the transcripts of his lessons generally failed to elicit discussion in which he reflected upon the way he structured discourse. The equipment failure which occurred during the abortive first session seemed to have aroused his suspicion.[4] Moreover, his behaviour suggested a very marked reluctance to discuss the transcript of the second lesson. Nevertheless, there were some intriguing speculations raised by the work with Teacher A.

First, Teacher A's initiation of a very rapid, fluent monologue to overcome a pupil's reluctance to begin her talk, might suggest that it is through observing experienced teachers deal thus with an interactional impasse that inspires student teachers to attempt to use a similar technique in response to direct disciplinary challenges. The lessons observed in the present research suggest that such direct challenges, while fairly common when students are teaching, are unlikely to be witnessed in the lessons of co-operating teachers. Perhaps student teachers thus adopt the technique of seeking to demonstrate great fluency in response to a challenge, without having had the chance to discriminate sufficiently the sort of difficulties that are likely to yield to such a solution. Consequently, student teachers, in seeking to speed up their discourse, seem to put themselves under extra pressure which leads to slips and hesitations in their speech, which in turn increase the likelihood of further disciplinary challenges arising.[5]

Second, if as has been indicated in a previous chapter it is not legitimate to regard student teachers as highly inexperienced in terms of their construction of interactive discourse, neither does it appear safe to assume that experienced teachers will never conduct classes which are inadequately planned, or conceptually flawed, and thus cause pupil confusion. Perhaps it is simply demanding too much to expect that an experienced teacher should never teach a less than satisfactory lesson.[6]

8.4.2 Teacher B

Teacher B describes her first lesson in the P1 interview as part of a recently commenced unit on the theme of space that will probably occupy about 6 weeks overall. The story under consideration in L1 has been read on the Friday and a short discussion - "just the factual stuff going through exactly what happened" - has been conducted. She explains that the lesson observed on the Monday has begun with a recapitulation because of the intervening weekend and also to ease the class into the appropriate frame of mind:

> ' They might have come from Science or Home Economics or anywhere and they come in here and I want them to switch [T snaps fingers] you see. And I feel it's important, with something like this, where I'm asking them to imagine what it would feel like to get them into the mood of this.

The teacher goes on to say that while she is also trying in the lesson to ensure that pupils read accurately and notice significant details, the main focus has been on an aspect of style - the way the author uses figurative language. This is being done not only to benefit pupils' reading, but with a view to enhancing their writing as well:

> I pick usually the figures of speech, the figurative language as opposed to the literal language, so that they can, em.. get the feel of this kind of thing, the basic.. style at its basic level, you know, they can introduce figures of speech into their own writing and experiment with them and so on.

Teacher B feels the lesson has gone well. Her aim that the pupils should enjoy the story has been achieved. Asked how she recognises pupil enjoyment she first mentions pupil participation: "I didn't have to go back to the same person twice for an answer, em.. that they were all volunteering answers."[7]

Also she says there were other evident signs of interest and involvement in

the lesson:

Also the way that they look. I mean sometimes you.. you can.. if.. if they're.. if you're asking questions of a class sometimes you know they'll be flicking through the book, or you know writing in their jotters or looking out the window or something like that. You can always tell by the amount of attention they are paying to you, I think.

She is also pleased that she has reached the stage by the end of the lesson that she has anticipated, and she has done so without rushing or glossing over anything. Thus the class is ready to undertake the next stage in the development of the unit. Moreover, she feels she has succeeded in communicating her own enjoyment of the story to the pupils. Things have gone according to plan. While she has done most of the planning "in her head", she also has a brief written plan which she shows the researcher – this consists of some words and phrases written on a torn-off scrap of paper.

Detailed discussion of the lesson focusses upon particular episodes and what teacher B has to say about these in P1 and T1 interviews.[8] The L1 typescript extracts of the relevant episodes are also given. Since the teacher saw these in their raw and unanalyzed form, that is how they are given here.[9] Example 8.2 comes at the outset of the lesson once the class have settled down, and deals with a summary of events in the story. Immediately prior to this extract, the teacher reminds the class of the story they read on Friday and says "we'll have a quick recap".

Example 8.2 Extract from Teacher B – L1 (Text 46)

T: So.. the Kaleidoscope story, then. Eh.. basically what happened in the story was what? What

was the big sort of event at the beginning of the story? David.

P: The rocket that they were travelling, eh.. in blew up.

T: Yes, it blew up. Do you know where in space it was? Can you remember that? Just roughly? We're not giving it a sort of exact location, but we.. we can guess roughly which part of space it's in.

P: The moon. The moon.

T: It's between the moon and...?

P: The earth.

T: The earth, right. So it's.. it's not too far away, but the rocket explodes. Em.. does it sort of.. just blow out a little bit or does it just.. you know, how does it.. how does it blow?

P: A massive explosion.

T: Massive explosion. Now, how do we know that, David?

P: Because it tore a hole in the side o'.. the rocket.

T: And what else? There was a hole torn in the side of the rocket and then...?

P: They got thrown all out of it.

T: Yeah, they all got thrown out of it as well. And what happened to the remains of the rocket?

P: Shattered.

T: It shattered. How do you know it shattered? What's the phrase that's there?

P: Doesn't, em.. they're like silverfish scattered into the dark sea.

T: That's the men that it's talking about there, isn't it? Remember the silverfish - the suits?

P: Find the ship in a million pieces.

T: Ship in a million pieces. Right, so it just disintegrates. And the men were thrown into space as well. That's the bit there, Lindsay, OK? The men thrown into space.. why can't they stay together? What happens? Why are they all thrown out in different directions? Why can't they get back together again? Cameron.

P: 'Cause they've no got their life.. that.. force pack an' something.

T: Right, they've not got the force packs.

In the P1 interview, immediately after the lesson, the teacher is asked if

she can explain how she selects items for inclusion in the summary of the

story. This is how she responds:

Eh, how do I know what to hit on? [2 secs] I'm not very sure. I.. I think that I hit on details that I think are necessary for the thing to have form. [..] What you pick out as a summary of the story has to still retain a kind of form. So that even if they haven't read the story.. some of them haven't. [..] But they still have to understand basically what is going on. [..] Therefore I pick out points which I feel.. you can tell a sort of summarised version of the story from.

The teacher's uncertainty as she seeks to describe what she has been doing

here is striking. These comments have been edited to excise repetitious or

digressive material. Nevertheless, the account of her remarks given, although

it has been reduced to about only one quarter of what she says at this point,

contains all that is relevant. She clearly feels obliged to try and speak at

length about an aspect of her teaching. Yet while she carries out the classroom activity with noticeable ease, she seems to have to struggle to explicate what she has done. Intractable realities of the teaching situation are indicated when she indicates that the summary is made necessary, partly, because some pupils have been absent during the previous lesson. But she appears to have little to say about the actual details of the structuring of items in this episode.

In the T1 interview, where the teacher has the typescript to refer to, this opening episode is discussed more closely. The teacher identifies the question, "Eh.. basically what happened in the story was what?" as the first teaching question in the lesson. But she initially appears keen to insist that the summary of the story was was dealt with very quickly:

> It doesn't take very long for me to get into the.. to get beyond the sort of factual recount bit.. to go on to [flicks over page of typescript] the discussion of the figures of speech. [...] I did want a sort of factual recall.. as a reminder for them. But I wanted to get that out of the way pretty quickly to get onto the... discussion of how it's done.

But a few moments later she revises her opinion. The point at which she had thought the summary of events terminated, she now sees as involving a brief reference to a phrase "that's just a reminder", while the recap of events continues.

It would appear that, even with the evidence of the typescript before her, the teacher seems, initially, to be clinging to an interpretation of events

which relates to her intentions for the lesson. She regards the recap of the story as preliminary to the main business of the lesson and therefore its significance tends to be diminished.[10] But as she looks at the text of the lesson more closely she begins to see it as more than just a prelude. She starts to notice the extended time devoted to this part of the lesson and the intricacy of the structuring.

Her opening question is almost immediately followed (there is a 0.9 second gap) by another, more narrow question. Her description tends to suggest that after asking the initial question she realises that it will not attract any response. This is not to say it is unnecessary, however, for it seems to function by indicating to pupils the overall focus for the subsequent discussion.

If ye ask a general question like, "Em.. basically what happened in the story was what?", eh.. it's.. it's sometimes too open ended for them. Em.. and they need a more specific question to get them started. [..] I think in general most pupils need some support.

This comment indicates a teacher being explicitly aware that a question is unlikely to secure interaction and operating in pragmatic fashion to ensure pupil participation. The difficulty for pupils is seen to lie in the broad nature of the question. It also seems to be implied that certain points in an interaction - here, the initiation of an interactive recapitulation - need to be handled with particular care.

Interestingly, the teacher states she had not thought how to execute the

summary of the story or planned it in advance. This is something she

improvises. But she notices, looking at the typescript, that after the initial

question she proceeds to ask a series of more restricted questions, each of

which deals with an aspect of events in the story:

Em.. [6 secs] Sorts out the facts of the story where they begin by saying the rocket they were travelling in blew up. Yes I agree with that it blew up. And then... D'ye know where in space it was? So it's sort of another.. it's.. it's taking their answer and... moving slightly to another one. Yes.. using that and moving on. Em.. on to the exact location. [3 secs] And then.. once I've confirmed the location.. the fact of the location.. then I take it back onto the.. the size of the explosion itself. [1 sec] So, yes moving back from that. [1 sec] There's not really a link there. I.. I deliberately direct it back to that.

There is a sense here of the teacher beginning to analyze her own teaching

and noticing how she operates with some detachment – "There's not really a

link there". Moreover, the vocabulary she chooses in undertaking this

description implies that a key objective in the interactive discussion is

securing a sense of purposeful movement. The sequence of expressions is:

"moving"; "moving on"; "on to"; "take it back"; "moving back"; "direct it

back". That is, her description emphasizes the highly dynamic nature of what

is going on.

Yet, it is not until the researcher indicates she uses a series of questions –

What?, Where?, How? and Why? – to organize the discussion that teacher B

notices this aspect of her structuring of interaction. The teacher appears

struck by the complexity of her own, unconscious, structuring:

I wasn't conscious at all that I was doing that. You see I think that it's... completely unstructured [turns over page in typescript] but it's not. When you really look at it it's really complex.

She wonders at her own taken-for-granted activity and finds it intriguing.

She speculates about the origins of such behaviour:

I'm not aware.. I wasn't aware of that at all being as structured as that. I wonder where that comes from? I wonder if it's because... at the beginning of.. beginning of teaching, perhaps I.. I did... consciously categorize my questions in that way. [2 secs] And then the more ye.. ye question in that way the more it just becomes second nature to question in that way. [2 secs - T flicking over pages in script]

Seizing advantage of teacher B's evident fascination with the unexpected

complexity of her own performance, the researcher asks if she can comment

in more detail on one segment of the interaction, where she enqires about the

explosion of the space rocket, "How does it blow?"

T: I've given them a clue, you see, as well. I don't want to give them the answer. I want them to give me the answer. [2 secs] I'm giving them the answer without saying this is the answer. That's a technique I use a lot. [3 secs]
R: And then, the pupil says, "A massive explosion".
T: I want to know how he got his answer. A massive explosion. I've agreed with him. Yes, you're right, it is a massive explosion. How do we know that? I want him to... tell me where he got his answer from. I want the evidence for it.

Here teacher B explicitly indicates that she gives a clue which indicates

quite clearly the nature of the answer she seeks. However, the clue is

balanced by the request for justification of the answer. This would appear to

ensure that the response that has been sought is not just guessed because of

the clue, but is also founded upon evidence from the story. Thus if there is a

clue given to make it easier for pupils to respond, there is also a check that

the answer is understood, not just guessed on the basis of the clue.

The teacher next indicates that at this point in the discussion a pupil gives

an answer which is tangential to her immediate concerns:

> I want to know what happens to the rocket, but they say.. and he says, "They got thrown all out of it." He focusses on the men, but I want to focus on the rocket. So therefore.. well, what I did next was I agree with him because I don't want to.. I don't want to make him.. I don't want to undervalue his answer because he's right, but it's not the answer I'm looking for. And therefore I acknowledge what he's said, yes that's right, but what happened to the remains of the rocket. Then I'm very specific in my questioning after that... because I haven't received the answer that I wanted and I realize that my question was too wide. So I narrow it in to ask.. that.. the specific question.

Here she notes that she sidelines an answer which does not fit with her

focus upon the rocket. Her response, she says, is to make a pragmatic

adjustment to her questioning to ensure she receives the required answer.

Next Teacher B goes on to note that she accepts the one word answer

'shattered', but that as she asks for the evidence to support this answer she

receives another response which is factually correct but, again, is not what

she is seeking here: "He starts talking about the spacemen, the silverfish, and

I want to talk about the rocket", before she receives the answer she is

seeking: "ship in a million pieces."

At this point in the interview Teacher B notes how difficult it has been to

reach the sorts of answers she wants. Curiously, it hadn't appeared like this

while she was teaching:

> Eh.. sometimes I wonder [turns page in typescript] some.. you know, it takes so much bother to get an answer is it worth doing. [2 secs] But it's.. because the rocket shattering was the first thing, I wanted that clarified. And I wanted also to pick up the bit about the ship in a million pieces. And then to go on to talk about the spacemen.

Thus the teacher, then, appears to recognize that deriving answers in interaction with pupils has been neither easy nor direct. But it has taken inspection of the lesson typescript to reveal this. Perhaps part of the problem has been that the teacher has a very clear progression in mind, but this is never made explicit for the pupils. She does not appear to recognize this, however, although she does notice that she wants to talk about events focussing firstly on things, and then on people.

Reflecting on several such episodes in the lesson, Teacher B thinks aloud about what she is doing while engaged in asking questions in this fashion:

I suppose it's because I have in mind.. roughly where I want to go and therefore.. during the course of the class discussion I want to cover a certain number of areas. I'll.. to a certain extent I'll allow the pupils answers to guide the direction of the discussion. But as long as I get through what I want to get through.

This issue of the way she guides discussion is also raised by Teacher B at some length in the P1 interview. She provides general reflection upon her questioning behaviour when the researcher has asked her if she can go through one particular episode in the lesson in detail:

Right, em.. I suppose the mistake that we.. that we as teachers make is that we always have an end in view. We always have a particular answer that we want to get to. Well, I'm saying it's a mistake because we were told at university - "You should never have an answer in mind. You should always let the pupils come up with it." [said in a whiny voice] In a way, you know, we do. We always have this end in mind we want the pupils to get to. When it.. it's a mistake when we are blind to everything else. I think that's the point I'd like to make.

Here she attributes to her training the inculcation of unrealistic and unworkable advice, namely, that interaction ought always to strive to be

highly open-ended. In contrast, she appears to feel that highly directed

questioning is pedagogically necessary, but that this should not entail riding

roughshod over pupil contributions. She elaborates her own practice with

regard to handling pupil answers:

> I think I would be a bad teacher if I didn't take account of what they had to say so I always try to take account of what they have to say. So how I handle discussion is.. if a pupil wants to say something I let them say it. If I feel it's not a valid point I try to pick up anything positive from what they've said. I try to say 'Yes that's very true' and 'That's certainly a point I never thought of, but..' and then I'll take them back onto the track that I want to go on. If somebody comes up with, eh.. something that I'm looking for, then I'll concentrate on it. Em.. if they come up with something that is valid but I'm not quite at that bit yet and I've still got a bit of dicussion to finish off first, then I'll try to say then, 'Yes we will come back to that'. And I do try to come back to it later on.

Thus the teacher considers three possibilities here that arise from her

general policy of allowing pupils some freedom to speak - if the answer is

inappropriate and fails to further the point she's trying to make, she

nevertheless attempts to make a positive response before redirecting

attention; if the answer is such as she anticipates, she will focus on it; if

the answer is correct but focusses on something that is to be discussed later,

she accepts it but puts it on hold, as it were, before returning to it at the

appropriate juncture. Teacher B's description of her own behaviour with

regard to pupil answers appeared to the researcher to accord with what she

actually did while teaching. So here was an aspect of her interactive

teaching behaviour about which she was capable of being a perspicacious

informant. Perhaps this is because of the central importance of ensuring

pupil participation for the successful implementation of interactive

discussion. If a teacher lacks any carefully considered policy in this area,

she may also find it difficult to sustain pupil willingness to respond.

Later in the same P1 interview she indicates that asking questions when the teacher already has an answer in mind is necessary for meeting pupil expectations:

But I do feel pupils have this idea that you're looking for the right answer, and because of that, be it wrong or right in the first place, I think they need a direction so that they know just.. they have an inkling of what you're looking for so's they can respond to it.

According to Teacher B, then, pedagogical questioning inevitably involves the teacher asking questions with particular answers she wants in mind. This is because it is only thus that the teacher can ensure discussion which has structure and which serves to enlighten pupils about literature in fruitful fashion. Moreover, pupils expect that classroom discussion should lead somewhere and implicitly trust the teacher as guide.

While the teacher succeeds in being informative about her teaching and raises a number of important issues, it is notable that she fails to accede to the researcher's request to discuss one sequence of interaction in detail. The discussion provided, then, seems partly to serve to distract attention – perhaps her own, as well as the researcher's – from the fact that she appears unable to do what she is asked.

Since explicating the use of figurative language in the story is her

explicitly stated concern, the analysis of Teacher B's first lesson now

continues by focusing upon two episodes of interactive teaching, each of

which deals with interpreting a particular image. Before considering these,

however, it is important to note what she says about her procedure in this

regard during the P1 interview: "So you relate it to their own experience [..]

I've found it brings it to life for them when ye do that." The first extract,

given in Example 8.3, deals with the image of the rocket being ripped by a

giant can opener.

<u>Example 8.3</u> <u>Extract from Teacher B - L1</u> (Text 46)

T: The first paragraph on page twenty. "The first concussion cut the rocket up the side with a giant can opener!" Picture it!

P: Sophia. [P's laugh.]

T: It's very amus.. it is kind of amusing, isn't it? A giant can opener. The rocket is just a giant tin of beans. [P's laugh.] How many of you have opened a tin of beans, or soup, or any kind of tinned veg. or soup or whatever? Right, hands down. Who hasn't opened tins? Anybody not opened a tin in their life? Everybody's opened a tin. [One P. indicates.] Never opened a tin? You must be a very healthy eater then. Not resorting to fast foods. Eh.. what happens when you open a tin of beans, or a tin of soup, with a can opener? Right, let's have a demonstration. Well, I demonstrated it last week, how I would open a tin. Let's have a.. well, Peter wasn't here. Will we put Peter on the spot?

P: [Chorus] Aye/ Uh-huh/ Yeah.

T: Right, Peter. You're on the spot. If we had a spotlight we would shine it on you. Right, let's see - demonstration of Peter opening a can of beans. [P. mimes.] Right.

P: And that's the beans.

T: And that's the beans. Fine. OK. Em.. you.. you held the can and you sort of turned like this. [T. mimes.] It.. I don't know, it's... what.. what would you need?

P: Strength.

T: More.. a bit more strength than that, Peter. I th.. it's difficult if you've not got one in front of you, then you're just doing the actions without actually indicating how much strength you would need. But to open a tin you need to really force the can opener into the tin to begin with and then turn the hand. And hold it tight, because if you don't hold it tight the can opener'll spring open and you'll have to start again. There's nothing more annoying than that. So you turn it all the way round, right. Turn it all the way round. [T. mimes.] And what ha.. what are you left with? Peter was left with the beans which he emptied all over his desk. What are you left with? What's the con.. what's the condition.. is it in? Em...

P: Ripped oot the beans. It got ripped doon the side.

T: ...Laura.

P: Jagged and ripped down the side.

T: It's all jagged and ripped, right. They're absolutely lethal. If you cut your hand on an open tin it can be really sore. Eh.. corned beef tins, you know those square ones you get and you've got to turn the key on them. And.. I mean, trying to get the.. the two parts open.. you can really hurt yourself. So it's jagged and ripped open. Back to the story. The rocket like a

giant tin of beans and a giant can opener, what sort of condition is it in after the explosion. Is it a nice wee clean.. you know, bang.. out of the side or what.. what.. what's.. what sort of condition is it in? Eh.. Christopher.

P: It's a' ripped. There's a big hole like a gash.

T: Yes, like a gash. A big great.. gaping hole, jagged edges and so on. Em.. is.. you know, why does Bradbury go on about a giant can opener then? Couldn't he just have said.. the rocket blew up? Or there was a hole in the side of the rocket? Why does he say the giant can opener bit? Deborah?

P: It shows that the.. explosion was more severe...

T: Yes!

P: ...if you explain it.

T: Yes, it does. Much more severe. Doesn't it give you a very vivid picture of.. the state of the rocket? If you compare it with the .. the tin of beans jagged edge, doesn't it give you a more vivid picture?

P: Uh-hmm.

T: That's why people use figurative language to give you a more vivid description.

It is immediately noticeable that Teacher B does seek to operate in the manner she has described, namely, by linking the image in the text with their own experience. The device she uses to achieve this is miming the opening of a can of beans. The pupils obviously enjoy this and appear both noticeably interested and responsive. However, there are curiosities in the interaction.

Firstly, the bold attempt to encourage the pupils to visualize what happens to the rocket is vitiated because the teacher has failed to imagine it clearly herself. Two pupils appear to signal some difficulty with the teacher's interpretation, but the difficulty they raise is ignored. Secondly, a more minor example occurs of the teacher refusing to acknowledge a pupil comment. A girl says "Sophia!", which gives rise to pupil laughter, but the teacher also appears to ignore this. It is interesting to note that this remark, made by a girl who regularly volunteers answers, is recorded loud and clear on the tape channel connected to the teacher's radio mike, which suggests that the remark was, potentially, audible from the teacher's position.

In the T1 interview Teacher B starts to describe what she was doing here thus:

Yeah, well, since it's an image I want them to picture it. So I ask them to picture it. Think about it. Because this is what the author has written. Ye know.. the rocket was cut open by a giant can opener. Obviously, it's not literally true. So, picture it first of all. Ye know, to get the idea of what he meant.

She next makes reference to the mime. A pupil is asked out to the front, but he mimes opening a tin of beans very half-heartedly. The teacher then takes over: "I use the mime to indicate that more strength is needed." She says that this is because she wishes to draw attention to the can after opening:

Opening tins of beans they've done that at home. And they know how sharp they are. How it's all jagged and ripped. Leading them back to the.. [3 secs; T. looking at typescript].. eh, to the rocket.. to the state of the rocket after the explosion.

She comments further on her purpose here:

I'm trying to get them to.. consider why the author actually chose... that particular image [..] there are various ways he could have described.. the effect on the rocket. But that he's chosen this one and why has he chosen this one. What's the effect of that?

This provides a summary how of Teacher B comments when first asked to speak in detail about this episode. The researcher then asks about the pupil remark – "Sophia" – after the teacher has said, "Picture it!" At first the teacher is absolutely adamant that the typescript is incorrect:

That's not what was said. I don't know what it was but it wasn't that.

The teacher's certainty about what could not have been said in the lesson is

striking. The researcher then asks if it would be possible for her to assume, for the sake of discussion, that the transcript might be correct and whether she might be able to make sense of the remark. She replies:

Haven't got a clue. I'm.. I'm sure it wasn't that that was said. [1 sec] There's absolutely no reason why they should. [3 secs] None whatsoever. [1 sec] There's nobody even by that name in the room. [2 secs]

This comment indicates the frame of reference the teacher is operating when she adjudges the typescript to be mistaken - there's nobody the pupils know by that name. The researcher indicates the remark is very clear on tape and that the pupil laughter which follows it seems to indicate the pupils understand. The teacher responds:

It doesn't make any.. it doesn't make sense now. It didn't make sense at the time when I first read the transcript I thought it's definitely... it's... somebody said something which sounds like that. And that's how it's been transcribed.

It appears significant that the teacher's instinctive response is to attack the integrity of the transcript, as if she finds the idea that there may have been something said in the lesson which she did not understand rather threatening. Her attitude suggests a curiously proprietary attitude towards what must have been said in the lesson, as if she feels the need to stress to the researcher what she will allow to be considered as legitimately included in the transcript. Certainly, there appears to be considerable discomfiture over the inclusion of a remark which she cannot explain. Thus she appears to seek to deal with her unease by defining the remark out of existence as something that could not possibly have occurred.

At this point in the interview she issues a challenge to the researcher: "I'd like.. I'd like an explanation for it!" This is deferred so that it will not interfere with the interview, but the researcher indicates he will make a suggested explanation at the end of the session. The explanation given is that Dorothy's mother in the TV comedy <u>The Golden Girls</u> is called Sophia. Frequently she introduces an anecdote by using the catchphrase, "Picture it! Sicily, 1923." Immediately this makes sense to the teacher:

> I missed it completely. That's very interesting. What a pity I didn't pick that up. [2 secs] I would have said, Picture it! Space, 2025!

Thus what occurs at this point in the lesson may suggest a gap in cultural knowledge has arisen and affected the discourse between teacher and pupils.[11]

An apparent selectivity about 'hearing' what pupils say is further indicated as the teacher asks about the condition of the can. Two pupils make reference to the description of the rocket in the story after it had been ripped by the giant can opener. They note that the rocket is ripped down the side. The teacher accepts the 'ripped' part of the description but ignores the emphasis on the 'side'. The researcher asks Teacher B if she can comment on this interaction in some detail because, as he observed the lesson, he felt the pupils were indicating a difficulty with picturing the image. The teacher has focused on opening cans around the top, while the description in the story is, "The first concussion cut the rocket up the side with a giant can opener."

The teacher first seeks to explain the pupils comments in a way which appears to minimize what they are saying: "I wonder if the second pupil heard the answer of the first one." In other words, this may be a case of one pupil blindly copying what another has said. After thinking for a few moments she adds that the pupils may be repeating something she herself has said earlier. It is interesting that she does not notice the actual source of the idea is the text of the story:

> I've perhaps eh.. used that word already myself. And they've picked on it. Either that or the first pupil's... chosen that and the second pupil's just... em... giving the answer as well.

Thus pupils here are seen as copying each other or the teacher. This view would seem to minimize both the intellectual ability of pupils to spot an incongruity in the discourse, and the functions they might occupy as interlocutors.

It is only gradually, and with some reluctance, that Teacher B notices that the sort of rotary can opener she has mimed using is not, in fact, the appropriate referent here. Rather one has to imagine a more primitive device - the camping can opener with its sharp, pointed blade. Her attachment to the idea of using mime to involve pupils dramatically in the lesson appears to have got in the way of imagining the image accurately. Ironically, what she advises pupils they must do to understand such an image - "Picture it" - is precisely what she herself fails to do. Although, she eventually concedes that the two pupils highlighting "down the side" may be pointing to a difficulty in

the way she is decoding the image, as the researcher suggests, she does so with evident, if understandable, reluctance. After all, nobody likes to be revealed as having been mistaken on a matter which reflects on their professional expertise:

Possibly. Yeah you're right. Could be. [5 secs] Aye, that's possible. O. K.

Through discussing several examples of explanation of images in the lesson typescript, Teacher B begins to notice a pattern in her teaching which she finds striking, because she is not conscious of operating in this fashion. First, she points out the image in the text. Next an explanation is provided which encourages visualization,[12] together with some attempt to connect the image with pupils' knowledge and experience. Finally, she tends to consider how the description must be understood in the given context. She comments thus:

It seems to me I do the same things again and again with different... different.. This.. it was a lesson looking at.. different images and it was just eh... I was doing the same thing with each of them.

Yet the patterning evident in her teaching here is not something she could consciously articulate as her approach to teaching figurative language. She could not, say, have explicated her procedure in this regard for the benefit of a student teacher. This is only noticed because she has been given the opportunity to reflect on the text of her lesson, something that is ordinarily impossible to do. The fact that she has something like a 'method' for explaining images to a class strikes her so forcefully, because, she says:

I've never really thought about it before.   ·

The next extract is chosen because it deals with the discussion of an image

which appears to be handled somewhat differently from the others. Here

Teacher B is not entirely sure of the interpretation to be sought as she

initiates the interaction, but seeks clarification through discussion with the

pupils. What occurs initially, then, is something like a group brainstorming

session in which responses are sought and considered in terms of their

appropriateness to the situation. However, during the course of the

discussion, the teacher appears to realize what it is that she is seeking and

thus handles pupil responses more firmly.

The image in question deals with the state of mind of a doomed astronaut

falling through space who feels he is watching his own descent as he had

watched "the first falling snowflakes of a winter season long gone." In the P1

interview the researcher asks the teacher if she can recount in detail how the

discussion here progressed. Although she responds at length, and the

researcher uses further prompts to encourage her to talk about specifics,

Teacher B mainly talks in general terms about how she handles pupil answers

and only mentions two pupil contributions. It would appear that the teacher

is unable to reconstruct precisely how the discussion in fact developed. This

episode is given in Example 8.4 below.

Example 8.4 Extract from Teacher B - L1 (Text 46)

T: Em.. there's one final image that I want you to look at, that I didn't read out to you on Friday afternoon. Page twenty-one. 'It's earth for me. Back to old mother earth at 10,000 miles per hour. I'll burn like a match. Hollis thought of it with a queer abstraction of mind. He seemed to be removed from his body, watching it fall down and down through space, as objective as he had been in regard to the first falling snowflakes of a winter season long gone.' Now it's the snowflakes bit that I want you to think about. Snowflakes.

P:_____. [inaudible]

T: What Paul?

P: They fall slowly.

T: Can't hear what you're saying.

P: They fall slowly.

T: They fall slowly. They drift, don't they? They don't fall like hailstones or heavy rain. They drift gently down. [Noise of drilling* from above. P's laugh.] A voice from above. So they drift gently, gently down these snowflakes. In what way is that like the way Hollis is? Is it anything like the way Hollis is falling?

P: No. [Drill again - P's laugh.]

T: Is that the can of beans? [P's laugh.]

P: It says that he's falling at 10,000 miles per hour.

T: It says that he's falling at 10,000 miles per hour, which is a bit faster than a snowflake falls. He isn't actually falling as a snowflake, but what has happened to Hollis in this.. in the sort of final moments of his life? What's happened to him?

P: Well, snowflakes are nice when they just float down. He thinks he'll be nice when he floats down an' then turns into a falling star.

P: Exactly.

T: Well I suppose there's a link between the beauty of the star that he becomes and the beauty of the snowflake. Because a snowflake is a lovely thing if you see it under a.. a.. sort of some kind of magnification. It's.. it's a lovely thing to look at. But sticking with the speed of the descent.. what's happened to him? It says: 'Hollis thought of it with a queer abstraction of mind.' What's happened to him there, Gregory?

P: He's sorta accepting that he's gony die.

T: Right, he's accepting that he's going to die and therefore what has he in fact done with himself? He's not thinking about the pain of his body any more. What has he done? 'Queer abstraction of mind'.

P: He's kinda out o' his body now. He's kinda just watching himself but not really being there.

T: That's right, yes. He's kind of separated his mind from his body as if, well, his body doesn't matter any more because he's going to lose it anyway. But his mind is.. is somehow detached from his body now and he's looking at his body falling through space, just as.. he watched a snowflake fall. So it's not so much that the snowflake is like.. [T. coughs.] ..his body in terms of the speed of the descent, that's how he sees it. He looks at his body falling through space just as he looked at a snowflake so many years before. Now going back to Lindsay's point about the beauty of the snowflake. Yes, the beauty of the snowflake, an individual snowflake looked at under some kind of magnification is very, very pretty. And so is a falling star. So there's a link there. What other feature is there of snowflakes?

P: His ashes _____. [inaudible]

T: Mmm, wasn't thinking about that one... about the ashes, not so much about that.

P: When a snowflake lands it'll melt. When he lands, he'll sorta melt.

T: He sort of melts, yes. [T. laughs.] Yes, in the nicest possible way he melts, Malcolm, yes he does. [P's laugh.] Trust Malcolm to bring us back down to earth; uh-huh, the gruesome reality of it all. Can we not stay on this.. this beautiful snowflake business? Yes, you're right. What else?

P: Em.. when the snowflake falls it's like over a large ground for the size o' it an' when the man falls he'll be falling onto earth which is large ground as well.

T: I suppose you're.. thinking about the same idea as Paul, about the ashes falling.. being like the snowflakes, too. But what about snowflakes themselves? They're very nice, but what

else is.. distinctive about snowflakes?
P: They're soft and cold.
T: Not just the soft and not just the cold.
P: They might be all different.
T: They're all different, right. They're all unique. All individuals. And Hollis is, after all.. is an individual. Aren't we all individuals. He's a wee individual.. person, coming through the atmosphere and so on.
N. B. *There was renovation work going on in a classroom above, involving drilling into the stonework to install new window frames. Though bursts of drilling were of short duration, the noise was loud and intrusive.

In the T1 interview Teacher B begins by saying that "the discussion at this stage was a wee bit eh.. more loose." The reason she gives for this is: "It occurred to me when I was reading it that the snowflake image was sort of incongruous." Consequently, she says, "In a way there I was testing the water.. myself." She has some possible explanation of the image in mind but finds it less than wholly convincing. Thus, though she claims she does know, "where sort of roughly where I wanted to go", she is also exploring whether the class might originate any better explanation since, she says, "I wasn't clear about it myself." She explains her chief difficulty with the image:

You see I couldn't figure out.. it's the 10,000 miles an hour bit. You know, how can a snowflake fall at 10,000 miles an hour.. or whatever.

The teacher identifies the first response that she receives - "They fall slowly" - as being of little help in understanding the image. She notes that her question - "Is it anything like the way Hollis is falling?" - clues a negative response. Thus one possible point of similarity between snowflakes and the manner of Hollis's descent is ruled out. Teacher B comments:

That's not why he [Bradbury] brought in.. chose that image. [...] The way that I thought about it was this is an open-ended discussion to find out about the snowflake image which I wasn't sure about myself.

Next the teacher confirms that she tries to approach the problem from another angle by asking, "What's happened to him?" The pupil response that "snowflakes are nice when they just float down" is initially felt by the teacher not to be really relevant to understanding the image either, though she seeks to be supportive. She elaborates the response by replacing "nice" with "beauty" and adds the qualification that it is only when magnified that the snowflake's loveliness is revealed. But she indicates she does not think the point of the image is a comparison between the beauty of a snowflake and the beauty of the spaceman's descent. She therefore redirects attention to the text. However, further consideration of this pupil response appears to lead her to a gradual realization of a possible explanation.

But this has not yet become clear to her. Next she cites "queer abstraction of mind" and rephrases the question she has asked earlier with the addition of a nomination: "What happened to him here, Gregory?" The pupil responds that the astronaut is accepting his inevitable death. The teacher accepts this but probes further with a question - "How has he achieved this?" - accompanied by a repetition of the phrase from the text. The pupil response - "He's kinda out o' his body now" - is what the teacher recognizes she is looking for and is endorsed enthusiastically. She now explicates what she has realized is the reference made by the image - "He looks at his body falling through space just as he looked at a snowflake so many years before." In the T1 interview she comments about this as follows:

He's getting out of his body now. I thought that was brilliant when I saw it [...]. He's kinda just watching himself but not really being.

Thus an explanation of the image has emerged for her in discussion with the class. But she feels this explanation is not complete and returns to the idea of the beauty of the snowflake which had been suggested by a previous pupil response:

Because as I've been talking to them, I remember doing that, when she... picked up the .. the beauty of the snowflake business, I was thinking to myself.. yeah this.. this is right. This is another element to the.. the image that I hadn't fully thought through. And therefore I went back to it again because... I thought it was worth considering.

The teacher is no longer exploring but now seeks a particular response – that snowflakes are all individual. She asks: "What other feature is there of snowflakes?" The response she seeks appears to have been hinted in her remarks preceding the question where she talks of "an individual snowflake". Instead of the desired response, however, she attracts a series of disfavoured responses that she appears unable to work with.

A pupil mentions the astronaut's ashes. The teacher indicates this is not what she has in mind. Another pupil seeks to link a snowflake melting with the manner of the astronaut's death. The teacher accepts this in jocular fashion but again indicates it is not what she seeks. The next pupil response concerns "large ground". The teacher indicates in interview she hasn't found this very intelligible, but has nevertheless tried to accept the pupil's willingness to respond, while also redirecting attention back to features of

snowflakes. Next a pupil mentions they are soft and cold. The teacher

indicates that this is true but this is still not what she seeks. Finally, a

pupil gives the response she has been seeking - "They might all be different."

Discussing this sequence in the T1 interview, Teacher B indicates that as

the series of pupil answers occurs, "I'm becoming more and more insistent

this is not what I want." She notes that as she looks at the typescript it

seems very difficult both to allow pupils freeedom to participate as they

wish, "and still keep a structure to it." The teacher elaborates her dilemma in

dealing with these answers and what she was seeking to do thus:

> I.. I don't like to undervalue their comments and.. and if ye're having an open discussion then
> ye're likely to get all sorts o' comments. What do ye do with them? Know, do ye.. do ye.. just..
> give negatives all the time. Or do ye try an'... use what they're saying. [5 secs] Yes, I still had..
> I mean.. as.. as the discussion went forward I've.. I was clearer and clearer in my own mind as
> they came up with their suggestions and so on.. I became more clear about where we were going,
> about the individuality of the snowflake. [...] It was something that occurred to me as we were
> talking. I thought, right, take them round to that.

It seems very striking to her now, as she looks at the transcript, how

difficult it has been to secure the answer she wanted - "Because I didn't want

to close all the.. all the doors, all the other suggestions." Instead she has

sought to, "try and leave it open ended, but then you do get all these various

answers." It would appear that consideration of the typescript has

highlighted for the teacher aspects of the lesson which appear differently in

the heat of performance. As the teacher concentrates on improvising a

real-time discourse which will lead pupils round to a pre-determined answer,

her attention is focussed upon steering everything that is said towards the

objective she has in mind. Under such circumstances the details of pupil

contributions are subservient to the need to attain a pre-determined answer.

Thus what pupils have actually said, and the teacher's improvised responses

to these, tend to be obscured because the teacher is concentrating her

attention upon an overriding imperative that alone will make pedagogical

sense of the preceding discourse, and whose attainment is not certain until it

is achieved. Immediately after the lesson Teacher B cannot recollect the way

this interaction was constructed.

In the P1 interview the researcher asks her if she can talk through the

'snowflake' interaction indicating "everything that was said", including pupil

responses and how she dealt with them. She responds thus:

> But the pupils.. I also had written down.. jotted down it's.. about it being cold and so on. But the pupils came up with this thing about the speed of descent, which is something I hadn't thought about beforehand – the 10,000 miles bit and the snowflake drifting and so on. I hadn't really thought that through. Similarly with Malcolm's point about them both melting. Which is very true and very valid.

At this point Teacher B commences a long digression into generalities. When

the researcher seeks to reinstate concrete discussion of the particularities

of the snowflake interaction she responds:

> Well, before we got to the point I was wanting we'd been through the speed of descent which took a wee bit time, eh.. because of the drifting and the 10,000 miles speed and so on. Em... and we'd been through the melting bit. [..] It took a wee while to get to the point that I wanted to make about the snowflakes, but I felt that because their contributions were so valid that I was prepared just to give them the time anyway. I'm not so set in my mind about the snowflakes that I was, you know, just gonny make... If they come up with things now I'm quite prepared to admit Oh I never even thought of that. What an excellent point that is. Let's explore that.

Her account here reveals the teacher to be in conspicuous difficulty to remember accurately what happened. Although she has the general impression that the discussion was lengthy, the exact details of the discussion appear to have become very blurred indeed.

Appearing to be somewhat put on the spot by the researcher's questioning, she seeks to relieve the tension in the first extract quoted above - as was the case with the student teacher discussed in Chapter 7 - by making reference to her lesson plan, and what ought to have happened. She refers to what she had "jotted down". But her notes provide little help here, because she has not known before the lesson exactly what she is seeking. When she does mention things pupils have said she refers to two items. Firstly, she mentions "the speed of descent" which is, in fact raised by a pupil. But she relates this to "the 10,000 miles bit and the snowflake drifting and so on" and here she conflates items mentioned by a pupil with those she has introduced into the discussion. Secondly, she mentions Malcolm's incongruous statement about 'melting' which has given rise to some humour. When pressed, in the second extract above, she can only repeat these same two items again.

It appears very striking both that the complex improvisational flow of the interaction appears to be completely beyond her recall; and that the items which she does recall appear to present the pupil contribution to the discussion in a very minimal light indeed. There is no recognition here that

pupils made a very substantial contribution by providing the teacher with key ideas which allow her to explain the image satisfactorily. This forgetfulness concerning details of interaction, together with an associated minimization of the importance of pupil contributions, is closely comparable to what was found with student teachers.

There are also several general points that Teacher B makes in the T1 interview which seem noteworthy. Like Teacher A, when she first looks at her lesson transcript she feels she notices how much she talks: "I don't think we notice how much we speak." Also she reports some difficulty in looking at her own teaching and analyzing it in detail, but at the same time finds the process very interesting:

It's very.. it's very difficult for me. It's very new to think about a lesson at this level.

And later:

You see it's em... it's really interesting for me to try and look at this but it.. it's difficult to try and look at it from a different level from the.. the sort of the surface... to actually think about what's going on.

She comments on two aspects of teaching that consideration of the typescript reveals. Firstly, she notes again how frequently it is difficult to secure the sort of answer that she wants: "What I'm trying to do here and all the time.. sort of leading it round." But many of the pupil answers "don't really help", in fact the pupils often seem to be "taking ye down blind alleys".

Secondly, she is struck by how extraneous events tend to intrude on teaching in unhelpful ways:

It also shows ye how many other physical interruptions ye've got to put up with. [..] It meant... the drill on that day and the pupils coming in and... [leaves incomplete]

On the particular day in question the lesson was not only interrupted repeatedly by the noise of drilling, but by a pupil sent by another teacher to borrow materials, as well as by pupils coming in during the lesson because the school administration required them to attend interviews.

8.5 Conclusion

The purpose in conducting a brief study involving experienced teachers was twofold. Firstly, there was an attempt to seek confirmation whether the conspicuous difficulty evidenced by student teachers in seeking to recall details of interactive discussion they had recently conducted with pupils might also be found to affect established members of the profession. If so, this would tend to suggest that some degree of post-lesson amnesia was linked with teaching performance itself, and not just a feature of teaching practice. Secondly, it was intended to provide teachers with transcripts of their teaching and encourage them to seek to explicate how they construed the real-time development of interactive teaching discourse as revealed through the text of their own lessons. Such commentary would be used in the development of an analytical framework - introduced here in Chapter 7 - to be

applied to the teaching of student teachers.

In terms of the first objective, the partial amnesia which was found to be a universal feature of the student teaching in the research sample was also found to affect experienced teachers. Experience in teaching does not appear to improve recall of how recently conducted interactive discussion has actually developed. This serves to explain, perhaps, why the typescripts could be felt as somewhat alien, in that the textual account of events revealed a level of detailed development in interactions that greatly exceeded teachers capacity for recall.

In the post-lesson interviews both teachers displayed very limited recall of the dynamic development of interactive discussion. When invited to talk about specific interactions, they both tended to respond with generalities. As the researcher pressed for details, they seemed incapable of responding with more than limited, partial recall. As was the case with the student teacher discussed in Chapter 7, Teacher B when pressed makes reference to her lesson plan. Asked about what did happen, both teachers and student teachers tended to talk about what ought to have happened. This would tend to support the conclusion that an associated feature of the activity of improvising interactive pedagogical discourse, may be a subsequent inability to recall exactly how particular interactions developed in real time.

As for the second objective, of inviting teachers to scrutinize the typescripts of their own performance in an attempt to elicit what is being done moment-by-moment through the discourse, this was partially successful. Though both teachers talked, as did student teachers, of asking questions in order to lead pupils to note certain points, understand the importance of certain information, discover implications, make interpretations and so on; they appeared to find considerable difficulty in explicating particular examples of their own practice.

With Teacher A there were particular difficulties in securing such discussion. In his first lesson, although there was an abundance of talk by both teacher and pupils, there was very little interactive discussion. The conceptual confusion which marked Teacher A's, apparently under-prepared, second lesson meant that once he had received the typescript, he became very reluctant to have the T2 interview at all. When the interview finally occurred, the teacher seemed too pre-occupied with his own painful, gradual acceptance of the flawed nature of the lesson to be very informative about how interaction developed.

Teacher B, however, was able, by dint of continual probing, to provide some detailed commentary on what was going on in interactive discussions she had conducted. Her remarks, together with those of student teachers, were used to guide the development of the pedagogical discourse analysis presented in

Chapter 7. Admittedly, there is no explicit corroboration of every feature of the analytical approach that is presented. But it was not expected that teachers would be able to provide the level of analytical commentary that a researcher might require. Rather, teacher commentary provided a key framework for developing the interpretative approach. The tenor of the analysis, therefore, is consonant with teachers' and students' sense of what is going on, as far as this could be ascertained.

The features which Teacher B's explication of her own interactive teaching indicate are as follows:

i) questions tend to be linked in series, and particular care needs to be exercised at the outset of sequences of interaction to ensure that questions are such as will initiate appropriate pupil participation;

ii) it is the teacher's responsibilty to ensure interaction occurs, thus she reconsiders questions she has just asked in the light of a non-response, and makes pragmatic adjustments to her questions to remove the likely source(s) of difficulty;

iii) when she attracts responses that are unsatisfactory for her purposes she seeks to adjust her questioning so that pupils will be more likely to respond appropriately;

iv) she uses clues and hints to help secure appropriate responses;

v) the fact that she is seeking particular answers, while at the same

time seeking to allow the pupils some degree of freedom, means that

she attracts a considerable number of inappropriate answers. Since

she is also trying to work with the responses which actually occur,

there arises a consequent obligation to improvise in order to structure

a discourse which leads from given answers to the answer that is

sought. In other words, she notes – when looking at her typescripts –

the large proportion of disfavoured answer and implicitly indicates

the consequent necessity for running, what is termed in this research,

pedagogical discourse repair.

Some other aspects appear worthy of note. The hope that since both

teachers were trained in the analysis of written text they might more easily

able to scrutinize the spoken[13] text of their lessons, proved over-optimistic.

Teacher A appears overwhelmed by the "sheer volume of talk" in his first

lesson typescript and thus regards "making sense of all that" as a highly

formidable task. Teacher B also emphasizes how hard she finds it to attempt

to look at her own teaching analytically. It may be, however, that the

disciplinary background of the two teachers made them more willing to try

and persist in looking closely at the text of their lessons.

Both teachers react with some surprise to their lesson transcripts because

they now see aspects of their performance which appear to have been hidden

from them. They both remark, for instance, that that they had talked much

more than they had realised. Teacher B now notes that she follows a fairly

regular procedure for explaining images, something she had been unaware of.

Moreover, while her impression of the review of events which opens L1 was

that it was improvised and therefore must have been very loosely structured,

she starts to marvel at how intricately organized it actually is. Teacher A

comes to a realization of how his interactions in L2 may have confused pupils

and how his responses have tended "to fob them off."

While it is only after consideration of the transcripts that the teachers

seem able to notice aspects of their own performance, Teacher B provides a

perspicacious account of her general procedure for dealing with pupil answers

in the P1 interview. This would tend to confirm the view that it is the

details of particular improvised interactions that appear to be lost to sight.

Teacher B appears to be struck by the essential oddness of her interactive

discussion where she is both seeking to invite pupil participation, but also

striving to lead pupils round to particular viewpoints while securing a

structured discussion that makes orderly progress.

Of course, it is imperative to remember the strictly limited nature of the

sample of experienced teaching included here. Whether apparent amnesia

regarding the details of recently conducted interactive discussion is a

general phenomenon associated with teaching is something that only further

research can confirm. It was,however, a very noticeable feature of the

student and experienced teaching considered in the present research. But if this phenomenon were found to occur widely, it would be difficult to see how teachers might learn to improve their performance in the real-time improvisation of interactive discourse by reflection on previous experience. It appears impossible to reflect upon that which is beyond recall.

Turning to a discussion of the unexpected aspects of experienced teaching, the extremely restricted nature of the present sample needs to be kept in mind. The approach adopted in the present research of regarding student teachers as possessing considerable expertise in interpreting and constructing interactive discourse meant it was legitimate to seek experienced teachers' commentary on classroom discussion to help illuminate what student teachers did. It was not expected that certain weaknesses typically associated with student teaching would be found in experienced teachers' lessons. However, such weaknesses were found. This might tend to indicate that student and experienced teaching might be more nearly related in ways other than those which had been anticipated.

Comparing what teachers said in post-lesson and typescript interviews of the same lessons proved instructive. Both teachers expressed satisfaction with both of their lessons immediately afterwards. While a self-congratulatory pose might be adopted by teachers to deal with the unwonted presence of an outsider in their classrooms, the researcher had the

sense that the teachers concerned felt genuinely pleased with their lessons.

It therefore came as something of a shock when they found flaws and

inconsistencies in their teaching through examination of the transcripts.

Teacher B, for example, while exhorting pupils to decode images by

visualizing the picture presented by the description in a text, reveals that

she, herself, has failed to imagine with sufficient accuracy. Pupils notice

there is a difficulty, but their attempt to indicate a problem is dismissed by

the teacher's action. The pupils are too polite, or too powerless, to insist

there is a problem. Similarly, Teacher A provides an unworkable definition of

a topic sentence, which he seeks to modify as problems arise, but this fails

to answer pupil confusion. Yet, in the P2 interview he claims the pupils "have

clearly got the hang of topic sentences". In these instances, teachers appear

able to define what really happened retrospectively in idiosyncratic fashion.

It is suggested that pupils' apparent powerlessness to make themselves

heard, together with the apparent amnesia that was found regarding details of

the lessons, might explain how such retrospective definition is enabled.

It was not expected to find the inadequacies of planning or

conceptualization, that frequently mark student teaching, in the lessons of

experienced professionals. Moreover, student teachers seemed markedly more

ready to listen to what pupils actually said, and if they didn't understand to

try and seek clarification. That is, it appeared that student teachers were

much more willing to assume that pupils had a valid contribution to make in cases where there was uncertainty over what was meant. The experienced teachers tended more readily to assume that pupils were mistaken, or that what they were saying was irrelevant. Certainly, the student teachers seemed to behave as more genuinely responsive interlocutors.

It may be, of course, that this finding is an aberration - a wholly atypical feature related solely to the inadequacy of the present sample of experienced teaching. Without further research, it is impossible to say. The fact remains, however, that deficiencies in pedagogical subject matter knowledge (Wilson et al., 1987) marked not only student teaching, but also one lesson taken by each of the experienced teachers.

Two main differences between the student and experienced teaching observed here were, firstly, the experienced teachers' capability to talk at length and still have pupils attend to what they were saying. Such talk was always fluent and, frequently, amusing. Secondly, in the lessons of the experienced teachers there was a complete absence of the sorts of disciplinary challenges that students have to deal with. It could be argued that both these differences suggest that observing experienced teachers might not always prove of direct relevance for students on teaching practice.

Notes

1. The analysis of student teaching presented in Chapter 7 draws also on the work conducted with

experienced teachers.

2. The editing symbol [..] is used to indicate where material which is overly repetitive, or of little relevance, has been edited out. It was not felt to be legitimate to represent informants' actual speech together with hesitations, deletions, and so on, and not to indicate where the researcher had, in fact, intruded to edit what was said in the interest of clarity and economy.

3. The researcher was careful to avoid making evaluative judgments on lessons. Rather, he asked Teacher A if he could elaborate what was happening in various segments of interaction. The teacher is describing the evaluative position he has reached and includes the researcher as if he feels he knows what the researcher must be thinking. Teacher A seems relieved to be able, finally, to confess his doubts about his own lesson and to find that the researcher accepts this in sympathetic, non-judgmental, fashion.

4. It would have been preferable, perhaps, if the researcher could have approached the observation of experienced teachers as part of a more long-term process in which trust could have been gradually established, before moving on to taping lessons and discussing transcripts with teachers. However, since it was not originally intended to observe experienced teachers, time constraints necessitated a somewhat adumbrated approach. Moreover, establishing trust between teachers and educational researchers may be something that requires more than just a very considerable investment in developing an honest working relationship. (See, for example, Boostrom et al., 1993.)

5. This would tend to suggest that observing experienced teachers may, in some ways, be of limited usefulness for students if the situation that they face in the classroom is considerably different with regard to key problems that are likely to arise, and students are thus obliged to find solutions of their own. It would certainly appear that the sorts of disciplinary challenges which typically arise during student teaching may be rather rare in the classrooms of co-operating teachers. It is noteworthy that several students in the research sample mentioned finding observation of teachers of limited benefit, and one was particularly outspoken in finding this "a complete waste of time".

6. Since Teacher A conducted an, apparently, ill-planned lesson when he knew well in advance that this session was to be recorded, it may be supposed that some lessons observed by student teachers are likely to be less than exemplary.

7. This statement cannot be taken literally. Certain pupils did answer on several occasions and there were a number of pupils who did not volunteer any answers. Given what the teacher later says about some pupils who are very shy and never volunteer it appears she means that all the pupils who could be expected to voluntary participate in public interaction had done so. But the overstatement remains interesting nevertheless.

8. Since Teacher B's L2 contained much less interaction than her L1, and also because her comments in P2 and T2 interviews added little that was new, it was felt that it was best to proceed by providing a detailed consideration of matters that arose concerning her first lesson.

9. The lesson texts given to teachers differed in two ways from the typescripts of students' lessons prepared for the researcher's own use. Firstly, they did not contain any timing in seconds of pauses between questions and responses. Besides economizing in transcription time, it was also felt that providing such detailed information might draw attention to the sometimes staccato nature of discussion in a way which might inhibit teachers' informativeness. Secondly, while hesitations, deletions, false starts and repetitions were generally indicated, several instances where utterances were particularly rich in such phenomena were edited. Since such phenomena tend not to be noticed by interactants unless they become very prominent, it was felt that a fully realistic representation of the flawed nature of real-time speech might be found somewhat intimidating, and possibly lead to dispute about the veracity of the transcripts. Similarly, for reasons of tact, notably local pronunciation features in one teacher's speech were ignored.

10. It may also be that Teacher B is seeking to pre-empt a criticism which she fears the researcher might make: that there is extended discussion which asks pupils about matters of fact. In the educational research literature there is a tradition of regarding factual recall as a 'low level' cognitive activity. Perhaps the best known of such researches is Bloom's Taxonomy (Bloom et al., 1956). A more recent example of this sort of approach can be found in research conducted in the UK as part of the Teacher Education Research Project. Thus Kerry (1982) finds mixed ability teaching in the first two years of comprehensive schooling wanting on the basis of the very high proportion of interaction that is concerned with information, and therefore is of low cognitive demand. A postmodernist critique of Bloom's Taxonomy, which is highly sceptical about the validity of discourse which makes discriminations amongst cognitive levels, is provided in Cherryholmes (1988).

11. This incident suggests a similar gap in cultural knowledge as occurred in the 'Jessie' episode discussed in Chapter 7. A notable difference is that the student teacher pursues what it is a pupil has said until she is enlightened. In a well-known paper (Walker & Adelman, 1976) the issue is raised of an observer being excluded, because of lack of intimate knowledge of the particular context, from a meaning shared by teacher and pupils. Here, the teacher ignores a pupil remark in untypical fashion, which suggests she is excluded from understanding a meaning shared by the pupils and immediately intelligible to the researcher. It is very tentatively suggested that a teacher may tend to 'edit out' items from interactive discourse that do not immediately make sense. Subsequently such remarks become as if they have never happened. Thus the teacher may represent to herself a version of interactional reality with which she may work. It would only appear possible for a teacher to reflect about this sort of event in her teaching if she had access to a transcript, or if she were rigorously to inspect a tape recording of her teaching.

12. It should be noted that all the instances discussed in this lesson involve one kind of imagery only, namely, visual imagery.

13. Discourse analysts distinguish between written text and spoken text. Spoken text usually refers to an analyst's written version of spoken events, which inevitably includes interpretation of the meaning of the original spoken event and what it is important to attend to in understanding it. (See Brown & Yule, 1983.)

CHAPTER 9 REAL-TIME PROCESSES IN STUDENT TEACHING:

PEDAGOGICAL, LINGUISTIC AND THEORETICAL

PERSPECTIVES

9.1 INTRODUCTION

In Chapter Seven reference was made to linguistic research into exchange

structure, particularly Ventola's (1987) work on dynamic repair systems in

exchanges. This informed a search for real-time repair in pedagogical

discourse whose results are, again, reported in Chapter Seven. Further

guidance was sought from discourse analysis about how best to divide the

interaction into moves, since it was felt necessary to indicate the

micro-units out of which the discourse is constructed in a principled fashion.

The procedure adopted is also suggested by Ventola (op. cit.) and is explicated

in the following section.

Thus the approach adopted left open the possibility of seeking to integrate

the pedagogical description pioneered in Chapter Seven with a linguistic

approach to exchange structure. Since the lower levels of pedagogical struc-

turing and the higher levels of linguistic structuring of discourse are likely

to overlap (Sinclair & Coulthard, 1975), such an integration should prove

possible. The pedagogical structuring of classroom interaction inevitably

involves the manipulation of discourse structuring at the linguistic level.

Of course, it was recognized that there were likely to be difficulties

associated with evolving such a description. Both discourse analysis

(Phillips, 1984) and the study of teaching (McIntyre, 1993) are at relatively

early stages of development. Yet there would appear to be much to be gained

if educational researchers were able to pursue pedagogical inquiry based upon

an explicit recognition of the fundamentally linguistic nature of much of the

data that is used to evidence pedagogical categories. (Edwards, 1980;

Edwards & Westgate, 1987).

The particular strength of Ventola's (op. cit.) approach is its sensitivity to

the dynamic aspects of the real-time structuring of interactive speech. Thus

the model of exchange structure which she presents, since it uses data from

tape recorded service encounters, encompasses the indeterminacy, misunder-

standings and attempts to repair communication that mark real social

encounters. However, this model cannot simply be transferred to pedagogical

interaction, since, as Ventola (1987; 1988; 1990) herself argues, the

patterns of interaction which mark such different 'genres' as service

encounters and classroom discussion are likely to diverge in various ways.

The segments of classroom interaction previously analysed in Chapter

Seven consist of linked sequences of pedagogical structuring ventures (PSVs).

The analysis consists of both synoptic and dynamic elements, in that it

recognizes different PSV types together with repair moves. Ventola's (1987;

1988) approach also recognizes synoptic and dynamic patterns, namely,

exchange structure and repair systems The present chapter, then, examines

exchange structure and dynamic systems in greater detail, before then

considering how a combined pedagogical-linguistic model of interactive

teaching might be constructed; whether such a model is likely to prove

helpful for understanding teaching; and what features such a model ought to

contain. Finally, a theoretical description of the structuring of interactive

pedagogical discourse is outlined.

9.2 Developments in the Linguistic Analysis of Exchange Structure

Sinclair & Coulthard's (1975) pioneering study of classroom discourse,

though it threw only modest light on classroom processes, marked a major

advance in Discourse Analysis. The basic exchange structure they proposed

was developed by others to analyse discourse in status marked settings

beyond the classroom. A significant development that arose out of such work

in the understanding of exchange structure was proposed by Berry (1981a,b,c).

Berry (op. cit.) proposed a threefold analysis of exchange structure, since

different patterns of organization are discernible in discourse

simultaneously. The three layers of analysis she outlines are the ideational,

the interpersonal and the textual.

The ideational level is concerned with propositional development in

exchange structure and consists of three elements : propositional base [pb], propositional completion [pc], and propositional support [ps]. Berry provides the following example.

Quizmaster: In England, which cathedral has the tallest spire? [pb]
Contestant: Salisbury. [pc]
Quizmaster: Yes. [ps]

The organisation of these three elements in an exchange is given as pb pc ps , indicating that only pc is obligatory, and that when the other components do occur they are ordered sequentially, so that pb always comes before pc, whilst ps can only occur after pc.

The textual layer is concerned solely with turn taking. The first turn is designated [ai] and is obligatory, and the second turn [bi] is from another speaker. The structure at this layer is   ai bi aii bii ... an bn.

The interpersonal level is concerned with what speakers know and therefore with what roles they adopt. The analysis here is based on Coulthard and Brazil's (1981) observation that the exchange is the unit concerned with negotiating the transmission of information. The Primary Knower, designated [K1], already knows the information being discussed and can be asked to supply information to the Secondary Knower [K2]. It must be noted that the roles [K1] and [K2] need not be related to who is first to speak. Berry

recognizes a delayed Primary Knower [DK1] move in which there is a delayed

display by the Primary Knower in order to allow the Secondary Knower an

opportunity to contribute to the exchange. This consideration has obvious

relevance to the classroom where teachers rarely ask questions because they

do not know the answer. The structure at this layer is given as: DK1 K2 <u>K1</u>

K2f. As well as representing the sequential ordering of elements in the

interpersonal layer, this formula indicates that [K1] is obligatory, whilst the

other elements are optional.

Berry had succeeded in providing the most satisfactory description, up to

that date, of simple exchanges involving two people and one proposition,

although the data which can thus be described is somewhat circumscribed.

This is all the more so since the approach can only deal with 'tidy' exchanges,

that is, exchanges which exhibit no misunderstanding and thus do not include

any repair sequences. Whilst such ideal exchanges can indeed be found in

naturally occurring data, real social interaction often involves complications

of the exchange structure which had yet to be considered. It is Berry's

analysis of the interpersonal layer of exchange structure that is developed by

Ventola.

9.3   Ventola (1987): The Structure of Social Interaction

In this research Ventola proposes the analysis of Conversational Structure

as the most revealing level of analysis for considering the structure of

interactive discourse. Such an analysis draws on Berry's (1981a,b,c) work on

exchange structure, but introduces to the description a consideration of the

complexities that arise when text is jointly constructed in real social

situations. Discourse is thus described in terms of a predictive sequence for

exchanges which occur within a culturally specific outline programme –

called the Generic Structure Potential – which contains both obligatory items

which must occur if an interaction belonging to a particular genre is to be

realized at all, and also optional items that interactants may select.

Recognition is made 'of the fact that real life interactions rarely flow exactly

according to plan by including in the description consideration of dynamic

systems for repair which may be brought into play whenever the interaction

threatens to break down.

Ventola's data is drawn from tape recorded interactions in post offices,

travel agencies and small shops. She is thus concerned with examining the

dynamic processes at work in what she considers to be a distinctive genre of

social interaction, namely service encounters.[1] The concept of genre aims to

relate an individual's language behaviour to the way in which a culture is

realized, as well as to a specific situational context. Thus, a service

encounter text is not just an instance of a specific genre because it takes

place in, say, a post office, but also because it is constructed from elements

selected from a Generic Structure Potential (GSP) which, as it were,

specifies the particular semiotic programme from which such an encounter

will be fashioned.

In analyzing Conversational Structure, Ventola combines a developed version of Berry's interpersonal layer of exchange structure, with an account of systems which generate dynamic moves to repair exchanges. The following structural formula is presented which constrains the sequencing of moves in exchanges: ((DK1) K2) K1 (K2f). Parentheses indicate optionality, thus in exchanges the formula states that one slot must be realized - K1. Other functions are sequentially ordered so that DK1 may only precede K2, which may in turn occur before K1 which may only be followed by K2f. Furthermore, K2 presupposes the function K1 in an exchange, DK1 predicts both K2 and K1, and K2f again presupposes K1. In a K2, the Secondary Knower asks the Primary Knower to impart information for his benefit, thus:

What is a covenant? (K2)
It's a kind of agreement. (K1)

In a Delayed Primary Knower slot (DK1), the Primary Knower delays his admission that he knows the information in order to find out if the Secondary Knower also knows the information, thus:

Who wrote Wuthering Heights? (DK1)
Charles Dickens? (K2)
Emily Bronte. (K1)
Oh yeah. (K2f)

Such an account has obvious relevance for the classroom.

Individual moves within exchanges are identified as units which select

independently for mood. This is proposed on the basis that there is a

systematic relationship between speech function and the lexicogrammatical

realization of speech function in terms of mood.[2] A practical advantage of

this definition of moves is that it allows clear identification of move

boundaries which occur within a speaker's turn. Moreover, it connects speech

acts and the functions that these perform with grammatical realization.

This description of exchange structure provided is elaborated by an

inclusion of dynamic systems for repairing exchanges. These separate

dynamic systems are called SUSPENDING, ABORTING and ELUCIDATING, and

Ventola notes that these dynamic moves may be generated at any exchange

slot. Although these systems were introduced briefly in Chapter Seven, they

are given in more detail in Figure 9.1, together with examples.

Figure 9.1 Dynamic Discourse Repair Exemplified (Adapted from
Ventola, op. cit., pp.106 -8. N.B. Examples are Ventola's)

SUSPENDING moves concentrate on checking or giving assurance about the transmission of
information, and are divided into four types:

a) giving confirmation - here an exchange is suspended to tell a partner that a message has
been heard correctly. A confirmation move (cf) is realised by a repetition of part of the
previous speaker's message. For example:

K1   S: children go at half of this fare
cf   C: half of the excursion *fare
rcf   S: *half of the excursion fare
        [Note - the asterisk and underlining indicate simultaneous speech. S = the server;
                                                                    C = the customer.]

The cf move is followed by a response to confirmation move (rcf). The question is raised of
whether the cf and rcf moves could not be seen as K2f ^ K1f, as a kind of feedback-on-feedback.
(The symbol ^ means 'is followed by'.) A criterion for differentiating the two is suggested: cf

repeats the focal point of the preceding message, whilst K2f would merely accept it by a small set of items such as yes, right, fine, etc. In the above example the cf move indicates the message of the previous move has been understood, and also allows S an opportunity to correct C's interpretation of K1 should it prove to have been mistaken.

b) backchannels - these are dynamic moves which give assurance to the speaker his message is being heard. Backchannel moves (bch) "are usually realized paralinguistically or by a small set of items (yes, yeah) and they typically occur either simultaneously with the message or within the speaker's 'breathing slots' while the speaker is constructing the message." (Ventola, p. 106) For example:

K1	S: say if you're looking at fourteen *days
bch	C: *hm
K1	S: at Sanyor Beach
bch	C: yes {2 secs - S leafing through brochures}
K1	S: depending on which departure you wanted
bch	C: hm {4 secs - S keeps turning pages over}
K1	S: so all you have to do
check	fourteen days right [tone 2]
rcheck	C: uhm
K1	S: just come across to the particular place you'd like to stay at, etc.

c) check - this is a move which is also exemplified in the above text. There is a check "fourteen days right", and a response to check (rcheck) "uhm". Ventola suggests that because his message is so long, S wishes to check that C can follow his message.

d) requesting confirmation - in this kind of move one person asks if his understanding of the previous move made by his partner is correct. For example:

K1	S: the very cheapest fare is an advanced purchase
	airfare ... which is the one laid out here
cfrq	C: here [tone 2] {C looks at brochure S has put in front of her}
rcfrq	S: yes ...

The cfrq "here" repeats the focal information of the preceding move, as would a cf move, but the rising tone indicates that confirmation is being asked, not given. S's "yes" functions as a response to confirmation request (rcfrq).

ABORTING moves function as a kind of challenge to the previous move which may leave an exchange stranded, unless the speaker whose move has been challenged quickly adopts an alternative strategy. For example:

K2	S: What's your phone at home here in Canberra
ch	C: I haven't got one
K2	S: got an address [tone 2]
K1	C: 65 ... Linfield Street

Challenges may be followed by a response to challenge (rch). In the above text S could have responded to the challenge by saying "Oh, I see". However, other moves are possible and the person producing the challenge may go on to provide some justification for the challenge.

ELUCIDATING MOVES occur where further information is required before an exchange can be completed, thus there tends to be a clarifying move (clfy) followed by a response to clarifying move as in the following example.

| K2 | C: what time then flights go to Sydney tomorrow |

```
cf          S: tomorrow ...
clfy           er morning or afternoon now [tone 2]
rclfy       C: uh midmorning early afternoon
K1          S: uh well you've got a 9.30 and 10.15 ... and a 10.55 ...

            and nothing then until 3.40 tomorrow
```

C's first move, K2, is not sufficiently informative for S to be able to reply to his request, although S does not seem to realize this immediately as he confirms reception of the message with a cf. The additional information required is elicited by a clarification (clfy), to which C responds with a response to clarification (rclfy). This repair sequence allows the exchange to run to completion.

The consideration of suspending, aborting and elucidating moves is made necessary by Ventola's concern to provide an account which shows what actually happens in the exchanges in the service encounter texts she is dealing with. In other words, there has to be an attempt to move beyond a synoptic account of discourse processes, to include a dynamic perspective. The dynamic systems described capture how the predicted synoptic structuring of exchanges in discourse has gone off track and how this is remedied.

However, as noted earlier, it is likely that such systems will function differently in various genres. Given that the texts of interactions between student teachers and pupils appear to be vastly more complex than those produced in Ventola's service encounters - after all, people are not usually required to engage in complex chains of inferential argument when they visit the post office - it would not be surprising if a substantially revised account of exchange structure and repair systems had to be provided in order to provide an adequate description of the data in the present study.

The repair systems Ventola describes are most likely to occur in classrooms when the student is interacting with an individual pupil, or with a small group of pupils, that is, when the interaction is more intimate. All such repairs operate within exchanges at the move level and focus upon ensuring clarity at the immediate point in a communication. While linguistic repairs such as this do occur in the classroom, particularly when what someone has said is not heard clearly, there appear to be rather more complex repair sequences of a fundamentally pedagogical nature which are likely to occur when a student is engaging in discussion with the whole class.

Example 9.1 applies Ventola's model of exchange structure to a pedagogical exchange. This exchange occurs when a student teacher is going through a poem with a 5th year class, asking them to identify various literary devices. One idealization of the data is allowed: the interaction between a student and a class of pupils is treated, to facilitate the analysis, as if it were a two-party discussion. Since teachers engaged in whole class discussion tend to treat the class as one many-headed dialogue partner anyway (Willes, 1985), this simplification has been regarded as permissible.

Example 9.1

DK1	S: Em ... mm ... 'Roar', what might that be an example of?
K2	P: Onomatopoeia.
cf	S: Onomatopoeia.
K1	It could be.
K1	It's describing the noise that the.. the drier makes.

The student's hesitation at the start of the first move indicates both that she is moving on to the next item, and that she needs time to locate this in the text. In the DK1 slot, then, the student cites a word from the poem and asks what it is an example of. The context of this exchange, occurring as it does among a series of similar PSVs, indicates that she is expecting a literary device to be named. At K2 a pupil suggests onomatopoeia. The student confirms by repetition that she has heard this answer and is taking it under consideration. In the first K1 slot, the student indicates that this is a possibility. The tentativeness of her reply here matches that of her original question where she appears to be asking for suggestions rather than for one right answer. The pupil's response is then elaborated in the second K1 slot "It's describing the noise that the.. the drier makes" to indicate how the word can be seen as an example of onomatopoeia. Thus it appears possible that an exchange structure analysis might be applied to the description of what occurs within a PSV.

This exchange also provides examples of the two main alterations Ventola has proposed in exchange structure. Firstly, there is a dynamic suspending move following the K2 slot as the student indicates she has received the pupil's message. Such dynamic repair moves can occur at any exchange slot and thus extend exchanges. They are indicated digrammatically by means of angled lines to the right of the exchange notation. Secondly, the K1 move is seen to operate recursively, also leading to an extension of the exchange.

This is indicated by curved lines to the left of the exchange notation.

The second of these modifications is proposed because if the discrimination of moves according to the definition that a move is a unit which selects independently for mood is used exclusively as the basis for indicating exchange structure, this can provide a highly fragmented account of interactions. A much more economical, as well as intuitively more satisfying, account of interactions can be provided once the possibility is admitted that exchanges may also be extended by the recursive operation of a move at an exchange slot. Such recursive moves give rise to move complexes. Thus a slot in an exchange may be occupied either by a move, or by a move complex.

The relationships which may exist between moves in a move complex is discussed in a paper entitled, "The Logical Relations in Exchanges" (Ventola, 1988, p. 62; cf. Ventola, 1987) in which she notes: "The logical function of language appears to tie moves into move complexes on the discourse stratum and, in doing so, the same grammatical mood is preselected for the whole of the move complex" There are five logical relations distinguished as connecting moves within a move complex:

1) elaboration – this includes restatement or elaboration, and is shown diagrammatically as (1^=2), where 1 is the first move, 2 is the second

move and ˆ means 'followed by';

2) <u>extension</u> - here some new element is added in the second move, such

as exceptions or alternatives, and is represented thus (1ˆ+2);

3) <u>enhancement</u> - the relationship between moves here involves

qualification in terms of circumstances of time, place, cause, or

condition, and is represented as (1ˆ x 2);

4) <u>locution</u> - this involves one move repesenting another as a form of

words, as in the case of citing direct speech, and is represented (1ˆ"2);

5) <u>idea</u> - here the relationship between moves is where one move

represents another as a thought or idea, and is represented (1ˆ'2).

Of course, it is not intended to attempt to provide a full account of

Conversational Structure in the transcripts of student teaching. Such an

attempt lies beyond the scope of the present research. Rather, the interest

here is in seeking to use the technique of discourse analysis to complement

the pedagogical description of dynamic processes in student teaching already

provided in order to achieve as full an understanding as is possible of the

real-time structuring of discourse in the classroom.

9.4 A Pedagogical-Linguistic Approach to the Analysis of Classroom

Processes

In this section an analysis of one sequence of interaction will be

demonstrated. The PSV is drawn from a student's lesson with a 5th year

class, dealing with the poem "In the Snack Bar" by Edwin Morgan. The text is first presented in terms of the system of pedagogical analysis described in Chapter 7. Next the text is subjected to analysis of its exchange structure. After the analysis is completed, consideration is given to the pedagogical implications of comparing the two sorts of analysis, and to whether these descriptions might be integrated.

The segment of interaction under consideration comes near the beginning of the lesson. The poem has been read twice and the student has clarified the narrative structure of the poem in a brief discussion with the pupils: it is established that the poem relates a chance encounter between the poet and a blind man in a cafe, in which the poet is obliged to help the man downstairs to the toilet. The student marks the transition between outlining the narrative of the poem and turning to a detailed line by line analysis by saying: "So we're just going to work through it again like we did with 'The Horses'...", making reference to another poem she has recently taught the class. It is at this point that discussion given in Example 9.2 below occurs.

The structuring of this episode as provided using the system for analyzing pedagogical interaction is indicated below. What is immediately noticeable is that it does not appear as highly informative in this instance as it had in some cases discussed previously in Chapter Seven. This is because it was developed to display how student teachers reacted to repair the threatened

breakdown of interaction when faced by a non-response to a question. While a

breakdown appears to threaten here, it is not of the sort that has been

previously discussed.

Example 9.2 Pedagogical Category Analysis of a Complex PSY (Text 6)

PSY 6 - Interpretative

```
1  S: "A cup capsizes along the formica, slithering with a dull clatter." [1 sec]    citation
2      Why d'ye think he's used the word slithering? [2 secs]
3  P: 'Cause it hasny broken,
4      it's just kinda bounced along. [0.8 secs]
5  S: Uh-hm. [Tone 4, fall-rise]                                                      m
6      So what does that suggest then? [1.2 sec]                                      N-R
7      About the cup? [0.4 secs]                                                      10
8  P: Plastic. [0.6]
9  S: It's plastic.
10     And what does that suggest about the establishment that he's in? [0.6 secs]
11 P: Cheap. [Two P's in chorus.] [0.4 secs]
12 S: Right, it's a cheap place. [0.5]
13     He's not in the Ritz or any place like that.
14     He can't afford to go any place like that.
```


The sequence of interaction shown here consists of ten lines, three of

which — lines 5, 6 and 7 — attract pedagogical repair notation. It is far from

clear, initially, exactly what sort of interpretative inference the student is

seeking. But her question 'Why d'ye think he's used the word slithering?' does

attract a response. Thus, after a 2 second pause, a pupil provides an answer

without the student having to intervene to ensure interaction is initiated.

However, the student appears, initially, to have some difficulty in reaching

the conclusion that she is actually seeking. Nevertheless she does attempt to

work with the pupil's answer she has been given at lines 3 and 4. She then

develops an extended sequence of inferencing which includes the use of two

logical connectors – 'So what does that suggest[...]?' 'And what does that

suggest[...]?' Thus it appears that two subsidiary segments of interaction are

instituted in order to ensure the class reach the complex conclusion the

student had sought in her original question . That is, her moves at lines 6 to

7, and at line 10 are supplementary to her moves at lines 1 and 2, and are

instituted to carry out a repair. Though, here, the repair is less a matter of

avoiding a breakdown of interaction, than of enabling the precise chain of

inference the student requires to be displayed.

The difference between the sort of pedagogical repair moves discussed in

Chapter Seven and the pedagogical repair that is evidenced in this example

appears very noticeable. There, repair moves were identified which sought to

avoid breakdown by enabling pupils to participate in interactive discourse,

and where non-response was the main signal students responded to. Here, the

repair appears to focus on leading the pupils through steps in an argument.

Thus there appear to be at least two aspects of dynamic pedagogical repair

systems which may operate in classroom discourse: the <u>interactional</u> –

where the student appears to have to intervene, primarily, to secure

initiation or sustained interaction – and, what is termed here, the <u>discursive</u>[3]

– where the student intervenes to adjust the argument so that appropriate

inferences or deductions are made, and the desired conclusions are drawn.

There is one non-response identified at line 6 where the student apparently

decides she ought to give a clue about the exact nature of the inference she

requires. Once she has given this clue, a pupil quickly provides the response

desired, 'Plastic'. That two pupils independently supply the next inference –

'Cheap' – suggests that it has become very clear to pupils where the student

desires the interaction to lead. It is noteworthy that after the longer answer

at lines 3 and 4, pupils are able to fulfil what is required of them by giving

one word responses at lines 8 and 11.

The difficulty that arises for the student relates to her concern with

deducing something about the poet's intention – 'Why d'ye think he's use the

word slithering?' While the pupil's answer is formally congruent – 'Why' is

answered by 'Cause' – it is not propositionally apposite. The pupil merely

provides a literal definition of the word in context: first negatively, by

stating what the use of the word means has not happened – "Cause it hasny

broken" – and then positively, by translating the word into his own terms –

"it just kinda bounced along".

It appears unlikely that when asked the question 'Why d'ye think he's used

the word 'slithering'?', this pupil does not know that he's being asked to make

an inference.[4] Why then does he volunteer an answer that does no more than

give an explanation of the meaning of the word in context? Surely it is

because this is the best that can be done with the question as it stands, given

that there is no indication of the kind of inference that the student requires. The only inference that can be made is not one about the poet's intention, but the obvious literal one that the cup did not in fact break.

Thus pupil's moves in lines 3 and 4 appear to signal two things: firstly, a willingness to enter into collaborative discussion with the student, after all, the answer does focus on the word the student has highlighted and does coincide _formally_ with her question; and secondly that there is difficulty with answering the question as it stands in a fully congruent manner. That is, the pupil's answer presents a challenge. Of course, the challenge is not an obvious one – for example, 'How do you mean?' or,' Could you explain the question?' or, from a less co-operative pupil 'There's no reason, it's just the first word he thought of' – but the subtlety of the challenge does not mean that it is not perceived as such. Rather, the challenge is mitigated by the form in which it is issued, just as at move 5 the student provides a mitigated rejection of the pupil's answer as unsatisfactory.

This particular pupil, it should be noted, is the student's primary standby pupil in instances where she cannot secure a response. She relies on him a great deal. It seems likely then that his response is read as evidence that her question, as it stands, is unlikely to lead pupils to the sort of inferences she requires. Thus she realizes the need to adjust her questioning. Consequently, she abandons using broader questions, as have occurred at lines 2 and 6, in

favour of those which are narrowly focussed at lines 7 and 10.

The discussion above indicates what features of the sequence of interaction may be illuminated by close consideration of the pedagogical category analysis as given in Example 9.2. However, the distinctive class-room event of a pupil providing a response that does not really answer the student's question, thus obliging her to try and institute discursive repair of the discourse in order to ensure that the class draws the conclusion she desires, is not made explicit by the representation given. Yet this appeared to be a notable feature of the student teaching in the present sample. Thus, a more immediately informative approach to representing the interaction here would seem desirable. A description of the structuring of this sequence from a, combined pedagogical and discourse analysis perspective is given in Figure 9.2.

Linguistic analysis of this sequence of discourse reveals it to be constructed of four exchanges. The first exchange contains only a primary knower slot (K1) and consists of a citation from the text. While from a pedagogical point of view the citation is clearly linked to the succeeding exchanges, from a discourse analysis point of view this forms an independent exchange.[5] That exchange 1 is clearly bound to exchange 2 is indicated by the lexical cohesion that is realized by the repetition of 'slithering'. Thus it is suggested that the bound nature of the two exchanges be indicated by a

vertical arrow, linking 1 to 2.

Figure 9.2 Pedagogical-Linguistic Analysis of a Complex PSV (Text 6)

```
1———K1                          1  S: "A cup capsizes along the formica, slithering with a
|                                      dull clatter." [1 sec]
|
↓   DK1                         2      Why d'ye think he's used the word slithering? [2 secs]
2←┌K2                        1  3  P: 'Cause it hasny broken,
  └K2                       =2  4      it's just kinda bounced along. [0.8 secs]
   K1                           5  S: Uh-hm. [Tone 4, fall-rise]

|        ┌DK1            •    1  6      So what does that suggest then? [1.2 secs]
'So'3←── └DK1               +2  7      About the cup? [0.4 secs]
|         K2                    8  P: Plastic. [0.6 secs]
↓         K1                    9  S: It's plastic.

|        ┌DK1                   10     And what does that suggest about the establishment
|                                      that he's in? [0.6 secs]
'And' 4←── K2                   11 P: Cheap. [Two P's in chorus.] [0.4 secs]
|         K1                 1  12 S: Right, it's a cheap place. [0.5 secs]
↓         K1                =2  13     He's not in the Ritz or any place like that.
          K1                +3  14     He can't afford to go any place like that.
```

Exchange 2 begins with the student asking about the word 'slithering' in a

Delayed Primary Knower slot (DK1). This indicates that the student is asking

a question to which she knows (or, more accurately, believes she knows) the

answer. That is, she is asking not to find out, but to draw something to the

pupils' attention. A pupil replies with a Secondary Knower move complex at

lines 3 and 4. The logical relationship between the moves is one of

elaboration, hence this is indicated (1^=2).

Exchange 2 is completed by the student's move in the predicted Primary

Knower slot (K1), which provides equivocal confirmation of what the pupil

has said, while implying that more needs to be said to explain what she thinks

is implied in the use of 'slithering'. Although the form of her response

suggests endorsement, she pauses for 0.8 secs before replying and the tone

she employs is quizzical, occurring at a higher pitch level than normal for

this speaker. Thus the pause and the tonal information tend to suggest a

mitigated rejection of the pupil's response (see Brazil, 1982, pp 114 - 119),

or a very qualified acceptance.

She seeks to have pupils work out the implication by commencing another

exchange. Exchange 3 is made logically dependent on Exchange 2 by the use of

the conjunction 'So'. That Exchange 3 is bound to Exchange 2 is again

signalled by the use of a vertical arrow, while its subsidiary nature is

indicated by moving it to the right and indicating the connector 'So' which

shows that this exchange is part of an apparent logical chain in which the

student still seeks a fully satisfactory answer to her question at line 2.

Exchange 3 opens with a Delayed Primary Knower (DK1) move complex at

lines 6 and 7. Anticipating a potential non-response the student provides the

clue that her interest lies in an inference about the cup. The relationship

between these two moves is one of extension, hence it is indicated (1*+2). A

pupil provides the inference she requires in the Secondary Knower (K2) slot,

and she firmly endorses this in the Primary Knower slot (K1) at line 9. Yet

she still has not reached the completed inference she requires.

Exchange 4 is again bound to Exchange 3 by lexical reference ('that') and logical conjunction ('and'). The dependent nature of this exchange on its predecessor is again shown by a shift to the right and printing the connector 'And' which indicates the inferential chain leading from the word 'slithering' is not yet complete. The opening of Exchange 4 invites an inference, based upon what has previously been inferred in Exchange 3, about the 'establishment'. This occupies the Delayed Primary Knower slot (DK1) at line 10. The Secondary Knower (K2) response is given by two pupils. Then the student completes the inferential chain with a three part move complex in the Primary Knower slot (K1) at lines 12 to 13. At line 12 she confirms the pupils' answer. This is elaborated by humorously exaggerated contrast in line 13. In line 14 she extends what she has saying in a final inference that closes this section of discussion. Thus the logical relation of these moves is given as $(1^{\wedge}=2^{\wedge}+3)$.

The additional information provided by the discourse analysis of the sequence of PSVs, then, relates to the use of two exchanges – 3 and 4 – as part of a complex subsidiary chain of inferencing that allows the student to reach the conclusion she seeks. Having failed to secure exactly the sort of inference she requires in Exchange 2 following her opening question, it is noticeable she responds by appearing severely to constrain pupils' room for manoeuvre. While a pupil is able to respond with a move complex in Exchange 2, the formal demand for pupils to respond in Exchanges 3 and 4 and so

complete the interactional pattern, is satisfied by one word K2 slots at lines

8 and 11. Pupil participation has been reduced to the minimum while still

allowing interaction to continue. Though the impression is given in the

classroom that inferencing has been jointly constructed, consideration of how

this has been achieved suggests a somewhat manipulative process.[6]

A further aspect of the discourse analysis representation that appears

interesting concerns pauses. The longest pause in each of the exchanges 2, 3

and 4 is associated with the DK1 slot. It is 2 seconds in Exchange 2. In

Exchange 3 it is 1.2 seconds before the student gives an additional clue,

which is swiftly followed, after 0.4 secs, by a response. While 0.6 seconds is

all that is required before the student secures the desired response following

the DK1 move of the 4th Exchange. Thus the student's action here seems to

progressively reduce wait times before responses, as well as ensuring that

responses in Exchanges 3 and 4 are exactly as she desires. This stands in

marked contrast to what has happened at Exchange 2.

This representation also reveals how the repair here involves decomposing

the inferencing into two simpler steps, each accomplished in a separate

exchange, together with the provision of clues - 'the cup', line 7; 'the

establishment', line 10. Thus Exchange 3 enables pupils to say that the cup is

plastic, while Exchange 4 allows them to say the cafe is cheap. Pupils are

simply told the final inference she desires in line 14: "He can't afford to go

any place like that".[7]

It is noteworthy that, in order to carry out the discursive repair, she moves from asking a broad question in an interactive format that suggests inferences may be jointly negotiated, to asking narrow questions which close down the pupils' room for manouevre and which may be satisfied by one word answers. Also, the statement 'He's not in the Ritz or any place like that' (line 13) appears to function as a tension releaser. Humour seems to be frequently used in classrooms for such a purpose. Breakdown has been averted and the student seems to be expressing her relief that she has manged to steer the class to say what she requires. But this has been secured at the cost of engineering a pseudo-dialogue which, while it pretends to give pupils freedom to answer, actually tells them what to say.

The student's difficulty appears to be related to poor pedagogical strategy. To seek to derive the cheapness of the café solely from the word 'slithering', as the student does here, seems altogether extraordinary. The propositional development that the student thus requires is based on a series of highly doubtful inferences which cannot be derived by the pupils without some coaching. Consequently she is obliged to operate a curious discursive repair which could have been avoided. For instance, she could have asked the pupils to scan the poem for every piece of information that would help to build up a picture of the cafe'. In other words, the student is requiring pupils to derive

from one word an impression which is gradually established by cumulative

reference throughout the poem. Thus her pedagogy here seems to be entirely

divorced from the way the poem, itself, works.

The evidence so far, then, would seem to suggest that a combined

pedagogical-linguistic model[8] of interactive subject matter discourse in the

classroom might be constructed as illustrated in Figure 9.2. Such a model, it

has been argued, appears to possess considerable scope for revealing how

repair may be attempted in interactive classroom discussion. For this

reason, it might prove of considerable value in advancing our current

knowledge about teaching.

9.5 Extending the Pedagogical-Linguistic Analysis to Sequences of PSVs

In the previous section the pedagogical-linguistic system of analysis was

described and applied to an extract of classroom discourse consisting of one

PSV. Attention now turns to seeking to apply this technique to two more

extended extracts which have been previously analyzed in Chapter Seven. The

first consists of two linked PSVs, while the second contains one extended

PSV. These extracts are chosen because both appear rather challenging to

analyze, and yet they seem to represent common features of student teaching.

This will also allow the question of whether more extended classroom

interactions may also be handled by the system of pedagogical-linguistic

analysis to be answered.

The lesson from which the examples are drawn, it will be remembered, is

concerned with discussing a sense of identity. In the first excerpt to be

re-analyzed the student is discussing school uniform. The analysis is given in

Figure 9.3 below, and the previous categories of pedagogical coding are given

down the right hand side.

Figure 9.3 Pedagogical-Linguistic Analysis of a Sequence of PSVs

(Text24)

PSV 12 - Reason

1	1 S:	Why is it important that people know that you're at school? [1 sec]	(N-R)
+2	2	What's a negative aspect of this if you happen to be one of the pupils that's smoking in the back of the bus...	(7/10/4/6)
=3	3	or any other unmentionable things? [4 secs]	(4)
	4 P:	They could report it to the school.	
	5 S:	Right, they're going to say it's a Central High School pupil if you're wearing a uniform.	
	6	OK?	(check)
	7	The purpose of that is.. [0.5]	(PSV abandoned)

PSV 13 - Reason

8 S:	Now some people in this classroom aren't wearing the uniform: [1.3 secs] (N-R)
9	Why.. why do you choose not to wear uniform?
10	Senga? [0.5] (5)
11 P:	Don't want to go around looking like everybody else.
12 S:	Right. [0.6]
13	So Senga's making a.. a point about trying to be individual.
14	We're saying is it all equal...[0.8] [S starts to write on board Everybody the same .]...

The first PSV in this extract is revealed to consist of two exchanges.

Exchange 1 is complex while exchange 2 consists of a single K1 move which is

abandoned before completion. It was argued in Chapter Seven that the student

aborts here since she realizes that she is about to reach an unsatisfactory

conclusion: uniform cannot be said to serve a purpose for pupils when it

allows the public to inform on them whenever they break the rules.

The considerable discourse work the student has to do to secure the

initiation of interaction is indicated by the unusually extended DK1 move

complex that is associated with a non-response. This threefold Delayed

Primary Knower move complex is given as ($1^* + 2^* = 3$), since move 2 extends

the proposition in 1, while move 3 suggests an equivalent to the proposition

at move 2. After a noticeable pause, a pupil gives the answer the student is

seeking in the K2 slot at move 4. The student's K1 move confirms that this is

the desired response and elaborates upon it. The exchange closes with the

student making a check that the pupils are with her. That exchange 1 appears

to be bound to exchange 2 by logical and lexical reference - 'The purpose of

that is..'- is indicated by the vertical arrow linking the exchange numbers.

But exchange 2 is abandoned - indicated as (K1...) - and the student embarks

on a constructing a new sequence of exchanges, forming PSV 13, which deals

with pupils' non-compliance with the school rule on uniform. There are four

exchanges in this sequence, numbered 3 to 6, but three of these are

non-interactive and so consist of a single K1 move - that is, exchanges 3, 5

and 6. Again these exchanges are bound together by logical and lexical

reference, thus they are linked by vertical arrowed lines.

Exchange 3 consists of a single Primary Knower (K1) move where the student makes the observation that some pupils "aren't wearing the uniform". In exchange 4 she now adopts the Secondary Knower (K2) role and asks a genuine question - 'Why.. why do you choose not to wear uniform?' - at move 9, followed by a nomination at move 10. It is suggested that nomination, a pervasive feature of pedagogical discourse, be regarded as similar to Ventola's elucidating moves. That is, it should be seen as supplementary to the preceding move and it is so indicated diagrammatically as <u>nom.</u> Thus it may be viewed as a pre-emptive attempt to avoid breakdown by indicating who should speak next, or as an attempt to preserve orderly interaction. This concern for orderliness is also related to the avoidance of breakdown.

The pupil's reply in the Primary Knower (K1) slot at line 11 - "Don't want to go around looking like everybody else" - is acknowledged by the student in a Secondary Knower follow up - "Right" - at line 12. But this does not appear to be what the student expected and she seems unsure how to proceed from here. In the previous analysis in Chapter Seven it was suggested that the student is discomfited because, from her point of view, the pupil dresses like a typical teenager. That is, a gap that exists between her view of the pupil and the pupil's view of herself is suddenly revealed to the student. She responds by making a summarising statement about the pupil's response in exchange 5, before seeking refuge in noting the discussion so far on the board so that she disguises her discomfiture and gains time to think.

The information provided by discourse analysis here is particularly interesting in that it shows the student teacher, who normally adopts the Primary Knower (K1) role, exploring the possibility of taking the less dominant Secondary Knower (K2) role. It is important to notice the exact situation in which this occurs. A pupil has mentioned clothes as being an important aspect of an individual's appearance, and this leads to a discussion about the statements clothes can make. Then the student raises the topic of school uniform. The discussion seems to be flagging somewhat at the point the extract given in Figure 9.3 occurs. School uniform appears to be a subject about which pupils display a marked lack of enthusiasm. The student, then, seems to seek to stir up some interest by introducing a controversial element into the discussion at move 2. But the student soon has to abandon the line of development she attempts here, because she realizes her argument is flawed. That is, she is in some difficulty and she has had to break off suddenly and publicly. In other words she has just experienced failure in developing an interactive discussion.

She wishes to continue to talk about school uniform, so she decides to put the pupils in the spotlight. Why is it some of them refuse to wear the uniform? If she makes them responsible for explaining this feature of their behaviour. That ought to relieve the pressure on her of being the continuous primary source of information. She adopts the Secondary Knower (K2) role and makes a pupil the Primary Knower (K1). However, the response she

receives so jars with her view of the pupils that she cannot explore this

further by staying in the K2 role. Rather, she quickly readopts the K1 position

and reasserts her control of the information structure of the discussion. That

is, the student has sought to experiment with the K2 role as a way of dealing

with a difficulty she has run into through being the sole provider of

information. However, relinquishing the Primary Knower (K1) role and

allocating it to a pupil means that she receives information that she does not

know how to work with. She thus abandons the K2 role as rapidly as she had

assumed it.

The discussion following the student's writing of a brief summary of points

on the board that closes Figure 9.3, is given in Figure 9.4. Here again the

·student appears to be experimenting with the K2 role, this time in a more

sustained fashion. The results of the analysis, however, indicate something

rather curious is going on.

Although the lesson extract given in Example 9.4 consists of only one PSV,

it is constructed out of 5 exchanges. All are interactive exchanges except for

the adumbrated third exchange. The first three exchanges are bound in a

linear sequence by logical and lexical reference, as indicated by the vertical

arrows linking the exchange numbers. Exchanges 4 and 5, while still shown

bound to the sequence by vertical arrows, are each shifted to the right

to indicate that these involve repair to the discourse as the student seeks to

guide pupil responses according to what she has in mind.

Figure 9.4 <u>Pedagogical-Linguistic Analysis of an Extended PSY</u> (Text 24)

PSY 14 - Particular

1 S: Can you think of any.. characters on TV.. [0.4] any personalities.. [0.5] who've particularly outrageous clothes? [1.7 secs]   (N-R)

2   Mike?   (5)

3 P: Lenny Henry. [0.8]

4 S: Lenny Henry. [0.6]

5 P: Yeah. [1.6 secs - chorus of Lenny Henry imitations.]

6 S: Lenny Hen..[0.2] is he.. [0.2] the black comedian? [0.5]   (clfy)

7 P: Uh-huh. [1 sec]

8 S: Right.. [0.4]

9   I can't imagine.. [0.1]   (m & 10)

10   I was thinking of some really flamboyant characters. [0.5]   (10)

11   Julie?[0.3]   (P volunteers)

12 P: Billy Connolly. [0.5]

13 S: Billy Connolly,

14   yes sometimes he goes out of his way to be different. [0.5]   (m & 10)

15   Geena? [0.4]   (P volunteers)

17 P: Dame Edna. [0.3]

1 18 S: Dame Edna,

+2 19   that's the one I was thinking of as well.

Although the lesson extract given in Figure 9.4 consists of only one PSY, it is constructed out of 5 exchanges. All are interactive exchanges except for the adumbrated third exchange. The first three exchanges are bound in a linear sequence by logical and lexical reference, as indicated by the vertical arrows linking the exchange numbers. Exchanges 4 and 5, while still shown bound to the sequence by vertical arrows, are each shifted to the right

to indicate that these involve repair to the discourse as the student seeks to guide pupil responses according to what she has in mind.

At the outset of this series of exchanges the student is apparently taking the less dominant K2 role. If an exchange opens with a DK1 move, pupils are invited to display the answer the student already has in mind. Whereas when the student begins with a K2 question she does not constrain the response in the same way. At move 1 here, she appears to be asking pupils to name any appropriate TV personality, implying that she is willing to work with whoever the suggest. However, the first pupil response at move 3 - 'Lenny Henry' - is not warmly welcomed. The student appears unable to work with this answer since she seems unsure exactly who Lenny Henry is. Nor is she experienced enough to seek to explore Lenny Henry's identity using the pupils as informants. In the previous analysis of this episode in Chapter Seven, it was suggested that appears to be a gap in cultural knowledge between pupils and student here.

In exchange 2 the student maintains the K2 role as she seeks clarification of Lenny Henry's identity. However, the vestigial exchange 3 marks her resumption of the K1 role. Exchange 4 opens with what looks like a statement at move 10 - "I was thinking of some really flamboyant characters." That is, it could initially be considered an independent K1 exchange. However, this would not adequately represent the real-time development of the discourse.

Move 10 refers back to move 1: the student reveals that she is not really willing to discuss "any" outrageously dressed TV personalities (move 1), rather she has "some really flamboyant characters" in mind (move 10), and what the pupils are required to do is to nominate one of the characters she is thinking of. That is, move 10 retrospectively redefines the initial question at line 1 and so, implicitly, provides a modified question for the pupils to work on. That the pupils so understand the discourse is shown by the fact that they continue to suggest alternative personalities.

Thus, not only is there a logical flow in the exchanges shown by the arrowed lines linking the exchange numbers, there are also instances where the nature of the on-going discussion is retrospectively redefined by the student to suit the exigencies of the moment. Such an occurrence is indicated by the arrowed rectangular line linking move 10 back to move 1, creating a feedback loop. Move 10, then, although it looks like a statement, actually provides an amended version of the original question and is therefore coded as DK1. If one attempts to provide an explicit version of this question, say – "Can you think of any TV personalities who wear really outrageous and flamboyant clothes, and who feature on a list of a few names that I have in mind?" – it is easy to see why the student may prefer to keep this unstated. She operates, then, in terms of a disguised DK1.

The response a pupil volunteers in exchange 4 – "Billy Connolly" – finds no

more favour with the student than the previous "Lenny Henry": "Yes

sometimes he goes out of his way to be different" (move 14). Again the

personality a pupil suggests is not one she wants to work with. Thus move 14

feeds back into move 10: "sometimes" indicates she wants the name of a

character who is always outrageous and flamboyant.

At this point the discourse is represented as an iterative pattern. Although

there is no overt question provided at the outset of exchange 5, it is

undeniable that an interactive exchange takes place. In other words a

question is understood where none is stated. That there is an implicit

question is indicated by {DK1}. Though, since there is no overt utterance

corresponding to this implicit move, it is not given a move number. The

implicit {DK1} is shown as connected back to the previous DK1 at move 10.

The student firmly endorses the pupil's answer - "Dame Edna" - at move 18

and adds at move 19 - "That's the one I was thinking of as well." This K1

move complex is thus given as (1^+2).

The student's final move in this sequence reveals that though she has

appeared to indicate a willingness to consider any suitable TV personality the

pupils might name, she has, in fact, had only one character in mind. While

appearing to allow pupils discretion, she is actually requiring them to name

the response she is thinking of. Thus a third aspect of pedagogical discourse

repair, which involves retrospective redefinition of speaker roles, is

distinguished and termed the <u>interpersonal.</u>

The student's surreptitious redefinition of roles here may appear somewhat

dishonest. Perhaps she felt that Dame Edna was such an obvious choice here

that she was bound to receive it initially. Certainly, the pupils' suggestions -

Lenny Henry and Billy Connolly - appear apposite in terms of what they have

originally been asked. But the student disallows these and retrospectively

alters the rules of interaction, moves out of the K2 role into covert

questioning involving the use of disguised DK1 moves. That pupils might feel

there is something dishonest about the way the student has operated here

might be indicated by the fact, discussed previously in Chapter Seven, that

almost immediately following this episode there arise some rather crude

disciplinary challenges.

One further aspect of the diagramming of interaction in Figure 9.4 needs to

be mentioned. While Ventola (1988) finds modifications to logical

relationships in exchanges to occur between succeeding items in move

complexes, an altogether more complex and subtle manipulation is found here

as an original K2 move is retrospectively, and covertly, altered to produce

exchanges that must be conceived as commencing with DK1 moves. Thus the

relation between moves 1, 10 and 14 is given as (1... +2... +3). This notation of

logical relationsip is given on the feedback lines since it involves

retrospective modification of items in previous exchanges.

Several modifications to Ventola's (1987) approach, then, have been

suggested here in an attempt to capture the real-time complexity of

classroom interaction using a pedagogical-linguistic system of

representation. These are summarized below:

1) The indication of exchanges which are bound by logical and lexical

reference with vertical arrows linking the numbers of exchanges so

linked;

2) Shifting of exchange notation to the right to indicate pedagogical

repair sequences of subsidiary exchanges;

3) The possibility of repeated Delayed Primary Knower (DK1) moves at

the outset of an exchange thus forming a DK1 move complex;

4) The recognition of incomplete single move exchanges, indicated as

K1...;

5) The representation of feedback loops, represented by arrowed square

lines, where information given at a point in a linked series of

exchanges retrospectively redefines previously given information;

6) The use of an apparent statement to alter a preceding question retrospectively, such a statement effectively acting to provide a new version of the preceding question in a <u>disguised</u> Delayed Primary Knower move, indicated by underlining thus (<u>DK1</u>);

7) The iterative patterning of successive exchanges, without any overt question being signalled in each exchange, till an earlier question is answered to the student teacher's satisfaction;

8) The possible occurrence of an implicit Delayed Primary Knower move, shown thus {DK1}, as the first move in such an iterative exchange;

9) The recognition of the modification of logical relations in a series of exchanges by retrospective extension of a previous question, given as (1... +2... +3).

10) The inclusion of two additional dynamic repair moves to supplement Ventola's (1987) account and recognize common features of classroom discourse, namely: <u>check</u> is extended to cover the use of expressions such as 'OK?' 'Right?' 'Alright?' where a student teacher seeks to check that an explanation is understood, or an argument accepted; <u>nom</u> is used for a nomination and is regarded as an

elucidation move indicating who should respond.

While no claim is made to have provided a complete pedagogical-linguistic system for the analysis of interactive subject matter discourse, the above description indicates how such a system might be developed and how it may prove informative about teaching. It would appear that the real-time improvisation of pedagogical discourse is a very highly complex matter indeed, despite the fact that student teachers engaging in such activity often appear to proceed with great rapidity. The need to account for such items as feedback loops, the retrospective altering of information, the provision of modified questions disguised as statements, the reiterative patterning of exchanges where an initial question is understood but remains unstated – all these features strain at the boundaries of what it is possible to describe using current procedures in discourse analysis.

Of particular interest here are attempts by student teachers to ask genuine questions by adopting the Secondary Knower (K2) role. In seeking to be more open to what pupils might have to say in this manner, a student may find she is at a loss to know exactly how to proceed when pupil answers are unpredicted or surprising. It also seems possible for a student to appear to be adopting the K2 role, when she is actually seeking one predetermined response. If such an occurrence is unmasked, as appears to be the case in Figure 9.4, this may lead to certain pupils challenging the student teachers'

mangement of the discourse by shouting out patently deviant remarks. Thus

the analysis suggests a possible link between student teachers' interactive

discourse behaviour and the fact that a few pupils apparently feel it is

legitimate for them to issue rather uncouth, or aggressive, public challenges

while students are attempting to teach.

9.6 Towards a Model of Teaching in Real Time

9.6.1 Background Information

The research thus far, involving the evolution of a method for analyzing

sequences of interactive subject matter discourse which is informed by

student and experienced teachers' commentary on their own teaching,

suggests a theoretical model of real-time teaching. While the primary

reference of such a model is to student English teaching, it may also have

some applicability to other subject areas, and to the teaching of experienced

teachers. Though such a model is based on the research data, it is also

somewhat speculative, given the inability of informants to remember

accurately the details of their real-time interactional performance.

In considering lessons in advance, student English teachers often appear to

commence by selecting either a literary text that they know and would like to

teach, or one that they do not know but is readily available and looks as

though it should prove interesting. In selecting texts for consideration the

student is inevitably making guesses about what sorts of materials will be appropriate to use with particular groups of pupils. Since this is an area in which the student teacher is inexperienced, sometimes guidance is given about suitable materials by co-operating teachers. Generally, however, student teachers appeared to have considerable freedom over the selection of shorter texts, such as poems or short stories.[9]

Once a text has been selected students talked about considering the possibilities of the text - what it allowed them to show about literature, and how to go about revealing this to pupils. Students spoke of interrogating their own understanding and enjoyment of texts. Trying to understand how they themselves made sense of a text, and what they found important and intriguing to notice, guided them in the selection of aspects of the text to draw to pupils' attention. This is the background information provided by students in interview against which the descriptive model, provided below, is to be seen.[10]

9.6.2 Outline of the Model

In planning lesson interaction, it is important to note, students claimed they did not write out every question in advance, though they might write down some main questions. Rather they seemed to carry out a mental rehearsal of how the interaction would go and worked out the main sequence of ideas. Yet in this imaginative prefiguring, it would appear that the class are envisaged as performing as somewhat idealized interlocutors. This view

is supported by two considerations. Firstly, students seem continually taken by surprise, sometimes almost shocked, when pupils respond in ways they had not predicted, or when the answers they require appear more difficult to extract than they had anticipated. This is demonstrated in the frequent comments students made about the difficulties they encountered in interactive discussion: "I don't know how they got that" "I don't know how they couldn't see it" "Did they talk?" "It was like pulling teeth" "They just didn't get it", and so on. Secondly, student teachers lack relevant practical experience of the ways in which classes of pupils are likely to respond to particular sorts of questions.

Thus it would appear that when planning interaction student teachers are constrained to act upon rather inadequate data. It seems unavoidable, therefore, that the imaginative foreshadowing of interaction they engage in should be unrealistic in certain ways. For instance, it does not appear to include serious consideration of the possibility that pupils might make disfavoured responses; nor that pupils might have trouble in perceiving the answers the student requires. Indeed, because the student in planning interaction appears to start with answers - that is, items that are to be drawn to the pupils' attention - and then constructs the questions from which these may be derived, she often appears to have some difficulty in crediting that these will not be as evident to someone else. This is particularly evidenced in cases where the student teacher seeks highly idiosyncratic

interpretations that appear to have little connection with the text under consideration.

Moreover, students are sometimes aware that the way in which they tend to frame questions may be far from lucid. They may fashion questions which appear rather vague, thus failing to signal to pupils what exactly it is they are asking about. Or they may ask question which are too abstract to be readily comprehended by pupils, or which make use of concepts and vocabulary that pupils cannot readily understand. Again, students lack experience of constructing pedagogical questions in the classroom.

Given the exigencies of the situation, it appears inevitable that student teachers will sometimes find themselves failing to receive responses, or receiving responses that are not satisfactory for their purposes and which they will have difficulty integrating into the discussion. Yet the student, if she wants to create some sort of interaction, is reliant upon pupils being willing to attempt to answer. Thus she is likely to find herself, suddenly and unpreparedly, confronting a situation of some delicacy, and to which she must respond almost instantaneously, without adequate time for reflection.

As has been indicated previously, a pause of a second or two appears to be sufficient to convince a student teacher that breakdown of interaction is imminent. Thus she finds herself under pressure to diagnose the likely source

of the difficulty though the situation may present few clues to aid her

diagnosis. Consequently, she appears to operate by making adjustments to the

discourse largely on the basis of pragmatic guesses about the nature of the

problem.

The student is constrained to embark upon a process of rapid interactional

improvisation in order to repair the discourse. While students may be

regarded as highly experienced in terms of their general capacity to

participate in improvised real-time discourse, they are inexperienced at

doing this while taking responsibility for accomplishing pedagogical ends, in

front of pupils, and under the pressure of their scrutiny. Thus, no matter how

carefully a lesson has been planned, students find themselves engaging in

highly complex discourse structuring that might well have benefited from

prior consideration but which, because it is unforseen, has to be improvised

in real time. As a consequence the student is likely to seek to repair the

discourse, not in any manifestly principled manner, but in whatever way

appears immediately possible.

Three aspects of pedagogical discourse repair are distinguished in the data:

the interactional, discursive and interpersonal.[11] The first aspect deals with

situations of non-response, and of unsatisfactory response which the student

appears unable to build upon. When there is a non-response, the student acts

by making pragmatic guesses about the likely source of the difficulty.

Perhaps the question is unclear and needs to be rephrased; perhaps the question is too complex and needs to be broken down into simpler parts; perhaps the student needs to signal her intention or what exactly it is she is interested in more transparently. Furthermore, students appear to take into account such factors as whether the non-response occurs at the beginning of a lesson. Here its occurrence may be seen as part of a more general need to 'break the ice' by initiating a pattern of interaction. Thus students are likely to begin by asking simpler questions of fact, before moving to asking for inferences or interpretations. Also they may make a nomination if they consider that pupils need encouragement to begin.

Similarly, if the student receives unsatisfactory responses, she also appears to make pragmatic guesses about the likely source of the difficulty to try and adjust her questioning so that she receives the sort of response she requires. However, students are unlikely to indicate directly that they think a response is incorrect. Instead they are likely to use an expression such as 'Yes' or 'Uh-huh' using intonation to suggest the response is not such as they desire. Thus the rejection of the response appears to be mitigated in an attempt to secure continued pupil participation. That pupils clearly know such responses have been rejected, however, is indicated by the class suggesting alternative responses.

Thus, if the student receives a number of disfavoured responses, she is

likely to adjust her questioning as when she does not receive a response.

That is, she may give some further indication of where her interest lies, seek

to clarify the intent of the question, or break it into simpler component parts,

and so on.

In the second aspect of repair identified – the discursive – the problem lies

not so much in securing continued interaction, but with ensuring appropriate

deduction or inferencing. That is, there is an attempt to lead pupils through

steps in an argument, or stages in an inferential chain of reasoning.

Whatever the student's attempted diagnosis of the problem in the case of

interactional and discursive repairs, her overall response is likely to prove

similar in that she will tend to move to asking more narrowly focussed

questions which contain an indication of the sort of answers she desires.

This would appear to lessen the risk that a situation threatening

interactional or discursive breakdown will continue, by making it easier for

pupils to provide such responses are desired. While threatened breakdown of

the discourse may thus be averted, there would appear to be a risk that

instead of inviting pupils to engage in pedagogical thinking about literature,

so many clues and hints may be given that pupils are being invited to do little

more than fill in rather predictable items in a pseudo-discussion.

Another way of putting this is that it may be argued that the effect of

non-response, or of incorrect responses, is to constrain the student teacher into revealing more of what it is she has in mind so that pupils will be enabled to respond with minimal risk that their contributions will be found inadequate. In this way pupils might be seen as constraining - by their willingness to participate, and by the ways in which they construe the student teacher's questions - the sorts of interactive pedagogical discussion students are able to have with their classes.

The third aspect of repair distinguished - the interpersonal - involves retrospective redefinition of speakers' discourse roles. The student teacher appears to have considerable power to constrain pupils to accept particular interactional roles. Thus she will usually adopt the Primary Knower (K1) role herself, which obliges pupils, if they wish to participate appropriately, to adopt the Secondary Knower (K2) role. However, a student may initiate an interaction by assuming the Secondary Knower (K2) role, and asking a question that allows pupils to adopt the Primary Knower (K1) role. Such a procedure allows pupils considerable discretion in their responses, and implicitly indicates that the student teacher is willing to work with any genuine answer.

But unforseen difficulties in working with the answers pupils give may lead her suddenly to resume the more dominant Primary Knower (K1) position. Hence she retrospectively redefines the interactive situation to suit her

convenience. That is, she moves from allowing pupils considerable freedom in the structuring of information, to the more teacherly position of asking pupils, not to provide new information, but to participate in a knowledge display. While it is evident that student teachers do exploit the possibility of redefining speaker roles in this way, moving from K2 to K1 in mid-interaction in order to get out of difficulty, it is suggested that pupils are likely to feel that such retrospective shifting of position is rather dishonest, and this may lead to discipline problems.

To summarize, the model of student teaching by means of interactive discussion which is proposed suggests it is marked by the following features:

1) In her planning, the student has not taken account of the possibility that unforseen responses will arise, but has envisaged an idealized interaction that will enable a pedagogical discussion which flows unhindered to completion;

2) She lacks experience of asking questions in the classroom and of how pupils might tend to respond to particular sorts of questions;

3) Non-responses and disfavoured responses are thus bound to occur, obliging the student to seek to avert breakdown of the discourse by using interactional, discursive or interpersonal repair;

4) Given that:

i) such repair of the discourse has not been foreseen but must be improvised in full view of the class,

ii) the student is likely to feel under pressure, both since the

discourse is not proceeding in the fashion she anticipated, and

also because any evidence of hesitancy on her part will tend to

have disciplinary implications,

it is likely that repair will be conducted in whatever way seems

immediately possible for the student to meet the exigencies of the

situation, and not in any carefully considered or pedagogically

principled fashion;

5) Since students are apparently unable to recollect how, exactly, they

improvised such dynamic pedagogical discourse repairs immediately

following a lesson, they are not in a position to be able to improve

their performance in this regard by subsequent reflection.

Indeed, the attempt to teach by interactive discussion[12] seems to be

permeated by paradox. The student teacher wishes to construct an orderly

discourse, yet whenever she asks a question she risks the possibility of the

discourse breaking down. She invites pupils to participate with her in the

joint construction of meaning, yet she seeks to maintain control over their

discourse. While she often appears to make a genuine attempt to allow pupils

some freedom in their contributions when she initiates a segment of

discussion - by asking broad questions or adopting the Secondary Knower (K2)

role - yet the requirements of the situation, as apparently perceived by both

student and pupils, that she should instruct, often leads to the development of

a pseudo-discourse where the pupils' role is to fill in highly determined blank

slots with brief, predictable answers.

<u>NOTES</u>

1.   Ventola's (1987) characterization of genre is broader than that generally used in systemic
      linguistics, and includes the sense of a culturally specific programme. See Williams
      (1989) for a critique of this conceptualization of genre from a sociological perspective.

2.   Mood is a grammatical category referring to verbs and includes such forms as the
      indicative, subjunctive and imperative. Mood expresses grammatical and semantic
      differences and indicates whether what is said is considered certain, possible, doubtful,
      necessary, desirable, and so on. See Ventola (1987) pp 89 - 93.

3.   Of course, all pedagogical discourse repair is intended to avert breakdown by initiating or
      sustaining interaction. <u>Interactional</u> repair, then, draws attention to this primary aspect
      of pedagogical discourse. Here, the student's attention appears to be concentrated mainly
      upon ensuring that interaction is initiated and continues to completion. It commonly occurs,
      for example, when a student is clarifying what basically happens in a text that has
      just been read, or is asking pupils to remember what happens in a text that has been read in
      a previous session. In <u>discursive</u> repair the student appears to be additionally concerned
      with leading pupils through a series of inferences or steps in an argument so that pupils
      reach the desired conclusions. This sort of repair is marked by logical connectors - 'so',
      'and', 'therefore', and so on - and tends to occur when the student is asking pupils to make
      inferences from a text. It is readily admitted, however, that the distinction made here is
      rather broad. In the postmodernist world it has to be recognized that discourse tends to
      deconstruct and that broad distinctions provided to enable discussion of issues which have
      proved hitherto difficult to focus upon should not be taken to mean that two mutually
      exclusive categories of repair are being proposed here.

4.   That this pupil is in a position to know the import of the question can be demonstrated from
      an earlier occurrence in the same lesson. In the introductory discussion of the poem's
      narrative outline, the student refers to the length of a particular stanza - "Now it's.. it's a
      long stanza" - and asks - "Why do you think he's done that?" The same pupil provides an
      appropriate inference, that is, that the length of the stanza reflects the time taken as the
      poet takes the blind man to the toilet - "Cause it takes a long time." On this occasion the
      reply is not only formally, but also propositionally, apposite.

5.   It seems obvious that a line from a text that is cited in a literature class to focus pupils
      attention, before the student teacher then initiates interaction by asking a question based on
      that line, should be viewed as part of the succeeding interaction. This, however, is to view

the discourse _pedagogically_. From the point of view of Discourse Analysis, the textual citation will form an independent exchange. Ventola (1990, personal communication) indicates that a description of exchange structure cannot be extended to include such a preliminary citation as part of the exchange which follows. Thus such an event in classroom discourse requires some notion of pedagogical structuring to enable its description as part of the following interaction. Consequently, the position adopted in the present research of seeking to develop an integrated pedagogical-linguistic description of classroom discourse seems entirely apposite.

6.   Sometimes in classrooms it remains difficult to decide precisely who has been manipulating whom. While the student teacher's behaviour in this case appears to lead to pupils responding with one word answers that appear highly determined, it might be argued that it is the initial pupil response here which constrains the student teacher into revealing more about what it is she has in mind.

7.   Of course, it is impossible to be certain of the reply the student expected to her original question, since she does not mention this in interview, but it seems reasonable to assume that it is the answer that is worked out in this sequence of exchanges. That is, that 'slithering' indicates this is a downmarket cafe' because the word suggests the cup is plastic, and such cups would be unacceptable in a better establishment. Furthermore the man's poverty (which has been mentioned previously in the discussion of the poem's narrative outline) means that he has no choice but to eat in such an inexpensive place.

8.   The term pedagogical-linguistic, used to describe the approach to discourse analysis here, recognizes both that such discourse belongs to the distinctive genre of classroom interaction, as well as indicating the primacy of pedagogical considerations in the development of the analysis.

9.   Longer texts, such as novels, because of the considerable investment of time required for reading them, as well as the need to have class sets of such texts, are usually part of the co-operating teachers' ongoing programme which students have to fit in with.

10.   The picture is more complicated than this since English often appears to consist of an amalgam of rather different subjects with somewhat differing approaches. Language itself could be a focus of study, though such a lesson did not occur in the data sample. Literature teaching, which was the main activity undertaken by the English students, involves the consideration of literary texts and the writing of accounts or critiques of such texts. There is also creative writing where pupils are asked to write poems or stories of their own. English teaching also appears to involve the consideration of controversial human issues - say, the influence of TV on society, or the pros and cons of nuclear power - viewed from a social studies perspective, and the writing of balanced opinion on such topics. Then there is the teaching of other reading of a non-literary nature, which often manifests a concern with detecting bias or attempts at emotive manipulation. All these appear to be linked by an

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overall concern with language, text and communication, yet students appeared markedly more sure of themselves when teaching literature, and least certain how to proceeed when discussing controversial issues. Since the student English teaching observed, however, displayed a large preponderance of literature lessons, a literature teaching perspective informs the descriptive model.

11. The term _interpersonal_ is chosen because it refers to Berry's (1981a,b,c) original identification of speaker roles in information exchanges. This aspect of repair obviously has implications for maintaining the interaction, as well as the argument that is being developed (see note 3 above). However, an additional feature occurs here, namely, that the student appears to adopt the K2 role, but then reasserts that _she_ is the Primary Knower in order to continue the interaction.

12. The interactive discussion the model was developed to describe is that between a student teacher and the class as a whole. However, scrutiny of cases where students are interacting with an individual pupil, and where the interaction involves groups of pupils, suggests that discussion strategies remain remarkably similar and that the same sorts of discourse repair occur.

Similarly the model was developed to account for the situation where a student teacher is seeking to lead a class to answers she already has in mind, not where she is asking questions that seek genuine information and where she adopts the Secondary Knower (K2) role. However, the evidence provided suggests that students may rarely take a genuine K2 position in classroom interaction because this puts them in an impossible position. They would need to be able to work with whatever information pupils may provide, but they lack the experience in improvising real-time pedagogical discourse that might allow them to do this. Consequently, the student seeks answers she may predict and may tend to ask a K2 question only when she feels the pupils are bound to answer in predictable fashion. Of course, pupils might notice that a student only gives them freedom to determine the information structure of discussion when she appears to think they are bound to give certain responses.

CHAPTER 10 DISCUSSION AND OVERVIEW

The purpose of the present research was to investigate the teaching that student teachers engage in while they are in schools on teaching practice. The intention was to illuminate what student teachers actually do, moment by moment, as they seek to communicate their subject to pupils. Despite a rapidly growing interest in teacher education research, there is a dearth of information about the language student teachers deploy in interaction with their pupils. Inspecting such activity closely, perhaps it might be possible, not only to say something about the ways student teachers seek to practise their craft, but also to learn about teaching more generally, by gaining some insight into the nature of the craft that they seek to master.

The interaction between student teachers and their pupils was chosen as the focus for study, since preliminary observation and interviews with student teachers indicated that this was regarded as both an essential aspect of their classroom performance, and one which they found, rather to their surprise, to be surrounded by unpredicted difficulties. Since there was also an obvious gap in the research literature concerning the nature of the interactive discourse student teachers conducted with their classes, it was decided to investigate the language of teaching practice using transcripts of all that was said in lessons, together with post-lesson interviews which sought to gain access to student teachers intentions and their viewpoints on what had happened.

The initial research approach was informed by Wragg's (1972) finding, in his study of teaching practice, that there were considerable differences in the patterns of student teachers' classroom interaction which appeared to be due to subject area. He suggested that a detailed study of the teaching of a small group of subject specialists might prove more informative than the large-scale study of several subject groups that he had conducted. Moreover, he noted that though there appeared to be wide variation between the patterns of interaction found in different subjects, those occurring in history and English appeared most similar.

Consequently, the first phase of the research carried out during TP1 focussed upon student teachers of English and history. This revealed that there were marked differences in the interactive pedagogical discourse structuring that occurred in these two subject areas. Thus the communication of subject matter was found to differ not just in terms of the topics that were discussed, but also the cognitive perspectives that were adopted. History teaching appeared to specialize in the elaboration and summarizing of complex patterns of particulars which tended to be presented in textbooks and handouts from a single perspective. English teaching, on the other hand, seemed to specialize in making interpretations of literary texts, involved few facts, but made regular use of inferencing in areas where there was considerable ambiguity. As a consequence of these findings, attention

during the second phase of the research was focused upon a single area,

namely, the use of interactive language in student English teaching. The lack

of pre-assigned meaning to texts, the lack of recourse to an appeal to facts,

as well as the need to search for interpretations, all of which typified such

teaching, meant that student-pupil discourse in the English classroom could

seem highly problematical. Thus it appeared to offer a particularly fruitful

area for study.

The approach adopted arises from within the search for a distinctively

pedagogical conceptualization of teaching and studies of teaching. Thus

McNamara & Desforges (1978) seek "to develop a science of instruction based

on the realities of classroom practice" (p. 17), and to elucidate teachers'

craft knowledge so that a distinctively pedagogical body of professional

studies might inform the education of student teachers (see also, Desforges &

McNamara, 1977, 1979; McNamara, 1991; Brown et al., 1988). Such an

aspiration includes the development of a "conceptualization of teaching which

enables it to be described cognitively as well as behaviourally and hence may

prove facilitative in the training of teachers" (Calderhead, 1980, p. 430).

This perspective makes reference to the distinctive work that teachers do

and has drawn attention to the importance of the development of "pedagogical

thinking" (Feiman-Nemser & Buchmann, 1986a, b, c). Such an approach also

marks a move from generic models of teaching (Dunkin & Biddle, 1974) to

those which recognize that what is appropriate professional action depends on the situation and thus from an objectivist to a constructivist view of practice (Graves,1992). Furthermore, it takes the subjective world of informants seriously, and seeks to understand the perspectives which guide their practice in particular situations. Consequently, great care was exercised in the present study to develop approaches which would gain entry to the world of teaching practice as student teachers appeared to construe it (Burgess, 1984; Schatzman & Strauss, 1973).

Pedagogical thinking is found to be rooted in consideration of subject matter (Peters, 1977; Buchmann, 1982; Shulman, 1986a). It is in this area that the interests of researchers may have failed to answer the concerns of student teachers as they consider how to teach their subject, "so as to foster understanding during the interactive phases of teaching" (McNamara, 1990, p. 150).

The focus on student teaching adopted in the present study unites a cognitive, subject matter perspective with an emphasis on language. The approach is thoroughly pedagogical, yet seeks a linguistically principled approach to pedagogical investigation. Since it has been established that early moves in a classroom discussion constrain and predict what may occur later in the discourse (Phillips, 1984), it would appear important for student teachers, if they wish to have fruitful pedagogical conversations with their

classes, to possess awareness of the dynamics of a developing discourse.

Thus student teachers might benefit from the development of a descriptive

apparatus that would allow them to examine their own discourse behaviour

and how it may enable, or disenable, the kind of dialogue they would wish to

conduct with their classes. Yet such close scrutiny is prevented by the

current absence of any convincing description of the discourse dynamics of

teaching processes. Thus it is with beginning to construct such an analytical

description that this research is concerned.

The overwhelming impression that arose from examining the classroom

transcripts of pedagogical interaction and the interviews with student

teachers was that they were searching for an effective form of discourse

with their pupils but that they found this very difficult to achieve. While

students sometimes showed awareness that there were difficulties created

by their inexperienced questioning, they often appeared frustrated that pupils

did not readily seize the point of particular interactions. Discussions with

pupils tended not to occur as anticipated or desired. Whilst some repair in

interactive discourse seems to be inevitable, student teachers often seemed

to become mired in unnecessary difficulties, which forced them to operate

complex repairs somewhat gratu i tously. The cumulative effect of such

experiences seems likely to convince student teachers that any form of

interaction, except that which is highly staged, is likely to prove unfruitful.

Yet they seemed to be attempting to reach out towards more genuine and responsive sorts of pedagogical conversation that differed from traditional whole-class, guided discussion. They sought to ask broad questions and to invite pupils to engage in complex thinking. Yet limitations in their pedagogy, the frequently disappointing response of pupils, as well as the lack of any recourse to a body of knowledge which might provide an explicit understanding of how pedagogical subject matter discourse might function, all seemed to frustrate their good intentions.

It appears clear that the real-time improvisation of interactive pedagogical discourse is a very complex matter indeed. This is demonstrated by the need for the analysis to account for feedback loops, retrospective altering of information, adjustment of perspectives and subsequent redefinition of earlier questions, the provision of modified questions disguised as statements, the occurrence of reiterating exchanges where the initial question is now understood, but not actually stated, the subtle hinting of what the student teacher has in mind – all these features strain at the boundaries of the current state of the art in discourse analysis. Yet all these dynamic events need to be accounted for if an activity as complex as real-time teaching is to be adequately described.

Of course it is only when she takes responsibility for teaching a class herself that the student teacher may experience what it means to be involved

in the real-time improvisation of pedagogical discourse. It cannot be experienced while observing others teach or while reflecting upon one's own teaching, nor can it be foreseen adequately in advance. No one can predict what responses will be given and so there is a need to learn to improvise in the classroom situation. This aspect of the student teaching experience differs markedly from what might appear to be implied by a rational planning model. Indeed, the planning that experienced teachers engage in seems to involve "the orchestration of a vast array of knowledge" (Calderhead, 1990, p. 156; see also, Clark & Yinger, 1987; Borko & Livingstone, 1989), which the student mostly lacks.

The model of interactive teaching that is developed here focuses on the improvisation of pedagogical discourse in real time. First it begins by looking at the discourse units – pedagogical structuring ventures (PSVs)– into which the teaching may be analyzed. PSVs characterize certain sorts of topics and the cognitive approaches to such topics. English teaching appears to specialize, for example, in Interpretative PSVs.

The model originated from a consideration of what happens when student teachers appear to find that a breakdown of discourse threatens. The prime signal here is pupil non-response to a student teacher's question. Of course, if no one can be persuaded to answer, the attempt to construct an interactive discussion fails. Silence, indicating an unwillingness or difficulty in

responding, appeared to be a situation that student teachers were very sensitive to indeed. A wait of only a second or two at the initiation of an intended sequence of interaction was enough to convince student teachers that they had to act to avert breakdown. This they did in pragmatic fashion seeking an adjustment that would set interaction going. Perhaps the question is not clearly understood, or is too difficult, or is too condensed and needs to be broken down into simpler steps? Perhaps the pupils are reluctant to begin, particularly at the outset of a lesson? Frequently reference is made to a 'standby' pupil who can generally be counted upon to answer appropriately. If such a pupil is at a loss, then the student is likely to feel that she needs to readjust her questioning. If, however, a pupil who is considered weak fails to answer, the question may remain unchanged and simply be referred to another pupil.

A similar situation arises when pupils answer but the answers are not such as the student desires. She usually appears to accept the challenge of seeking to derive the required answer by starting from wherever pupil answers appear to oblige her to begin. Considerable exercise of ingenuity may be involved, but it is not always clear that pedagogical ends are served as students employ hints, rhetorical questions, clues, and so on, to lead and redirect the class till she encourages someone to say what she wants.

From a consideration of what students did when non-responses occurred, a

typology of pragmatic actions was evolved which the student appears to

deploy to enable her to alter the situation so that it becomes one she can

work with. Similar pragmatic action was also seen to be taken if responses

were disfavoured in order to put the discourse back on track and avoid further

breakdown. This sort of description worked satisfactorily in terms of the

interactional aspect of repair – that which was designed, primarily, to

initiate and sustain responsiveness.

However, other sorts of repair occurred which did not appear to yield so

readily to this description. Consequently, this led to a consideration of

exchange structuring in ventures which suggested that there was also a

discursive aspect to repair. Typically, discursive repair is achieved in a

series of exchanges, where pupils are led through a particular set of

inferences to a required conclusion. Then a technique for diagramming

exchanges that had been adapted from its origins in service encounters

(Ventola, 1987) was used to show the linguistic sequence of which the PSV or

sequence of related PSVs involved in a repair sequence is constructed.

Finally, another aspect of repair was uncovered – interpersonal repair.

This occured when a student attempted to extend the teaching role by

exploring the possibility of asking real questions through yielding the

Primary Knower (K1) role. However, such attempts to work with whatever

information pupils provided tended to be baulked by gaps in cultural
knowledge, and the unexpectedness of the views that pupils expressed.

Consequently, the student attempted to recover the situation by surreptitiously redefining speaker roles so that the pupils were again the Secondary Knowers (K2) being asked to engage in a display of the information that the student already had in mind.

Of course there may be difficulties inherent in teaching literature by interactive discussion. The student does possess knowledge about her subject which pupils lack. Nor can the principles governing literary enquiry be worked out by pupils on a commonsense basis. Therefore, in order to have literature discussions, rather than just desultory conversation surrounding a text, the student feels she has to organize the discussion. But the student often seemed to have little clear idea of the parameters that might surround such discussion: of what it was that pupils might legitimately be expected to notice or find out themselves, and what aspects of the framework of literary interpretation needed to be provided by the student. That is, they often seemed to ask unconsidered questions about matters where pupils could not be expected to be informative, while at the same time providing information which pupils might have been allowed to discover for themselves.

Students attempted to ask broad questions that required huge leaps of inference, or syntheses of complex information, which tended to provoke the threat of breakdown and promote the necessity of repair. When they asked in the Secondary Knower role, this was often because they felt the pupils were

bound to answer in a predictable fashion. The rebuffs that they experienced in seeking to ask broader questions or give pupils a more free role in the discourse, seemed likely to encourage them to cease such a search and move towards conducting whole-class interaction where pupils were only required to fill in very predictable blank slots.

There was very little groupwork conducted by the student teachers in the sample. On the few occasions that groupwork was attempted students tended to run into difficulties with managing the classroom and to be disappointed that usually co-operative pupils seemed to join in the general misbehaviour. However, the nature of the pedagogical conversations that occurred during group sessions seemed to differ little from that which occurred during whole class teaching, except for the fact that pupils more often initiated discussion - by calling the student over. Yet once the interaction began, control over the discourse was immediately ceded to the student, and discussion tended to be structured as in whole-class teaching.

The general clumsiness of repairs to the discourse arose because students seemed immediately concerned to move, in any way that they could, to the sort of response they desired. Thus there was a tendency to engage in a somewhat manipulative institutional discourse. From the student teacher's perspective, it often appeared that this is what the pupils preferred as well. Attempts to engage in a more open discourse often ran into difficulties, and

were also seen to be linked to discipline problems as pupils shouted out disruptive answers. That is, the pupils - or at least some of them - seemed to prefer the more restricted institutional discourse.

Potentially, one of the most significant findings of the present research was that student teachers' improvisation of discourse repair - the attempt to move from a non-response, or disfavoured response to the response required - appeared to be unavailable to recall immediately after the lesson. This apparent post-lesson amnesia meant that students'own improvisation of discourse repair always remained beyond inspection. Thus they seemed unable to query or reflect upon their performance in this regard. While interactions that threatened disciplinary problems seemed to be remembered clearly, and students usually remained clear about what they intended to happen in a section of discussion, the actual details of how an interaction was improvised in real-time appeared to have been completely obscured by the time the lesson ended.

There thus seemed to be two factors which militated against student teachers attempts to search for a more genuine form of interaction with their pupils. The first appears linked to the operation of human consciousness as it relates to the real-time production of linguistic performances. For example, it has been shown that much discourse behaviour appears to remain below the level of consciousness, so that what people do in conversations fails to

correspond to their descriptions, and may even conflict with their stated intentions (Blom & Gumperz, 1972). Secondly, there was the experience of the student teachers that the more artificial and stage-managed the discourse was – with pupils filling in predictable blank slots – the more smoothly interaction seemed to occur, with a concomitant decrease in pupils seeking to disrupt the discussion.

To elucidate this second feature, reference is made to postmodernist thought, in particular, Foucault's (1982) view that power is linked to institutional discourse practices and that exercising power involves structuring "the possible field of action for others" (p. 790). Such structuring is obviously central to what happens in the classroom as the student teacher seeks to orchestrate classroom interaction so that understanding of her subject is communicated. Warham (1993) proposes a model of hegemony for understanding power structures in the classroom, where teaching involves not just the teacher structuring what happens in ways which enable children to learn, but the pupils accepting or resisting the teacher's structuring in a situation possessed of considerable dynamic delicacy, so that the teacher is constrained by what the pupils will allow her to do. Furthermore, Foucault regards institutional discourse practices as historically and socially determined, with no identifiable author, so that those who engage, say, in pedagogical discourse, become the speakers of anonymous discourses (see, Cherryholmes, 1988). Thus pupils may be seen as regulating student teachers'

attempts to explore more authentic ways of interacting with classes, and constraining them to discourse in more predictable ways.

This point might also relate to the perception that teaching remains highly resistant to change. For example, studies of what happens in mixed ability classes (Kerry, 1982; Evans, 1985) suggest that, in teaching, innovation may occur without change. While there might be mixed ability grouping, this does not necessarily lead to mixed ability teaching. Undifferentiated whole class teaching might still occur, though this may be disguised by the use of worksheets. Yet the same transmission mode that characterizes 'recitation' lessons may simply be transferred to the worksheets. In other words, different organization and methods can be implemented, yet the system of pedagogical communication remains fundamentally unchanged.

Of course, the present research comes at a time of great institutional change in teacher education. The students involved in the present study were engaged in teacher education concurrently with their undergraduate degree. They were observed during block practice in schools. However, they spent the majority of their time in the university engaged in professional studies in education. Recent official initiatives have mandated that student teacher training should be centred around work in schools (HMI, 1992; DES, 1992). Moreover, student teachers are to be evaluated in terms of specific competences that they ought to have developed (DFE, 1992; SOED, 1993).

There already appear to be indications that these new major reforms in teacher training may provide yet another example of innovation without change in education (see, for example, Lunt, et al., 1993; Dart & Drake, 1993; Hyland, 1993). Thus Dart & Drake (op. cit.) find that school based training which is inadequately resourced and conceptualized, is likely to lead to an increased conservatism in educational practice along with teachers who are inadequately prepared for future development. Similarly, Hyland (op. cit.) doubts that a model of competence which originated in a framework of vocational training will prove suitable to encompass the complexities of learning to teach. Moreover, he draws attention to the considerable ambiguity that surrounds the notion of competence, and suggests that what is required to inform teacher training is a much more complex model which aims at the development of expertise.

Besides the fact that teacher education has changed since the research was undertaken, other weaknesses of the present research may be noted. These include the use of a small, and unbalanced, sample. A necessary corollary of the decision to operate in terms of detailed scrutiny of transcripts, is the fact that the number of lessons that may be investigated by this method is, necessarily, constrained. Moreover, the student teachers concerned were predominantly female, and all were being trained at the same Scottish university. However, if any attempts to generalize widely from the findings of the present research might be unwise, the fine-grained analysis of the

language of teaching practice in two arts subjects that has been evolved, provides a wealth of detailed information that opens up consideration of a crucial, yet under-studied area, and might also provide guidance for future research in pedagogical communication.

Another weakness relates to the undesirability of asking student teachers to comment on transcripts of their own lessons. Such an approach was felt to be potentially highly threatening for students, perhaps making them apprehensive about research visits and damaging their confidence. Thus it was felt to be impossible to seek participants' commentary on the details of the real-time improvisation of discussion that appeared to be hidden from their own awareness. However, there was some attempt to compensate for this weakness by repeating the research procedures with two experienced English teachers, and then interviewing them about the transcripts of their lessons. This approach rested on the view that, in terms of their capacity for engaging in discourse, students could not be regarded as inexperienced.

The fact that only two experienced teachers were involved, and that only two lessons taken by each were studied, may be seen as a considerable limitation. However, the aims here were relatively modest: to see if experienced teachers might appear to suffer from the same sort of post-lesson amnesia concerning improvised interaction that students did; and to see whether teachers could explicate the actions that were predicated

in their discourse. Both teachers appeared unable to recall details of interaction any better than students. Further research is required to establish whether this may be a general feature of teaching. Conceivably, it might be related to subject area and to the amount of discourse that occurs in certain classes. It is also possible that this may be found to be a feature of the present sample. Perhaps it may be possible to find teachers who are perspicacious informants concerning their real-time structuring of improvised discussion.

In terms of the elucidation of their own teaching, one teacher was found to be a much more perspicacious informant than the other, although she found it difficult to analyze her own teaching.' Both teachers were surprised by aspects of what the transcripts revealed, in particular, both noted that they talked much more than they thought. Both teachers also seemed to have the capacity to redefine what had actually happened in the class in idiosyncratic ways. They appeared much more likely than student teachers to ignore or deflect pupil contributions that were disfavoured, and to assume that pupils were saying things which were mistaken or irrelevant. While they avoided the extreme situations of repair of interaction that students frequently became entangled in due to lack of pedagogical expertise in asking questions, the interaction that they conducted often seemed to flow more smoothly because it was carefully restricted.

Student teachers appeared to seek more complex interactions and also to

engage pupils in considering more demanding concepts, such as the literary

manipulation of point of view, and the question of how an individual derives

her sense of identity. Moreover, it was not expected to find the weaknesses

in understanding or explanation of subject matter evident in student teaching,

when attention turned to lessons taken by experienced teachers. Yet, in one

lesson taken by each of the experienced teachers there were notable

conceptual flaws that appeared to cause pupils difficulty. This may be a

feature of the restricted sample, but it might also indicate something of the

difficulties that surround English teaching in general, where elusive matters

that appear difficult to conceptualize and explain have to be dealt with.

It might also be objected that the method of operating from transcripts

may allow the analyst to over-interpret. This objection is cited by Brown and

Yule (1983):

A text frequently has a much wider variety of interpretations imposed upon it by analysts
studying it at their leisure, than would ever have been impossible for the participants in the
communicative interaction which gives rise to the 'text'. Once the analyst has 'created' a written
transcription from a recorded spoken version, the written text is available to him in just the way a
literary text is available to the literary critic. It is important to remember, when we discuss
spoken 'texts', the transitoriness of the original (Brown & Yule, op. cit., p. 12).

Two reponses are given here. First, the research sought to take a dynamic

perspective which inspected how participants were scrutinizing and making

sense of the discourse in real time. Thus interpetations of what is being

communicated are constrained by consideration of aspects of the dynamic,

moment-by-moment, unfolding of the discourse that participants appear to note. Second, concerning aspects of the discourse where participants appear to remain unaware, - for example, how they actually structure improvisation - these are inspected in a fashion which reveals underlying patterns so that research knowledge about how this is accomplished may be furthered. Thus the focus is not so much on the over-interpretation that may occur when an analyst treats a spoken text as if it were originally written, by looking for subtle references and covert meanings, but on how the patterning of the overt acts of the discourse, as apparently understood by participants, is actually accomplished.

It might also be objected that the research, because it adopts an approach to discourse which arose from within systemic linguistics, is overly structuralist in approach. But aspects of the present study which are inimical to a thoroughgoing structuralism may be noted (see, for example, Cherryholmes, 1988). Firstly, there is an emphasis on individuals - through interviews and inspection of individual approaches to teaching - and not just upon the linguistic system which they are operating. Secondly, there is a focus not upon language in the abstract, but upon real examples of pedagogical speech. Moreover, a postmodernist scepticism about the iconographic representation of theoretical models means that the theory of student teaching in real time that is evolved in this research (see chapter 9.6), is presented explicitly as discourse without an accompanying diagrammatic representation.[1]

However, the research does look at interaction in student teaching, which

Cherryholmes (op. cit.) considers a structuralist tendency in educational

research. And it does seek to describe the discourse of student teaching as it

currently is, which might be regarded as a subtle endorsement of things as

they are. In defence of the present approach it might be noted that there is no

attempt to reach any normative generalization, and that the attempt to

understanding the subtly shifting dynamic operations in student English

teaching, in particular, is seen as necessary if there is to be any possibility

of introducing change that moves beyond the merely rhetorical.

One approach which has sought to overcome difficulties in the way student

teachers are trained, attempts to develop a model of reflective teaching

practice (Zeichner & Liston, 1987; Furlong et al., 1988). However various

researchers have pointed to the evolution of a plethora of different

programmes and competing conceptualizations that claim to promote

reflective teaching as providing an impediment to meaningful research in this

area (see, for example, Liston & Zeichner, 1990; Chandler et al., 1991;

Barrow, 1990; Calderhead, 1989; Calderhead & Gates,1993; McNamara,

1990). Recognizing the considerable scope for mislearning that traditional

school experience encompassed, it would appear that many teacher educators

engaged in the laudable attempt to encourage in student teachers the capacity

to distance themselves from their own classroom experience by reflection, so

that their learning would not be forestalled by the rapid development of

coping strategies. However, these practical attempts to help student

teachers reflect seem to have been conducted without much regard to

providing any agreed conceptual framework of reflective practice. Thus a

confused discourse has arisen as training schemes have proliferated which

employ, often tacitly, differing conceptualizations of teaching and, also,

differing underlying metaphors of reflectiveness.

In an attempt to lessen the conceptual confusion, Liston & Zeichner (1990)

provide an analysis of their own approach to reflective practice. However,

there are those who are more sceptical that all that may be required is the

rehabilitation of the notion of reflective practice by the disentangling of a

discourse that has become muddled. Barrow (1990) views 'the reflective

practitioner' as largely a rhetorical phrase, and the muddled thinking that has

surrounded it as exemplifying the tendency of the educational community

generally to seize upon ideas that are inadequately conceptualized; while

McNamara (1990) indicates that research on teacher thinking appears to have

shirked the Cartesian problem and to have employed approaches which imply a

dualism between mind and body. Thus thinking tends to be investigated as an

intellectual procedure preceding action. Moreover, the research that is

actually conducted seems to eschew pedagogical thinking – "how teachers

actually think about the process of teaching content matter to children, so as

to foster understanding during the interactive phases of teaching" (op. cit., p.

150). That is, there tends to be an investigation of researchers' concerns, to

the neglect of aspects of thinking that would likely prove more valuable for

teachers. Consequently, it is concluded that research on teacher thinking

fails to provide any clear guidance for teacher educators.

This suggests a research approach which derives knowledge about

teaching

... by starting from the subjective situational knowledge of practitioners and identifying the
problems they attempt to resolve, and then examining their tentative solutions and how successful
they are in remedying the original problem. In such a way it becomes possible to build up a corpus
of 'objective knowledge' which may work and be of value to practitioners (op. cit., p. 156).

Such an approach, with its focus on pedagogy, is consonant with that

adopted in the present research.

Expert-novice studies also contain an emphasis on dynamic processes

which highlights the real-time nature of teaching. Thus experts are viewed

as possessing highly elaborated schemata for typical students and their

responses, based on their experience. Moreover, they have at their disposal

complex schemata which allow them to derive information during the

performance of current activities that can be used to guide on-going, and

future, instruction so that teaching may be continuously adjusted to meet the

needs of pupils whilst the classroom is also managed with apparent ease

(see, for example, Leinhardt & Greeno, 1986; Borko & livingstone, 1989).

However, such studies tend to emphasize the use of highly polished routines

in improvised performances, and not to focus on the real-time development of subject matter discourse as pedagogical communication is structured. Yet it is in this, apparently non-routine, area that the student teachers in the present study encountered difficulties.

The student teachers studied were usually quite clear about the lessons they wanted pupils to learn. Moreover, they wanted to give the pupils some freedom in discussion, be sensitive to pupil contributions, not appear overly manipulative, while seeking to guide discussion in directions they had pre-determined. These aspirations might appear to be mutually contradictory. Yet they nevertheless appeared to represent what the student teachers desired. It may hardly seem surprising, then, that the students frequently found holding interactive discussion with their pupils difficult and somewhat frustrating.

In addition they continually seemed to accept the challenge of deriving such answers as they sought from whatever starting point pupil answers obliged them to set out. This meant that interactive discussion represented a considerable challenge to their interactional and interpersonal skills. Yet while students frequently found aspects of class discussion frustrating, they also frequently appeared to be rather elated after a lesson. Thus,operating in this somewhat risky fashion could appear to be a highly stimulating activity.

It would appear that the preparation of student teachers for the complexities of real-time pedagogical conversations might take advantage of the examination of pedagogical case studies that some have suggested as appropriate for the development of professional expertise (Shulman, 1990; McNamara, 1990). Thus students might consider cases involving the teaching of particular poems, stories, and so on, with tapes of classroom episodes and accompanying transcripts. It is difficult otherwise to see how students might be enabled to focus on the real-time improvisation of discourse. Of course this would require the development of an item bank of such materials drawn from experienced and student teaching, which had been developed for instructional purposes. While it is recognised that this would be a very considerable undertaking, the benefits that might accrue from student teachers being able to focus closely upon examples of how discussion might be conducted in particular cases in their subject area, and considering how teaching problems which arise are solved, would seem to answer a need for detailed guidance that currently appears not to be met.

The present study also has implications for the prosecution of educational research. There is a need for research to acknowledge the explicitly linguistic nature of much of the data that is used as evidence in classroom studies. Language and processes which may be accomplished in language lie at the heart of teaching, yet there has hardly been any sustained attention devoted to pedagogical communication which develops a linguistically

principled stance.

The present research suggests a probable link between the ways in which student teachers seek to conduct classroom interaction and the occurrence of pupil disruption of the discourse. If a better understanding of such a dynamic interrelationship could be achieved, this might be of very considerable significance for teacher education. Furthermore, this study suggests that there is a link between the operation of discourse repair systems and the way in which real-time aspects of teaching may remain invisible to teachers themselves. Thus a pedagogical-linguistic approach to classroom discourse may enable an understanding of essential, yet curiously elusive features of teaching.

Using language for pedagogical communication is an immensely complex matter. Yet the human capacity to use language is usually taken for granted, since researchers, teachers, student teachers, and pupils alike, may all talk with conspicuous ease, with little conscious awareness of how such talk is achieved. Language, no less than pedagogical thinking, has tended to remain an obscure feature of classroom teaching.

It may be that educational researchers, if they wish to uncover pedagogical thinking, may have to proceed rather as linguists have done in uncovering the grammatical features of languages. Speakers cannot be asked to explain the

discriminations which inform their performance in their native tongue, since it is manifestly clear that this is something which they cannot readily do. Yet rigorous examination of a corpus of native speaker performance allows the subconsciously operated discriminations to be inferred. The accuracy of the description that has arisen is then checked against further examples of native speaker performance, and modified where necessary, until it may be regarded as reasonably established. Such an approach has obvious similarities to, say, McNamara's (1991) vernacular pedagogy, and the case study approach operated by Shulman and his associates (Wilson, et al., 1987).

Of course, there have been difficulties over which sort of linguistic model may be applied to the classroom. The development of a pedagogical-linguistic method of analysis in the present research indicates how progress might be fruitfully made in this regard.

In conclusion, it appears there also may need to be a clearer understanding of the way subject matter discourse may be deployed to promote understanding among pupils. Whether student teachers' intuitions about how interactive discourse might function in promoting pedagogical communication might not need to be seriously challenged, is a question which the present study raises. Furthermore, questions are raised about the limits of reflection for improving teaching. It appears impossible to reflect upon that which is usually beyond recall, unless some procedure is adopted which

allows participants to inspect their own real-time performance.

Reflective approaches to teacher training tend to view the dynamic aspect of development in a strategic sense, noticing what may occur over extended periods of teaching, reflecting, re-teaching, and so on. The present research suggests that it may be no less important to focus upon the moment-by-moment dynamics of classroom communication, if we are to develop a pedagogy of real-time teaching which might allow student teachers to fulfil their aspirations for a more genuine dialogue with their pupils.

NOTES

1. For an accessible account of the unacknowledged information that may be smuggled into the diagrammatic representation of a supposedly 'scientific' model, see Gould, S. J. (1991), *Wonderful Life: The Burgess Shale and the Nature of History*. Harmondsworth: Penguin; especially chapter 1 - The Iconography of an Expectation.

APPENDIX 1

KEY TO TRANSCRIPT NOTATION USED IN EXTRACT FROM BRISTOL
LANGUAGE DEVELOPMENT PROJECT. Adapted from Wells (1981), pp.
156-7

. . . stops indicate pauses. One stop is used for a very short pause

___ underlining indicates where utterances overlap because both speakers
talk at once

" " inverted commas enclose utterances considered to be 'speech for self'

(v) used to indicate the preceding word was used as a vocative

/ indicates a tone unit boundary

' this symbol precedes tonic syllables

| | shift of pitch range to one relatively higher or lower than normal for the
speaker

| | shift to extra high or extra low pitch

24 the pitch range of a speaker is divided into five notional bands, numbered
1-5 from high to low, thus

1
  2
    3
      4
        5
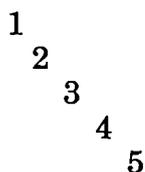
The following information is retrievable from this coding:

Direction of movement	Halliday (1967)* tones
Falling: (e.g. 13, 25)	Tone 1
Rising: (e.g. 31, 43)	Tone 2
Level: (e.g. 33)	Tone 3
Fall-Rise: (e.g. 343)	Tone 4
Rise-Fall: (e.g. 324)	Tone 5

*HALLIDAY, M. (1967) *Intonation and Grammar in British English*,
London: Mouton.

APPENDIX 2

CRITERIA FOR IDENTIFYING VENTURES. Adapted from Smith et al. (1967)
pp. 290-292.

I.   Definitions relevant to the concept of a venture.

    1.1   The verbal behavior occurring during a class period is called the total discourse.

    1.2   An utterance is the complete verbal behavior of one person at one point in the total discourse.

    1.3   An episode is a unit of discourse involving a verbal exchange between at least two persons and focusing on a single point or item. It always contains more than one utterance.

    1.4   A venture is a unit of discourse consisting of a set of utterances dealing with a single topic and having one overarching objective. It contains fewer utterances than the total discourse.

II.   Criteria for Identifying a Venture.

1. The beginning of a venture is identified by one or more of the following:

    1.1   An utterance or part of an utterance containing an explicit indication (announcement or proposal), usually by the teacher, that a particular topic is to be considered. Such an announcement is usually followed by a question which initiates discussion of the proposed topic or by an invitation to speak on the topic.

    1.2   An utterance not explicitly indicating that a particular topic is to be taken up, but containing a question or statement that makes a marked change in the course of the discussion.

    1.3   An utterance containing a question or statement that initiates a discussion characterized by a new overarching objective.

2. Qualifications.

    2.1   When a venture includes one or more utterances containing a story, poem, student report, etc., or parts of such works or reports, new ventures may be identified in the subsequent discussion by criteria 1.1, 1.2, or 1.3 although the discussion continues to be about the particular story, poem, etc.

    2.2   When a set of utterances concerns a number of mathematical problems, grammatical exercises or other examples and instances illustrating a single general principle (a rule of usage, a formula, a type of proof), these utterances together with any

discussion of the general principle or further discussion of the instances shall count as a single venture.

2.3　When an utterance or set of utterances announces two or more topics to be taken up, the discussion of each topic counts as a venture, provided that the discussions of the topics taken together do not form a topic unit having a single overarching objective. Discussions of the "pro" and "con", the "old" and "new", and other such bifurcations of the topic shall not count as separate ventures.

3. Exceptions.

3.1　If an utterance contains an explicit indication (announcement or proposal) that a particular topic is to be considered but another topic is discussed instead of the one announced, the utterance in which the topic is announced does not count as the beginning of a new venture. Such utterances are to be labelled **'misfires'** and are not to count as part of any venture.

3.2　An utterance or set of utterances occurring within the discussion of a topic but wholly unrelated to the topic is not to be counted as the beginning of a new venture. Rather it is to be marked off from the venture, and labelled **'disruption'**.

3.3　An utterance or set of utterances containing a statement of the general subject with which the class discussion is to be concerned for an entire period or longer, or statements of assignments, school announcements, etc., counts as an orienting statement and is not to be considered as part of any venture.

3.4　An utterance or set of utterances occurring within the discussion of a topic but only loosely related to the topic is to be counted neither as the beginning of a new venture nor as a disruption. It is to be counted rather as part of the venture within which it occurs.

4. The end of a venture is marked by no special cues. The termination of a venture is signaled only by the beginning of a new venture or by the occurrence of an orienting statement.

5. The duration of a venture is limited by the following considerations:

5.1　A venture always contains fewer utterances than the total discourse.

5.2　Ventures generally contain more than one episode. A venture is only coextensive with an episode if it is not possible to legitemately consider the episode as part of the discussion of a more inclusive topic having a single overarching content objective.

III　The procedural rules governing the use of these criteria are as follows:

1. Read the entire transcript through without attempting to apply the criteria. Get a general idea of the sorts of topics the lesson is divided into, the way in which the teacher groups things for the sake of discussion.

2. Read the transcript through again. This time mark off ventures using all the criteria except 1.3. If the transcript is particularly difficult it may be advisable to mark the readily identifiable ventures first and then return to the hard portions.

3. Use criterion 1.3 to correct the markings made in 2 above. remember, every venture must have a single overarching objective.

4. While length is not a criterion of a venture, length in excess of three or four pages of transcript does serve as a warning signal, indicating that the start of a new venture may have been missed.

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