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TURN TAKING AND NON-VERBAL ACTIVITY IN
THE CLASSROOM

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Summary

The proliferation of research into communication between teachers and pupils illustrates the intricacies of the communication process. Whilst many studies give emphasis to the verbal, there are an increasing number which demonstrate that teacher-pupil perceptions and understanding are validated, in part, through non-verbal signalling. The present work is one such study and provides descriptions and interpretations of the sequential processes and patterning which characterize the exchange of turns between teachers and pupils.

Because the methodology to collect descriptive data required the researcher to be involved in the classroom setting, decisions were made about personal and procedural reactivity in relation to both the role of the researcher and the establishment of the recording techniques. Video data was finally collected in a secondary school where co-learnership was in evidence.

A feature of the main data collection process was its re-defining and cumulative character. To avoid unmanageable data, the sample was kept small and consisted of five teachers and their respective classes. No account was taken of their sex or the subject matter of the lesson. Supplementary data was obtained from field notes and interviews. The school based work extended over sixteen months.

Analyses revealed that teacher-pupil exchanges were not random occurrences, but incorporated some of the features of conversational turn taking established by Sacks et al (1978). Modifications of the rules were documented. (previously unreported). Some empirical support was established which indicated that the placing of non-verbal activity contributed to the maintenance of interactional order and the repair of disorder at points of smooth and simultaneous exchange. Data from interviews confirmed that the range and location of some non-verbal actions attended to by teachers and pupils, bore some similarity to those observed by the researcher.

The relevance of the findings to teacher interactional competence were discussed.

Key Words

Non-verbal, Turn Taking, Observation, Classrooms.

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SECTION 1

INTRODUCTION AND LITERATURE REVIEW

1.1 Introduction

Many researchers have turned to the study of non-verbal communication concerned that what we do with our bodies can be as important as the words we use. Certainly, in our encounters with others what we do non-verbally seems to matter affecting their responses, attitudes and ability to sustain verbal exchanges and therefore in turn, the results that are mutually achieved. It is likely that you, the reader, will recently have coped with such an experience.

But it is particularly when we are in situations where we wish to impress, that our non-verbal behaviour seems critical in determining whether we succeed or not. (Davis 1976, Lamb 1965, Rose 1978). This must be so for teachers, who in order to be effective, must select from verbal and non-verbal codes in order to establish a good working atmosphere and gain credibility through the exchange of ideas and information. In striving for this effectiveness teachers also bring to bear other factors, such as professional know how, range of experiences and temperament. However, what this research addresses itself to are the non-verbal codes, and how their presence may facilitate some of the exchanges between teachers and pupils.

That the non-verbal code is generally significant when people interact is demonstrated and carefully documented in an excellent literature review by Harrison (1973) and attested to in some of the studies identified in the historical overview of published material presented by Davis (1979). That it has many forms in the classroom is known to all who have been there,

that it plays a role in classroom interaction has been increasingly recognised in the last twenty years; in particular by recent writers and researchers, (Bently 1981, Bull 1983, Fox and Poppleton 1983, Lorac and Weiss 1981, Neill and Fitzgerald 1983) and that other researchers have made a valuable contribution to the field of non-verbal communication in education has been discussed in an extensive article by Smith (1979). The indications therefore, particularly from the literature, are that the role of the non-verbal is important. Because of this several researchers have emphasized that teachers should become more aware of this aspect of their behaviour. (Davitz 1964, Jecker et al 1965, Walker and Adelman 1975), whilst others have been more pragmatic proposing that communication skills should be actually taught (Amidon 1970, Brown 1975, McLeese and Unwin 1973, Trower, Bryant and Argyle 1978).

Unfortunately, much of the writing and research that exists is characterized by the study of what happens to individuals rather than the study of what happens between individuals. Researchers interested in individuals have tended to use experimental methods to produce quantitative analyses and because of this methodological emphasis much less information is available about non-verbal activity as it occurs in a temporal sequence of events.

What is argued in this piece of research is that the communication process between teachers and pupils is successive and interchangeable. Therefore, the impetus behind the work is the belief that until we observe and record non-verbal activity, its patterning and its points of occurrence and move

towards an understanding of how these are perceived and shared in the natural situation of the classroom, we have no way of knowing how non-verbal activity is organised and potentially meaningful in the teaching-learning situation.

1.2 General Aims of the Research

Although uncertainty about how we interact with others can be tolerated in more relaxed settings, such as the passing of the day in inconsequential chit chat, too much uncertainty in the classroom heightens unpredictability. Whilst uncertainty about how pupils will behave exists and can be tolerated, the process of resolving too much uncertainty is necessary for the effective continuation of the teaching-learning process. How this is achieved depends upon the meanings conveyed through the exchange of verbal and non-verbal codes. That non-verbal codes provide some of the information to facilitate the exchanges that occur is the premise on which the research is based.

In order to investigate this premise it will be necessary for the researcher to acquire descriptions of non-verbal codes as they sequentially occur. These will serve as a basis for investigating those non-verbal actions which have, or have not, the potential to inform the processes of communication between teachers and pupils. To this end a narrative record of events will be produced for screening and further definition. In addition, it is hoped that analyses of how the non-verbal contributes to the reciprocal flow between teachers and pupils will produce information and insights which can be used by teachers as a resource for improving their interactional competence.

Several assumptions underlie this sociological approach. The first assumption is that the process of communication between teachers and pupils requires interactional competence and that this is an end in itself as well as a means of attaining educational objectives. The second, that the communication process is only adequately facilitated where teachers and pupils reciprocally interpret and respond to information and the third, that teachers differ in their competency to interact with pupils. These assumptions are viewed as having a possible influence on teacher-pupil interaction in the classroom.

1.3 Review of the Literature

Because a comprehensive review of all the appropriate literature would be a herculean task, rather than attempt this, various well known and key studies pertinent to each of the areas that impinge on the research, will be identified and considered in relation to the classroom situation. The areas of relevance to the research are, non-verbal activity in relation to emotion and interpersonal attitudes and non-verbal activity in relation to speech. Studies available on non-verbal activity more directly related to the classroom will also be considered.

1.3.1 Non-verbal activity in relation to emotions and interpersonal attitudes

One of the reasons non-verbal activity is so important is precisely because it is so immediately visible to others. When it appears as emotionally expressive it is often a spontaneous reflection of what we are feeling. (Argyle 1975, Eible-Ebesfeldt 1972). In other situations it can be more deliberately arranged and controlled. On these forms of emotional expression there

are many useful studies available, some of which give importance to facial expression and gaze.

One of the well known studies on facial expression is that by Ekman and Friesen (1975) who have identified six facial expressions, namely, happiness, sadness, fear, disgust, anger and surprise. Their work suggests that the face may convey different affective information from which observers obtain signals to which they may respond. Working along similar lines Izard and Tomkins (1966) have added interest and shame to Ekman and Friesen's list of emotions. Many of the attempts that have been made to test the hypothesized role of facial expression in relation to emotions are based on experiments where volunteers have been presented with selected facial expressions. However, appraisals of this approach suggest that holding a particular facial expression does not necessarily correspond to naturally occurring facial expressions. For example, Tomkins (1981) has criticized the work of Tourangeau and Ellsworth (1979) for designing their experiment in this way. Also open to criticism are experiments where the participants respond to photographs of facial expressions. An instance of this is contained in the article by Ekman and Oster (1979) where it is suggested that in the work carried out by Izard and Tomkins (1966) the position of the heads in the photographs may well have influenced the participant's perception of the emotional expressions of shame and interest.

A limited number of examples can be found in the research which propose that emotions may be encoded through gaze and that a wide range of expressions are associated with eye movements. Previously referred to in this section, the studies by Ekman and

Friesen (1975) demonstrate how the eyes are prominent in arriving at their descriptions of facial expressions. Like Fromme and Schmidt (1972), they found the eyes less informative where expressions of anger and fear were being conveyed.

But not all emotional expression occurs in the face, other studies recognize that gestural and postural expression can also reveal feelings and attitudes. Ekman and Friesen (1972) and Krout (1954) have produced studies which demonstrate that emotional gestures largely consist of self touching gestures. These are often seen to be in evidence when individuals are experiencing shame or negative attitudes towards the self. Similarly, Freedman and Hoffman (1967) consider that self touching gestures serve to release tension. Argyle's (1975) suggestion in his book, page 265, that touching the self is a possible equivalent to talking to one's self seems a useful distinction.

Unfortunately, research on the role of posture in conveying emotions is scant. However, Ekman and Friesen (1967) hypothesized that facial expressions convey relatively little about the intensity of the effect. This they identified as being the primary function of the torso. Their hypothesis was supported when participants in an experiment made judgements about different dimensions of emotion and had more agreement on sleep and tension when the torso was viewed and unpleasantness and pleasantness when the face was judged. In responding to these kinds of findings Bull (1978a) has claimed that specified postures may be associated with particular emotions. For example, he found that students listening to a speaker leaned forward and drew back their legs when showing interest and performed the reverse, leaning back and

stretching out the legs when bored. A decoding study (Bull 1978b) using line drawings produced similar results. In making his claims Bull does recognize that it is difficult to infer emotions whether these be conveyed facially or posturally from drawings or photographs.

Although both emotions and interpersonal attitudes may occur simultaneously an emotional response need not be directed towards another person. It has therefore been necessary to distinguish between these two kinds of responses. The research produced in the area of interpersonal attitudes indicates that non-verbal activity may have a greater impact than corresponding verbal activity in conveying attitudes to others. Some of this research is considered in the following paragraphs.

A number of studies have shown that there may be subtle sequences of non-verbal activity from which participants negotiate the precise nature of their relationship. Mehrabian (1968a) found that dominance was communicated by a pattern of bodily relaxation including, less gaze, relaxed posture, head tilted back, hands on hips whilst affiliation was demonstrated more in increased gaze and leaning forward. Argyle et al (1970) found similar non-verbal actions used to convey submission and dominance. The dominant posture was erect, the head back, the submissive posture less erect and the head lowered.

Following a similar line of investigation Rosenfeld (1966) and Reece et al (1962) have inquired into whether approval seeking behaviour can be identified through expressive movements. Evidence from both studies support the interpretation of smiles and head nods as potential approval seeking devices influencing the interpretation that others have of a relationship. Using

video tape Argyle, Alkema and Gilmour (1972) presented nine combinations of the friendly-hostile and dominant-submissive dimensions and the results pointed to the non-verbal being very much more effective than the verbal.

It is widely accepted that in some interpersonal situations participants "put on," emotional expressions which they do not necessarily feel. In their article Ekman and Friesen (1969) write about management and display rules. They suggest that managing the emotions may well result in deceptive signals. That Goffman (1959) is also persuaded of the role of deception in non-verbal activity is revealed in his exposition of how non-verbal actions inadvertently distract from an individual's performance, that is, the non-verbal may suggest the opposite of what is implied by the verbal as is instanced when harsh words are accompanied by a smiling face. Studies which have investigated conflicting cues include work done by Bugental et al (1970), Ekman and Friesen (1969), Knapp (1974) and Weitz (1972). The first two studies found that tone of voice and verbal content did not match, the third that liars used less gaze and longer adaptors¹ and the fourth gave emphasis to the face, hands, feet - legs as carriers of the deception.

Some participants, however, deliberately seek to evoke a particular response through non-verbal activity and deception is not an issue. Goffman (1955) also recognizes that there are those kind of responses where each participant is intent on successfully maintaining his part and each helps the other to do the same. This usually happens in situations which Goffman refers to as

1. Adaptors. self - manipulation of one's body
object - manipulation of objects

"on-stage," and it is in these situations that participants seek to project certain aspects of the self image. Danziger (1976) concurs that individuals rely upon non-verbal actions for communication but he is critical of the emphasis placed by Goffman on the theatrical analogy. Danziger claims that Goffman's description of the playing of roles in order to create impressions is surrounded by an aura of calculation and expresses his view when he writes that,

"In performing a play the actors are consciously aware of the script and deliberately give their interpretation of it. This is decidedly not the case in the everyday presentation of interpersonal relationships. While people do indulge in more or less deliberate play acting at certain times, the constant feature of all social interaction is the spontaneous and unreflecting signification of the interpersonal relationships by means of a stream of verbal and non-verbal signs."

page 33.

But Goffman (1957) does recognize that the self is not at work all the time and in different circumstances individuals may act in a less conscious manner. That he recognizes this dual function is evidenced when he writes that,

"When individuals are in one another's immediate presence, a multitude of words, gestures, acts and minor events become available, whether desired or not, through which one who is present can intentionally or unintentionally symbolize his character and his attitudes."

page 348.

What the research on non-verbal deception appears to be suggesting is that whether an individual produces a deliberate display of non-verbal activity depends on his analysis of the situation and the relationship he wishes to achieve with the person with whom he is interacting.

Overall, it has been suggested in this Section (1.3.1) that participants in a social situation trust and rely upon non-verbal activity to function in the expression of emotions and interpersonal attitudes and that this activity may be partly physiological, partly spontaneous and/or partly deliberate. In addition, that in some instances the verbal and the non-verbal is in conflict and confusing information is conveyed. Finally, that the face, particularly gaze, is the main source of emotional information, that the hands, often in contact with the body, appear to be a means of releasing tension, that posture may convey emotional signals but also function to indicate intensity and that all these activities may occur as states in themselves or be in relation to another person.

1.3.2 Non-verbal activity in relation to speech

As well as non-verbal activity being important in communicating information about emotions and interpersonal attitudes, other research studies have shown that there is some relationship between non-verbal activity and speech. Just as verbal communication experts have argued that we can better understand verbal communication by examining its component parts, so have non-verbal researchers. Birdwhistell (1971) a kinesicist interested in units of body motion has made attempts to establish a kinesics alphabet and compile a kinesic dictionary. His research proposes that there is a kinesic-linguistic analogy where kinemorphic constructions have many of the properties of the spoken syntactic sentence.

Schefflen (1964) followed the lead of Birdwhistell by suggesting that non-verbal regulators mark off 'points,' 'positions,' and 'presentations.' At 'points,' Schefflen maintains that participants change the position of the head and eyes every few sentences, the

'position,' is marked by postural change involving a large part of the torso and is likely to occur at potential exchange points in a conversation and 'presentations,' involve a change of role or place in the interaction. Hall (1974) proposed comparable constructs, 'isolates,' 'sets,' and 'patterns,' from his studies of proxemics. The results of the studies by Bull and Brown (1977) showed that at points in the interaction where new information was introduced more postural change occurred. This relationship of the non-verbal to the verbal bears some similarity to the 'presentation,' and 'patterns,' observed respectively by Scheflen and Hall. From analysis of a filmed conversation Kendon (1972) produced results which gave support to Scheflen's observation of 'position.' Following similar lines of enquiry using frame by frame analysis Condon and Ogston (1966) found that parts of the body were in close synchrony with the verbal and the body of the listener, a phenomenon they called interactional synchrony and Freedman and Hoffman (1967) who focussed more specifically on hand and arm movements observed that hand movements which were not touching the body were closely related to the verbal stream.

Although the research studies in Section 1.3.2 referred to so far have emphasized the relationship of the non-verbal to the verbal, the non-verbal activity in many of these studies can also be categorized according to its function. The system of categorization most widely adopted is that by Ekman and Friesen (1969), namely, illustrators, emblems and regulators.

Illustrators are non-verbal actions which are closely allied to the verbal and usually serve to amplify or add impact to the verbal content. In an experiment carried out by

Graham and Argyle (1975a) where shapes were difficult to describe hand gestures improved the communication. Cohen and Harrison (1973) compared the use of the non-verbal by communicators on the telephone and in face to face interaction and observed that in the latter situation illustrative gestures were in use. Although limited, research more specifically focussing on the function of illustrators appears to fall into three areas. Mehrabian and Williams (1969) have suggested that illustrators indicate the communicators attitude, for example whether he is excited or bored, Rogers (1978) that illustrators improve the comprehension of the verbal whilst Dittman and Llewellyn (1967), Lindenfeld (1971) and Scheflen (1973) argue that illustrators serve to provide information about the structure of speech.

Emblems have a different function and are those non-verbal actions which have a specific translation. Whilst the medium for this exchange is primarily the verbal symbol, communicators may also select from an array of non-verbal symbols. This they do when a gesture may be used instead of a word and has agreed meaning. Only one study has been located which may have relevance to the classroom, namely that by Kumin and Lazar (1974), showing that the ability of children to decode emblems increases significantly between $3\frac{1}{2}$ and $4\frac{1}{2}$ years. Other work by Eible-Eibesfeldt (1972) and Morris et al (1979) has been more concerned with the identification of emblems specific to particular cultures.

The regulatory function of non-verbal activity is to control the flow of interaction between communicators. This has been studied during greetings and partings. Research

suggests that the specific nature of the greeting will vary according to the communicators and their willingness to converse. In their study of the six stages of greetings Kendon and Ferber (1973) have shown that gestures of the head, smiles, eye gaze, eye brow movements, the hands and sometimes body contact, function as initiators. Bull (1983) draws our attention to the fact that communicators may not always wish to converse and when this is the case different non-verbal activity will ensue which will serve to constrain any potential continuance of the greeting.

When communicators wish to part the evidence again suggests that they utilise non-verbal activity. Knapp et al (1973) found decreasing eye gaze and orientating the body towards the area of departure were most frequently observed. They also observed that the nature of the departure could be non-verbally indicated, a smile, touching and head nodding could reinforce the decision to part but affirm that friendly relationships still exist.

The fact that communicators exchange roles and that this has to be regulated has been seen to involve a process referred to as 'turn taking.' Goffman (1955) describes this process as a means whereby which,

"one or more new participants can officially join the talk, by which one or more accredited participants can officially withdraw and by which the state of the talk can be terminated."

page 338.

The means by which communicators can non-verbally achieve what Goffman describes is demonstrated in the work of Duncan (1972), Duncan and Fiske (1977) and Knapp (1978). Both Knapp and Duncan adopt the term turn-yielding, meaning giving up the turn and by

implication it is an offer to another person. The verbal indicators they identify are the completion of a grammatical clause and the completion of a question. For Knapp, the non-verbal signals are drawn on a final syllable, to trailers such as 'you know,' 'but,' 'ah,' gestures coming to rest, extended unfilled pauses, eye brow raising and eye contact. Duncan and Fiske refer to the first three of these but make specific reference to hand gestures. At the point of turn-yielding Duncan and Fiske (1977) also identify the speaker state signal which is usually when the listener demonstrates a pre-acceptance of the turn by turning away of the head and beginning to gesture.

Other distinctive groups of non-verbal signals have been noted when a speaker does not wish to relinquish a turn. During turn maintaining Knapp's analyses have revealed an increase in voice loudness, a continuation of gesture, an increase in filled pause and a corresponding decrease in unfilled pauses and touching. Duncan and Fiske (1977) refer to these as attempt suppressing signals but have only identified one non-verbal signal, namely the hand gesture. They argue that repeated use of this gesture prevents the listener from acquiring the turn.

That a listener may not always wish to accept a turn is also recognised by both researchers. Knapp suggests this might be non-verbally indicated by smiling, nodding the head or showing approval by the use of 'Ums' and 'Yeahs'. Apart from smiling Duncan and Fiske identified the same non-verbal activities but referred to these as back channel signals. In addition Duncan and Fiske discovered that these back channel signals were

preceded by within turn signals in the form of movement of the head towards the speaker. Other research studies have considered the role of nodding and smiling by listeners to indicate that they are attending but wish the speaker to continue. (Dittman and Llewellyn 1968 , Gross 1959 , Matarazzo et al 1964).

Duncan and Fiske, unlike Knapp, do not make specific reference to the process of requesting a turn. When the listener wants the turn Knapp suggests the signals may consist of an upraised index finger, a raised hand, straightening and tightening of posture and the use of self adaptors. Studies have already been identified on page 8 which demonstrate that communicators may also change their postures to indicate that they are requesting a turn.

To summarize, what the studies in Section 1.3.2 demonstrate is that speakers and listeners are very much concerned with confirming or challenging the process of communication, that there is a relationship between non-verbal activity and speech and that within this relationship the non-verbal has the potential to serve different functions. These are, as illustrators, where the non-verbal accompanies speech, provides additional comprehension and gives some indication of the speaker's attitude; as emblems, which have a direct translation; and as regulators, where the non-verbal acts to maintain and regulate the flow of interaction. Some non-verbal regulators were identified as playing a role in greetings and partings, others in the process of turn taking.

The potential relevance of the studies referred to in Sections 1.3.1 and 1.3.2 to the classroom situation is highlighted by Morrison and McIntyre (1969) when they point out that,

"Although the verbal behaviour is the more obvious feature, the teacher's regulation of pupils' activities and his perception of social emotional states in the classroom owe a great deal to non-verbal signals which alone or in conjunction with speech are rich in meaning."

page 172.

Contained in this short extract, is a recognition that for teachers, the non-verbal functions to indicate emotion and interpersonal attitudes and acts as a regulator.

Although largely based on psychological experiments, the studies outlined in 1.3.1 recognize that the non-verbal can have impact and effect upon the emotional responses and interpersonal attitudes between communicators. It is likely that some of the findings of these studies have implications for the establishment of relationships between teachers and pupils. These are considered in the following paragraphs.

Given that a teacher may have some thirty pupils, being able to be sensitive to one's own communications and getting the feel of how pupils respond can be very useful in establishing a climate for work. In the educational context the emotional aspect of a relationship can be subtly established. Take for example the opening teacher statement, "Right. The topic for today is canals". Clearly the content is going to be about canals, but for anyone who has observed the opening phase of a lesson such statements are not only informative about the obvious but have something to do with

the relationship between the teacher and pupil. Whilst an exchange of information is occurring at the verbal level, meaning is also being exchanged at the non-verbal level. In this instance the semantic content of the phrase can be adequately interpreted, but it may also and more importantly signal pay attention, I'm waiting, when you're ready I'll begin. The pupil will interpret and infer from intonation, gesture and posture the full impact of the teacher's feelings and attitudes. His expression in the face and body will influence the pupils' perceptions of whether the teacher is conveying feelings of annoyance or enthusiasm. In addition, the teachers will observe the feelings of the pupils and view these as symptomatic of their inner feelings and attitudes. This will be so whether the non-verbal is spontaneously expressed or intentionally managed. The qualitative nuance inherent in the non-verbal activity will also inform the nature of the relationship.

Should, however, there be instances in the teacher's contribution where a contradiction exists between what is said and what is communicated the pupils will seek to find clues to the deception. For example, although a teacher may verbally convey to his pupils how well the lesson is going, the tilted head, the tapping fingers; the clutched knees may make apparent the anxiety and frustration. Although confident in voice the tremulous smile or prolonged silence can often reflect emotional states. Similarly, a pupil may say he found a topic interesting but his posture and facial expression could convey a different meaning. This discrepancy between the verbal and non-verbal during teacher-pupil interaction has been investigated in studies

by Bernstein (1961), Torrance (1960) and Walker and Adelman (1972).

The evidence from selected studies in Section 1.3.2 of interviews, situations of psychotherapy and face to face conversations, is also of possible relevance to the classroom situation. For example, although interruptions are a feature of some teacher-pupil relationships turns at responding are usually well regulated. Teachers and pupils are apparently attending to and evaluating a whole range of subtle and fleeting features of each others responses. Studies referred to in Section 1.3.2 have identified this phenomenon of exchanging speaking and listening as turn taking and have suggested that a number of the turn taking cues are visual. The findings of these studies identify that speakers request, maintain and yield their turns, listeners may refuse a turn and that at exchange points hand gestures and postural changes are particularly visible but eye-brow raising and eye-contact also occur. All of these are non-verbal signals which are observable during teacher-pupil interactions. In the classroom situation they also appear to have an impact in guiding and controlling who is to take the next turn.

Projecting the findings from some of the studies in Sections 1.3.1 and 1.3.2 about non-verbal communication into a study of the teaching-learning process, it would seem that the occurrence of teacher-pupil non-verbal activity during interactions is of potential importance.

1.3.3 Non-verbal activity in the classroom situation

Despite an extensive search of the guides covering recent research and articles, only a limited number of studies were obtained specifically relating to the classroom situation. The British Index, 1980-1984 provided two sources, Fox and Poppleton, in the 1983 edition and Aaron Wolfgang, in the 1979, 1980 editions. The research references in the British Universities, Polytechnics and Colleges Guide 1980 revealed nothing of relevance, but the same guide for 1984 gave notice of two ongoing research projects, the first by Neill of Warwick University, 1982-84, the second by Yerrell, Lovell, Stote and Rosenthal, based at Portsmouth Polytechnic 1983-1986.

The Register of Educational Research Vol. 5, 1980-1982, N.F.E.R. only contained reference to this piece of research, which thus appears timely, but the Education Indices, 1970-1983 and its related guide the Current Index to Journals in Education, 1984-1985 contained references to a number of the studies outlined in the following paragraphs.

The first of these by Chaiken, Sigler and Darlega (1974) investigated the possible non-verbal mediation of teacher expectancy and their results reinforced the notion that teachers respond with different patterns of non-verbal activity where pupils are more able. In order to arrive at these results video tapes of students teaching pupils were marked for non-verbal actions indicating approval. Students anticipating an intelligent pupil were seen to lean forward more, look their pupils in the eyes, nod and smile more. Rosenthal and Jacobson (1968) have also brought to our attention that teachers can

affect the development of their pupils by communicating non-verbally their expectations. If these are that the pupils will do well then an improvement in performance results.

Bull (1983) is critical of both studies and argues that the effectiveness of non-verbal indicators of teacher expectancy will ultimately depend upon the decoding skills of the children. He cites (page 145) the work of Bugental et al (1970) which suggests that young children, less than seven years, are at some disadvantage when decoding non-verbal signals, as they show a preference for responding to verbal and vocal codes. However, observations by Furlong (1976) in the classroom have produced results which demonstrate that older pupils do possess decoding skills and that their decisions about how to behave are often the result of perceived non-verbal activity. He gives the example of a pupil observing the supportive smiles and body movements of other pupils having the confidence to shout out an answer or run out of the class.

Whilst teachers convey expectations through a complex series of verbal and non-verbal cues to pupils, pupils' expectations can also be non-verbally conveyed to the teacher. The work of Feldman and Proshanska (1979) illustrates that pupil expectations regarding a teacher's competence can be non-verbally communicated to the teacher. Although the non-verbal actions investigated were eye contact, leaning, directness of orientation and interaction distance, their results identified one non-verbal feature that was significant, "Subjects leaned forward more for good teachers than poor teachers." (page 488).

Research in a similar vein has been carried out which shows that children's comprehension can also be indicated by non-verbal signals and this may influence the sequencing of the interaction. (Breed and Coliuta 1976). In their work Allen and Atkinson (1978) have hypothesized that pupils provide negative or positive reinforcement to the teacher which affects the teacher's non-verbal behaviour and his assessment of the pupil's intellectual and social abilities. In presenting lessons containing material of different degrees of difficulty, Allen and Atkinson (1978) found that low achieving pupils demonstrated less comprehension through non-verbal activity than high achievers. Females were observed as understanding more overall than males. They concluded that pupils communicate the difference between understanding and not understanding through their non-verbal activity.

The results of research carried out by Neill, Fitzgerald and Jones (1983) state that in probationary teachers there is a relationship between awareness of non-verbal communication and rated effectiveness. The more effective probationers had a greater recall of non-verbal activity and recognized the importance of the specific non-verbal areas of gaze and posture. This level of awareness was not identified in student teachers except where the training had placed some emphasis on non-verbal classroom technique. The indications from their work are that student teachers need to be made more aware of the potential functions of non-verbal activity and which bodily features are most effective.

Fox and Poppleton (1983) in examining the relationship between verbal and non-verbal aspects of performance in trainee physical education teachers also argue that in order to communicate effectively teachers should give particular attention to the

regulatory features of an interaction facilitated by orientation and proximity to the class and postural change. In the specific situation of the gymnasium their results confirm that these non-verbal features play a considerable part in encouraging feedback from pupils. From observations in the classroom setting Walker and Adelman (1972) have investigated how teachers and pupils relate and in particular how transitions are facilitated. Writing about teacher effectiveness they comment upon the fact that some teachers and students have difficulty in sustaining control over their interactions. They, like other researchers, accept that the verbal is the most widespread communication medium in most classrooms, but recognise that, "to a large extent kinesic, proxemic and interactive aspects of actions should through spoken language relate." (page 32). They continue by suggesting that to identify the features of verbal and non-verbal transitions is to enable teachers to comprehend more universally what hitherto has been largely individual and intuitive. Although their transcripts record occurrences of gestures, eye contact and pauses, Walker and Adelman accept that these recordings are insufficient to provide any conclusive evidence.

Amidon (1970) has also pursued the notion that teachers who are able to identify and analyse the non-verbal components of their behaviour and understand how these may influence teacher-pupil interaction are more likely to be effective. In her extensive manual she presents non-verbal techniques for teachers to practice, techniques which she argues can be, "important in accomplishing the teacher's behavioural objectives." (page 1). Other researchers have also prepared material aimed at increasing teacher competence,

by providing systems for analyzing teaching and learning behaviour (Grant and Hennings 1971, Knapp 1971, Parker and French 1971).

Other writers in the field have produced evidence to suggest experienced teachers use non-verbal signals as a strategy for establishing satisfactory relationships (Klein, 1971). Using the Flint system of interaction analysis which classifies verbal and non-verbal activities Moskowitz, and Hayman (1976) found that in comparing experienced and probationary teachers that experienced teachers used non-verbal signals more frequently than probationers as one of the strategies for establishing satisfactory relationships. In addition, they observed that pupils viewed the more able teacher as, "animated using gestures expressions of voice and many non-verbal facial expressions." (page 230).

Further research suggests that these signals are more effective when they are positive. In this respect Chambers (1976) has argued that the dominance-integration dimension is important in inhibiting or facilitating communication. His material for the study was obtained from observing teachers and pupils in small group situations in primary schools. Galloway (1968) also views the teacher's non-verbal communication along an encouraging to restricting continuum and views this as indicative of the relationship between teachers and pupils. His study of teachers' non-verbal activity in primary school demonstrated that teachers differed in 'their inclination' to be encouraging or inhibiting. Both these studies recognize that pupils react and respond to positive non-verbal activity. The importance of positive non-verbal signalling is, however, more directly reinforced in a study by Woolfolk and Woolfolk (1975) where pupils were unenthusiastic about providing

information to a teacher where the teacher had given negative verbal and non-verbal feedback. A later study by Woolfolk, Woolfolk and Garlinsky (1977) investigated the relative effects of the verbal and non-verbal on the pupil's perception of the teacher and found that when final year trainee teachers used positive non-verbal signals, a more positive response was obtained from the pupils. Male teachers with mixed classes evoked a less positive response than female teachers. Similar results have been produced by Bentley (1981) in her investigation into the relationship between teacher non-verbal activity and the motivation of pupils. She argues that if interpersonal warmth through kinesic and proxemic behaviour are in evidence then it is more likely that pupils will want to learn from that teacher. Her results indicate that pupils do not perceive teachers in different subject areas to be equally motivating and that female teachers are more likely to be more motivating through their use of non-verbal activity, particularly in the teaching of English.

In summarizing it is probably true to state that in promoting teacher-pupil interaction in the classroom that both speakers and listeners have the capacity to perform many more non-verbal actions than they actually do and that the selections made result from the simultaneous monitoring each have of the other. That teachers communicate some of their expectations to pupils, that pupils convey their responses and thereby their expectations of teachers and that teachers and pupils use non-verbal activity, particularly positive non-verbal activity for establishing satisfactory relationships has been supported in examples of research in this section. Other researchers have emphasized the relationship between

the teacher's awareness of non-verbal communication and his related effectiveness and the need to practice non-verbal techniques. . Although it has only been possible to include a few studies in Section 1.3.3 what they demonstrate is that non-verbal activity in the teaching-learning situation has been subjected to investigation and that its importance is being recognized.

1.4 Definitions

1.4.1 The communication process

The notion of communication utilized in the research is based on a definition by Harrison (1974) who has pursued a co-orientation approach where individuals are both communicators and interpretators of information. The sender is seen to structure and direct the content of the information with the receiver in mind, but his control over the content and over the other participant is not necessarily centred in himself. The result is a view of the receiver as an active participant in the communication process who he sees as,

"aggressively seeking information, constantly exploring while awake, he is in a continual state of tension. He maintains a plateau of uncertainty. He constructs expectations. He tests. He checks. He develops new predictions."

page 65.

Even when the speaker is not seeking a response the receiver is probably adjusting his posture or conveying facial expressions. In these circumstances it is arguable that the receiver is active. What is different, however, is the attitude of the sender to the receiver. The receiver is not only allowed to respond, but to

solicit, there is a shared and dual role for both sender and receiver. This interpretation by Harrison of the communication process where exchanges are between the sender and the receiver has to be distinguished from a process which allows information to flow from sender to receiver.

In the latter a teacher may act as a source transmitting information to a pupil. The pupil then absorbs from his own information source, incorporates his own perceptions of the communication and conveys a response to the teacher indicating the extent to which he has understood. Similarly, another pupils may also have his own ideas and perceptions and communicate these to the teacher. In this kind of situation communication is essentially linear where the primary concern is to influence the transmission of information. It incorporates a conception of classroom relationships where the teacher calls the tune and often subverts any effective counter influence from the pupils.

In contrast, Harrison's explanation concentrates on the receiver as an active gatherer of information. Pupils within this analysis are not merely reactive to teachers but potential initiators of the interactive phase, they become informed, gather information and make decisions. This goes some way to recognizing that patterns of interaction are not always unilateral and thus towards recognizing the possibility of more complex interchanges between participants and at times less complimentary relationships. It is a process which enables both participants to maintain simultaneous orientation towards one another and to reciprocally respond, often with different levels of dominance. For instance, different levels of dominance may well occur at various stages in the development of the teacher-pupil relationship. Initial

contacts in the classroom may require that the notion of mutually benefitting relationships are minimized, the teacher is more dominant, but as awareness and understanding develops the teacher and the pupils are likely to reveal more of themselves to each other. As the reciprocal expectations become more lucid these add to the stability of the relationship (Osgood and Tannenbaum 1955, Sherif, Sherif, Nebergall 1965) and pupils become more involved.

Within these reciprocal exchanges it is necessary that there is the means whereby teachers and pupils can inform themselves of the effect of their performance on each other and perhaps modify this in the light of the information received. The means by which this reciprocation is facilitated is coding, a process which provides information in both verbal and non-verbal forms. It is the coding which determines the significances or meaning assigned to signs, symbols and signals. Although there are differences in terminology, it is generally accepted that there are different kinds of signs but that the two main types observed are signals and symbols. Harrison (1974) distinguishes between symbols and signals in that symbols do not require action on the part of the participants, only interpretation of what they represent, whilst signals are code elements which announce that other code elements are imminent.

Thus, in defining the communication process, Harrison has described participants as being involved in a process where they can reciprocally transmit information and feeling through verbal and non-verbal codes with the mutual recognition that both are potential senders and receivers.

1.4.2 The non-verbal code

In defining the non-verbal code it is necessary to consider the verbal-vocal dichotomy. It is relatively uncontroversial that the verbal symbol when produced by the voice is received by the ear and or the eye, providing a most efficient and effective code system. We can make verbal noises when we move and similarly we can hear articulations whilst we are not looking at the source. The corollary of this would seem to be that the non-verbal is not oral or aural, that is to say, an action can not be both non-verbal and vocal. To agree with this view, however, depends upon one's interpretation of vocal. If it is that the vocal is represented by actions which assist in producing speech, then vocal and verbal actions accompany each other. That is the vocal is part of the verbal message itself (voice qualities)¹. Thus it could be argued that if the verbal elements are accompanied by the vocal, the non-verbal are not. But verbal elements can consist of 'Ah's,' 'Um's,' and 'Eer's.' If the criteria of verbal is that of being synonymous with words, then these elements become identifiable as non-verbal vocal.

The non-verbal responses which are vocal are labelled by many writers as paralanguage. The distinctions made in the previous paragraph can be usefully discussed alongside the categorizations presented by Trager (1958) and his view that paralinguistic activities are part of conversational interaction and potentially controllable and communicative. In his categories he identifies the vocal qualifiers² which intermingle with the

1. Trager (1958) - vocal changes which can alter the meaning of a communication.

2. Examples are given on page 49.

spoken language and as such are a part of conversation. He is also clear that being an integral part of conversation is not necessarily to imply simultaneousness with spoken words. For example, other sounds, the vocal segregates¹ may be interspersed, precede or follow words. In addition he includes in paralinguistics actions such as yawns, grunts and laughs and labels these vocal characterizers.²

In commenting on the function of non-verbal vocal actions there are a number of writers who agree with Trager that qualifiers and segregates are often a commentary on the verbal content and may govern the synchronization of utterances. The premise on which the work of Abercrombie (1968), Argyle and Kendon (1967) and Goffman (1969) is based is that conversation consists of orchestrated sequences of utterances within which vocal characterizers and segregates are a functioning part. Goffman identifies these as informal cues whereby speakers can signal attention, polite disagreement, a lack of interest or indicate a transition to another topic in the communication stream. Argyle and Kendon view the process whereby these cues occur as a skilled performance and suggests that participants must be on the look out for the signals from these cues. Abercrombie supports the communicative role of the vocal qualifiers, but expresses some reservation about the communicative function of vocal characterizers.

To some extent the difficulty in deciding what constitutes vocal characterizers stems from the distinction between those which have more non-vocal connotation (yawns, stretches, eye-brow raising) and those that generally do not (grunts, coughs,

1 & 2. Examples are given on page 49.

squeals). There can be little doubt that all are not speech, although some are closely related to verbal output and in some instances have the capacity to replace words. To be in agreement with Abercrombie's view one has to accept that vocal characterizers are non-communicative and therefore not meaningful in an interaction. However, if one chooses scratching (non-verbal - non-vocal) which is often a personal mannerism as the paralinguistic example as against a groan (non-verbal - vocal), which is more likely to be part of the communicative process, on balance, the conclusions reached will be different. Perhaps decisions about meaning are more appropriately reached when vocal characterizers are judged within the interactional situation. Nevertheless, there is some consent that information and feelings are conveyed by means of a range of non-verbal - vocal cues. For the majority of researchers these include, vocal characterizers, qualifiers and segregates.

If vocal cues consist of all actions which interact with speech as distinct from those which affect pronunciation, then the group of actions referred to as human bodily movement or kinesics must be distinguished as non-verbal non-vocal. Researchers in this area have used categories to denote the kinesic aspects, Wheldall (1975) refers to kinesics as the scientific study of posture and gesture, Argyle (1975), as gesture and bodily movement and Chronkite (1976), the study of facial and body movements. Other kinesic categories include touching (Montagu 1971), proxemics (Sommer 1969), facial expression (Ekman and Friesen 1975) and eye behaviour (Argyle and Cooke 1976). Because the range of non-verbal phenomena is so vast and because there are obvious practical difficulties in covering a wide range of actions it is intended to focus initially on selected body areas. Given that the most visible

forms of movement between teachers and pupils are the head (face), the limbs and the torso the term non-verbal when used will refer to these. Within these areas distinctions will be made between those movements which occur in isolation from the torso, namely, the gestural and those movements which are primarily occurring in the torso, referred to as the postural.

In discussing the non-verbal in relation to the verbal and the vocal, the distinction that has been made is that the non-verbal refers to all vocal and non-vocal actions which are not associated with the spoken word. The non-vocal actions have been based upon Trager's categories of characterizers, qualifiers and segregates and the non-verbal - non-vocal actions correspond to the movements of the head (face), limbs and torso. Although the focus of the research is that of the non-verbal - non-vocal actions, because the non-verbal - non-vocal and non-verbal - vocal elements do not always occur linearly, the non-verbal - vocal will be included where it is considered to add to the interpretation and comprehension of the non-verbal - non-vocal. The non-verbal - non-vocal actions will subsequently be referred to as non-verbal actions (discrete signals) or non-verbal activity (clustered signals) and the non-verbal - vocal categories as vocal cues.

1.5 Methodological Considerations

Ethnomethodology received its initial impetus from researchers in the anthropological tradition, Efron (1972), Lacy (1970) and Whyte (1973). Working along similar lines and having particular impact on the view that what people do and say depends on the social context in which they find themselves is the work of Garfinkel (1967), Goffman (1971), Sacks, Schegloff and Jefferson (1974), Sudnow (1972), Willis (1975) and Zimmerman and Pollner (1970).

Focussing their interest on the social context of the classroom, Adams (1971), Bentley (1981), Gump (1971), Hamilton (1973), Stubbs (1974) and Walker and Adelman (1972), have investigated the sequential nature of the teaching-learning process. This latter group of researchers share the commitment that classroom processes should be studied in their natural settings, rather than in artificial ones created for the purpose of research. The methodological considerations and decisions that such a commitment requires are considered in the following paragraphs.

It is manifest that as a setting for research all classrooms have an architectural style with spatial boundaries which facilitate transactions of differing temporal duration and give rise to differing methodological constraints. Within these different spatio-temporal frameworks are the patterns of teacher-pupil actions which are the concern of the researcher. Although these interactions can be determined in different ways, in many instances, the pattern of interplay is controlled by the teacher who informs pupils what they are to do, what problems to solve, what sequence of activities to perform and within what time limits. This control is exhibited not only in the subject content to which pupils must give attention and in who to respond to, but in the teacher's power to approve or disapprove the responses of the pupils. The role obligation of the teacher is to be and appear more powerful, whilst the pupil is expected to do all the adjusting. Where the teacher's intentions and plan of action dominate limits must be placed on the level of reciprocity that can occur. Some research evidence supports this portrayal of the teacher as being highly controlling in the classroom and the phenomena associated

with this are well catalogued and particularly easy to observe (Flanders 1970, Oeser 1960).

In spite of the evidence from these studies, other researchers have had great difficulty in accepting the view that control is synonymous with dominance. The alternative is embodied in Greer's (1979) concept of the teaching process where she describes the teaching encounter as where both teacher and pupil perceive something about the state of each, diagnosing feelings, degree of interest or comprehension and therefore ability to respond. What is evident from this description is that reciprocity implies that the behaviour of teachers or pupils is contingent to some degree on the perceived behaviour each have of the other. This does not mean that the behaviour of two individuals is necessarily the same, but it does mean that each one's behaviour is affected by the behaviour of the other.

However, acceptance by the teacher of mutually perceived behaviour requires recognition that pupils come to school with some background knowledge and a level of comprehension of their own and although the teacher's presentation of a subject may be factually and conceptually correct a consequence of this is that some pupils will ask questions, some require repetitions, some extrapolation and others will digress. It is also an acceptance that in small groups situations both the teacher and the pupil have the right to dominate. Of course, in practice, it is difficult to conceive of teachers and pupils as engaged in activities completely isolated from each other, but what is not difficult to accept is that teachers by the nature of the role they adopt, have the potential to constrain the level of mutual adjustment that can occur.

Accepting the view that teacher-pupil relationships are modified and grow out of communicative exchanges, how is this facilitated? Garfinkel (1967) presents arguments to suggest that we negotiate reality with other people, that is, perceptions participants have of each other influences and in some instances modifies the responses that they have to one another. Implicit in such a viewpoint is the notion of role. Of course, it can be said that in any interactional relationship we are always in roles by definition and that the role one sees oneself in, places a boundary on the relationship. However, participants in transactions do not present their roles to each other and then cease to relate. The roles assumed give cues to others about how messages should be interpreted and these cues operate back and forth. At a minimum participants must assume a role for themselves, impute a role to others and estimate the role that others think they are assuming. A basic element of this kind of dialogue is seeing the 'other,' and experiencing 'the other side.'

This same integrated duality is pursued by Goffman (1969). He claims that individuals assume a certain social status vis-a-vis others and attempt to give a creditable presentation of the character that is supposed to go with the status. His book, 'The Presentation of the Self in Everyday Life,' (pages 183-209) is an account of the interaction rituals that are developed to smooth interpersonal relations and to develop norms or informal rules to give structure and continuity to relationships. In related work (Goffman 1955) provides insightful descriptions of the negotiations, games and ploys of patients and professionals. Given this view it is not surprising that Goffman should give his attention to the techniques people create to manage their

impressions of others.

Self presentation as a means of social influence is also commented upon by Walker and Adelman (1975). They identify that we all have mechanisms of adjustment which we use when appropriate to, "modify the way in which we present ourselves to others." (p.10.) Likewise, Danziger (1976) makes a distinction between role enactment and role taking, the latter referring to organic processes where one analyses the role attributes of others so that one is better able to relate. What they all share is the view that mutually satisfying interactions are contingent upon participants' perceived view of themselves.

But in practice the outcome for many teachers is that their efforts to achieve mutual understanding and reciprocation with pupils is strained. In the classroom many teachers seek to be assertive, others are able to promote mutual understanding and sharing where pupils can choose to contribute to the interaction. We are all aware, however of what can ensue when pupils rebel against the teacher's definition of the situation. Pupils not following the rules for turn taking by calling out, demanding to make a contribution, accusing the teacher of being boring, talking to others instead of attending to the teacher, illustrate the point. These are blatant forms of disregarding the teacher's rules. However, Denzin (1971) suggests that in both assertive and reciprocal situations parts of the interaction will probably always be ritualized. Pupils standing up when a teacher enters the room, asking permission to leave the room are examples of what he terms "rules of etiquette." (p.265.)

The area of debate that remains is how are these rules agreed upon. One widely accepted view by teachers is that they define who can talk to whom and for how long and that in some instances dress and appropriate language are agreed upon. Others recognise that whilst pupils accept some aspects of ritual they do try to break out of routinized patterns and establish those they find more acceptable. Garfinkel (1967) presents the view that to facilitate any process of interaction a great deal of information is transmitted and understood but never verbalised. He and other ethnomethodologists speak in terms of a body of shared knowledge and the need for participants to discover and portray orderly and connected events, the resultant rules of norms of which govern and guide interactions.¹ Denzin (1971) proposes that interaction rests upon a combination of civil-legal codes, rules of etiquette and relational rules.² In part, he shares with Garfinkel a similar conception of rules, namely that these are constructed and agreed upon by participants through the interactional process. In the classroom for fruitful relationships to develop it seems necessary that in some instances teachers and pupils agree upon rules and strive to observe these, in others that rules become established and function because of the capacity of teachers and pupils to reflect on themselves and calculate how they perceive each other.

1. Garfinkel demonstrates this point by reference to the disruption of normative patterns in families and work places. Garfinkel (1967) pp. 38-49.

2. Legal Codes - include laws prohibiting violence to self and property and are upheld by specific authorities.

Rules of etiquette - rules of ritual, dress, leave taking.

Relational rules - display how the self is to be presented.

Where rules become established during the process of interaction their communicative value can only be assessed by reference to their temporal occurrence. Birdwhistell (1971) supports this view and argues that if one wants to discuss social meaning this can only be done if we know a great deal about the social context in which interaction takes place. Schefflen (1972) refers to 'context analysis,' Hall (1974) in his study of proxemic behaviour focuses on observations of people as they use and react to space. Sommer (1969) has observed spatial invasions and Kendon and Ferber (1973) human greetings. In addition all have in common that they have pursued their research in natural settings and that situational influences have not been removed. Characterizing research of this kind are methodological strategies which differ from those used by experimentalists.

For example, Buehler and Richmond (1963), Chambers (1976), Galloway (1968), Leventhal and Sharp (1966), Mehrabian (1969) and Rosenfeld (1967), focus on selected non-verbal cues. Similarly, Grant and Hemmings (1971) throughout their work in classrooms have focussed on the non-verbal behaviours of teachers and pupils without reference to their sequence or pattern in the situation in which they occurred. To take a few examples, a teacher scratching his head could be regarded as a non-teaching act but the way in which this is carried out might be of sufficient pedagogic importance to be acknowledged and what's more evaluated by the pupils. Although it is true that leaning forward can indicate empathy and a liking for pupils, it is also possible to lean forward prior to standing up. In addition it is a dangerous assumption to interpret finger tapping as

impatience, a smile as being in a positive mood or the eye-brow flash as annoyance. What is being suggested is that interaction between teachers and pupils is not achieved through isolated packages but is the result of sequential activity which cannot be understood without reference to its temporal occurrence.

Another example is the strategy of not eliminating situational influences. More a feature of experimental approaches to research is the control of at least some of the situational influences. However, ethnomethodologists accept that classrooms have different physical structures, lessons different durations and that classrooms contain a variable range of resources but they take the view that all are dynamically related and have the potential to have a coercive effect upon teacher-pupil interaction. Further, that if one accepts that situation influences meaning then this must become a variable of analysis itself. The logical extension of this view is that if the role of the researcher is one of participant observer then this is also a potential source for influencing the meanings participants adopt. Entering the research setting as a participant observer means that the observer has a good chance of taking part in the typical processes of the classroom. This is not to suggest that the integration of the researcher into a situation is without its difficulties for the presence of any observer in a classroom precipitates some reactivity. Structuring the research process by, for example, specifying the specific behaviours of an interviewer and the questions he should ask are designed to facilitate reliability. Because in

ethnomethodology such pre-structuring is not so precise and the researcher does not completely withdraw from the research setting the level of reactivity is likely to increase. It is recognized that the possible effects on the research of this increase must be taken into account.

Observers also have a number of decisions to make regarding the means whereby information can be obtained with maximum validity. Since ethnomethodologists begin with a low level of pre-structuring and sometimes general concepts, validity is not viewed as a problem. It is argued that there is no empirical component or specific conceptual definition(s) to measure and therefore no question of error in measuring what is purported to be measurable. Using the same line of argument because observation comes first and categorization after, there is high face validity.¹

The obvious outcome of the rejection by ethnomethodologists of the view that classroom phenomena can not be studied scientifically as factors which are causally related is that massive amounts of data are acquired which it is difficult to code or categorize. This latter approach to data collection is clearly not a realistic alternative as it is impractical to take such an absolutist approach when studying interactions between teachers and pupils. Duncan and Fiske (1977) recognize the problem by proposing the use of concepts which sensitize researchers and orientate them towards the discovery of what is seen to be the definition of the concepts that are proposed. Any potential operationalization of concepts is delayed until

1. Observe first, categorize afterwards.

the initial concepts have been investigated within the social situation in which they occur.

A final methodological concern is whether it is desirable to consider the non-verbal as distinct from the verbal. It is observable during any encounter the verbal is often accompanied by gestures and postural changes sometimes acting as regulators or illustrators. The studies by Ekman (1965) and Exline (1963) and more recently Duncan and Fiske (1977), demonstrate these relationships. In addition, Reece and Whitman (1962) in their study isolate and relate the verbal and the non-verbal components which convey warmth, whilst Buehler and Richmond (1963) outline verbal and non-verbal frameworks for analysis in two person settings. Perhaps the most notable work in this field is the linguistic-kinesio-logical approach promoted by Birdwhistell (1971) where kinesic units are seen to be comparable with those of the spoken language. All attest to the view that the non-verbal is more meaningful when considered in relation to the verbal.

In summary, what has been suggested so far is that ethnomethodology is much more concerned with the problem of description, the description of social phenomena in their natural setting. This requires that ethnomethodologists collect data about what participants do without too much impact on events. This means that the researcher must adopt a role in the setting which will minimize potential reactive effects. In addition, the ethnomethodologist must not manipulate the setting as this may well detract from the normal processes of social interaction.

Thus the two distinctive commitments of ethnomethodology are a consideration of the degree of structure within the research setting and the role that is required of the researcher in that

setting. The first of these requires a consideration of the formulation of general concepts from which to develop hypotheses and a consideration of the effect of minimized structure on the reliability and validity of the data; the second, the level of deception and the degree of involvement that should be adopted by the researcher.

The next area of concern is the implication of these research commitments to the classroom situation. It has already been proposed that teachers and pupils reciprocally influence a relationship because each affect and are affected by the other. Tagiuri (1969) describes this as,

"Observer and observed are simultaneously observed and observer. Their reciprocal feedback processes modify their self presentation and, in turn, their reciprocal perceptions in a continuous recycling but varying process during which each person uses the variations in himself and the other person as a means of validating his hypotheses about the other."

page 426.

In practice this may mean that during an exposition a teacher may pause, look at a pupil and indicate that he expects a response. If on the other hand, while pausing he looks out of the window or rolls his head, one pupil may see this as the teacher merely collecting his thoughts before he continues. When a pupil is answering a question we may give him the occasional nod or smile to indicate we understand or approve. In a similar manner pupils also utilise body movement and gesture to influence the pattern of interaction. Everyone appears to know how to regulate the relationship even if they don't know they know. For teachers or pupils do not always establish such claims by explicit statements like, 'we do not wish to listen to your point of view,' or

'please continue.' Often a set of signals are in use which appear to convey meaning which can not be acquired by reading books or looking in a dictionary.

However, Goffman (1969) suggests a different interpretation of participants in an interaction. He proposes that participants are engaged in performances which can be evaluated in terms of intended effects. Garfinkel (1967) on the other hand says that we are not very self-conscious and take our interpretation of our actions very much for granted. He states that researchers must pay attention to,

"the most commonplace activities of daily life, the attention usually accorded to extraordinary events; to learn about them as phenomena in their own right."

page 1.

To accept the latter viewpoint is to have the difficult task of discovering the management secrets of teachers and pupils, even when they are for the most part unaware of these themselves. To accept Goffman's explanation that participants act a part is to have the task of observing those viable features which characterize a prescriptive approach to teaching. Whilst it is probably true to say that some teachers do indulge in play acting and will emphasize some attributes and hide others a consistent level of predictability between teachers and pupils can not always be sustained. For the most part interactions can not be scripted in advance and things can and do unexpectedly disrupt the definitions of the self that are being projected.

Therefore, what seems more relevant to the classroom situation is Garfinkel's notion that, for the most part, teachers and pupils are able to handle their range of interactions without too much apparent conscious thought. The implication that teachers and pupils are all lay psychologists planning and explaining their behaviour to each other does seem to have some credibility. This same view is expressed by Bailey (1982) pages 291-292. It is a theoretical conception of the interactional process which encompasses the idea that ,

- a. processes of interaction are worthy of study in their own right,
- b. rules of exchange can only be accurately observed within the spatial and temporal structures in which they occur,
- c. situations and researchers are a source of data,
- d. ordinary processes tend to prevail when the observer is trusted and blends into the setting.

In the classroom situation these theoretical orientations require the observation and documentation of teacher-pupil interaction without too much researcher intervention. This means that the researcher becomes involved in decisions about how much to reveal about the research to participants and what in his given circumstance is the best role to adopt. In addition the approach to research must be that the research hypotheses are not fully formulated until after considerable observations of the participants' reactions in their normal setting have been obtained and analysed. As a methodology for research, ethnomethodology requires the researcher to capture and record the processes of interaction between teachers and pupils and from these to search for

interpretation and meaning.

The disadvantages of acquiring data in this way in this research, are that the results will be the outcome of one individual's effort and there are consequent difficulties in making comparisons necessary to assess reliability. In addition, the technique of observation whilst not as restrictive, as for example, that used by Leventhal and Sharp (1966) in which patients in an obstretic unit were observed in relation to a set of facial symbols, does require an observer and recording equipment, the presence of both making bias a real possibility. Even with training Wrightsman (1977) recognizes that observers are subject to some perceptual bias. Also, it is normally safe to generalize that observational research uses a smaller sample size from which data is obtained and data which can often be difficult to quantify. Finally, the in-depth nature of observational research generally requires that the work be conducted over a longer period of time.

1.5.1 Objectives of the research

What this piece of research seeks to do is to accept Garfinkel's theoretical interpretation of the interaction of participants and the methodological commitments that ensue from such a theoretical base. Its broad concern is to enhance understanding of the communication process by focussing on the non-verbal activity that occurs during teacher-pupil interaction in the classroom. To this end the non-verbal vis-a-vis the verbal will be considered with the following more specific objectives in mind. These are to,

1. Acquire descriptions of the non-verbal activity of teachers and pupils.
2. Identify any significant occurrences of non-verbal activity between teachers and pupils.
3. Analyse the pattern(s) of these significant occurrences,
4. Investigate the form of significant non-verbal configurations.
5. Establish the interactional function of non-verbal configurations.
6. Provide information to improve the communicative competence of teachers.

Beginning from the assumption that teacher-pupil interactions in the classroom begin with some things needing to be clarified, the next section will concern itself with conducting a preliminary study in order to furnish descriptions and explanations to enable the collection of data in a systematic and principled way. These explorations will be concerned with the problems of gaining access to the research setting, establishing relationships with participants, choosing which teachers and pupils to observe, deciding which aspects of the communication process are relevant and which techniques best serve to record these aspects.

SECTION 2

DESIGN OF RESEARCH

2.1 Definition of Research

Although the emphasis in ethnomethodology is upon the observation of social processes as they occur in natural settings, the achievement of this requires theoretical and methodological commitments. A definition of the communication process has been borrowed from Harrison (1974) which focuses upon the reciprocal nature of communication. This incorporates a view of teaching which whilst accepting that different levels of dominance are distinguishable in the classroom, accepts that the pupil can and indeed should be actively encouraged to precipitate exchanges. The theoretical framework acknowledges Garfinkel's (1967) view that such reciprocal processes between teachers and pupils are not always consciously negotiated with the result that some information is understood but not directly verbalized.

The methodology takes account of the decision to observe teacher-pupil interaction in the classroom and from these observations to collect descriptive data which can be identified and investigated. The collection of data will involve the researcher in an important methodological role and because of this an initial study will be undertaken. This will consider the extent to which the presence of the researcher might affect the reliability and validity of the data and the related and contingent requirements for recording and notating data. The researcher will also be concerned with the appropriateness of the social setting and the research potential of the teachers and pupils for the achievement of the research objectives.

When the setting has been specified, sampling of time and participants will be considered, the first of these will establish manageable periods of time since long periods of

observation are not feasible to notate and analyse, the second will identify six to eight groups of teachers and pupils where reciprocity is at an acceptable level. The age or sex of participants will not be taken into account nor the subject matter of the lesson.

The main data collection technique will be the video tape with supplementary observations in the form of field notes. These will be complemented with information obtained from teacher-pupil interviews and sampling procedures.

Because the emphasis in ethnomethodology is the development of theory, the specific research hypotheses will not be arrived at until considerable exploratory investigations have been completed. Guided by the premise that interaction in the classroom between teachers and pupils is, in part, facilitated by non-verbal activity, data will be collected and analysed and in the course of these analyses, the research hypotheses will be made more explicit. This progressive focussing of the research is designed to occur in the following stages.

Stage 1 The transcribing of one set of teacher-pupil interactions. Some preliminary explanations of the observed phenomena.

Stage 2 The identification of possible lines of enquiry.

Stage 3 a. The identification of significant occurrences.
b. The defining of hypotheses.

Stage 4 A consideration of the hypotheses in different classroom settings.

2.2. Definition of Terms

Communication

A shared signal system whereby encoder makes something public via that system and the decoder responds accordingly.

Teacher-pupil

A reciprocal interchange of information and feeling utilizing verbal and non-verbal codes.

Verbal Communication

The transmission of information and feeling through linguistic codes.

Verbal Preclosers - okay, well anyhow.

Non-Verbal, Non-Vocal Communication

The transmission of information and feeling through kinesic codes. These codes are referred to in the text as non-verbal actions (discrete signals) or non-verbal activity (clustered signals). These consist of gestures, movements which are focussed on a solitary body part or parts and postures which are movements of the torso.

Non-Verbal Signal

Signals the event of another code, verbal or non-verbal.

Non-Verbal-Vocal Codes

(Paralanguage)

Vocal Characterizers - laughing, crying, rubbing hands,
groaning, scratching.

Vocal Qualifiers - tone of voice, pitch, tempo.

Vocal Segregates - Um, ah, uh, uhun.

Referred to in the text as vocal cues.

Preclosing Signal

Verbal and vocal (segregate) codes used to indicate a speaker's wish to pass on a turn.

SECTION 3

STUDY ONE

3.1 Introduction

Although ethnomethodology directs the researcher to consider the use of several different strategies the observer in situ is considered to play an important methodological role. While roles, according to their location, vary in the extent to which they are specified, they all bring about changes in the field. Thus the reliability and the validity of the data, to some extent, are dependent on the observer. As the researcher does not have an established role in the classroom it was decided to carry out an initial study to determine to what extent the presence of 'another person,' could change the field and to consider the related and contingent requirements for recording the data.

3.2 Development of Method

3.2.1 Strategies for entry

The illusory aspect of seeking to study non-verbal activity in as natural a form as possible is the belief that to be natural is to be without a strategy. Clearly there are limitations in studying the naturalness of interactions and therefore it was foreseen that the introduction of any recording technique into a classroom would raise problematic issues and potential sources of error. That it would also have implications for the role of the researcher was also recognised (Hammersley 1979). In sections 3.2.1, 3.2.2, 3.2.3 and 3.2.4, these two methodological considerations will be discussed and reported in narrative form.

In order to proceed a school had to be selected. Following visits and discussions in 5 schools one was rejected purely on grounds of disinterest, the researcher being viewed as a nuisance and interrupting the planned timetable. A combination of other factors, although not always made explicit emerged, including practical pay off, inadequate resources, fear of uncontrollable side effects and a general mistrust of research resulted in the exclusion of 3 other schools. The selected school did not make public any of these aspects and satisfied the criterion of a more formal approach to teaching. In this situation the teacher can be seen to be emphasizing the maintaining of the social context, that is, keeping all the pupils included in the lesson and using the context to develop some idea or aspect of lesson content. The decision to seek a formal context took account of the fact that everything said in this situation is potentially public and the actions of teachers and pupils highly visible.

This decision made, I gave my time to going into the selected school to consciously work out a strategy that was acceptable to the school and capable of meeting my research aims. Due to other commitments this had to be on a two day a week basis over a period of 3 months. To observe the whole school, indeed a whole year was not feasible or desirable so I attached myself to one interested department with a staff of five, who taught a range of classes in age and ability. My concern was, at this point to gain acceptance and follow this by the introduction of a range of techniques. To reach both goals simultaneously I decided to identify a key person. The head of department was representative of the group and considered by the group as

representative and he became the source from which I ascertained the patterns of interaction of members of his department.

Some period of infiltration was needed and for the first four visits I contented myself with talking to staff. Apart from the head of department, those directly involved, although interested were cautious; indeed I felt initially distant. After all, most individuals however competent, feel threatened by someone observing and making notes. I had assumed that although initially a stranger, given my previous teaching experience that my entry into the field would have been less stressful and I had sought to interact according to the institutionalised behaviour expectations, but the labels, 'lecturer,' 'researcher,' had to be overcome. I continued to nurture my role, assuring the staff that any notes and consequently recorded material could be viewed, would not be made available to students, or used on in-service courses with teachers. Lunch times provided a time for longer chats and a flow of information between us was established which of course was not always related to the work in hand. Great care was taken to adopt a role of openness and informality.

The school was organised into hierarchically structured positions of power and the 'gate-keeper' role of the head of department became more apparent. Positive, relaxed and informal, he created a climate for industrious and useful discussions, encouraging his staff to participate in the development of the research. These attitudes became instrumental in my acceptance by the group. In spite of this one of the team of five felt unable to continue her involvement as she felt that any observer in the role of researcher would distract her from her teaching.

During this period of time it was established that I would adopt a covert research role, rather than an overt one and in view of this I had to comply with the norms as much as possible (dress, social background, posture) and avoid becoming conspicuous. My field notes revealed that formality of dress and address was observed by staff in general. Only one group of younger staff, who often appeared on the periphery of the process of events were informal and open in their relationships.

3.2.2 Researcher roles

The next stage was to determine the extent to which I would be viewed as a disruptive stranger by the pupils and to perceive the interactional patterns of the classroom within the restrictions of the environment. In principle a participant observer is asked to keep the specific details of the research task hidden from the participants. Many authors of such methods agree on the desirability of this. (Hamilton 1973, Malinoski 1963, Stubbs 1974, Walker and Adelman 1972, Whyte 1961). Often in practice this is too impractical (Lacy 1976, Willis 1975).

In the present research situation asking questions of participants and making notes made my presence conspicuous. Perhaps the only way I could become acceptable and plausible was by declaring and explaining my research interest. Whether I would have to reveal to the participants the research intention appeared to depend upon my ability to prove to be an integrated and accepted participant of the group. My introduction into the classroom as a participant observer was not difficult, pupils and staff were accustomed to students observing as part of their professional training. Even so, in the initial weeks I had to

occupy a peripheral role but there was inevitable pupil curiosity in the form of such questions as "What are yer doing miss?" "Are you going to take us tomorrow?" "How long will you be here?" I replied with partial explanations saying to the effect that I would like to observe how they related to each other in the classroom.

In order to reinforce the institutionalised patterns of the system I moved round groups as they were working, where appropriate adding constructive comment. Care was taken not to have impact which suggested a control role belonging to the teacher (permission to leave the room, rules about sharpening pencils) and which could change the social structure of the members. I sought to become more integrated into the social system of the classroom so that I could experience everyday events but also remain in a position to perceive structural changes and tendencies as well.

It was realised that note taking could make teachers and pupils selfconscious and cause them to act abnormally. Do not jot conspicuously was a rule I had observed in other professional situations. At first I tried to rely on my memory, but eventually resorted to jotting notes key words and important phrases. The note taking was not one of the expectations anticipated by the participants and they pressed for an explanation. To refuse this information was to lose trust so I was required to give a more plausible explanation for my presence. Nevertheless, I was gaining an entree sufficient to allow an appropriate level of participation to carry out observation and it seemed that I was accepted by the members of the observation field and therefore in a position to secure relevant information (contingent acceptance,

Kahn and Mann).²

Unfortunately because of my integrated role, reciprocal influences were appearing because expectations and reactions between myself and the participants were emerging. My competence and confidence in the classroom was apparent, some pupils showing a level of dependence not acceptable to the teacher and this was particularly so where a teacher was insecure. I had to avoid the risk of disturbing the control structures within the classroom, knowing that such activity could change the field and result in valid data not being collected. I had become a participant effectively interacting with members, yet trying to be neutral and specific in terms of the research. I was aware that this high degree of involvement could lower my impartiality, some observations becoming inexact and biased, my participation role compromised my research role and so in order to avoid further obtrusiveness and reactivity the degree of participation had to change.

A decision was necessary to decide to what extent I could participate and yet control my observations. I was accepted by the participants, but the degree of involvement was affecting my judgement. The ability to observe and only minimally reciprocate interactions had to be acquired. Whilst the balance of interdependence took time to adjust it became clear that the pupils viewed my role as being very different from the teacher. They

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2. The researcher seeks to gain approval by a step by step decision-making process. It is a process which offers optimal chance for co-operation at all levels of organisation, ensuring to some extent, that decisions at the different levels are not pre-determined by those at the top.

were aware of my negotiated relationship with the teacher and I observed their lessons once or twice a week which other teachers did not. Because initially I was a stranger and needed to win the trust and acceptance of the participants I had considered participation a methodological prerequisite. Unable to obtain undistorted observations of the social field my original assumption had to change, so I sought to retain members' trust, but secure marginal involvement in the social field.

For work to proceed it was necessary to become more fully sensitized to the field. Although the selected field is a social setting of considerable complexity, repeated observations of lessons taken by the 4 participating teachers led me to suggest various factors. (see Figure 3.2.2)

Figure 3.2.2 Identifiable features of lessons observed by the researcher in the first social setting

- a. Most lessons have a structure. Teachers begin by focussing attention on subject matter or classroom procedures and this sets the context for subsequent behaviour. They then seek to elicit a verbal response, encouraging pupils to attend. This frequently takes the form of questioning. Pupils are encouraged to respond pedagogically, accepting, rejecting, modifying and expanding what has been said. (Bellack 1965).³ Teacher T₁ and T₄ were inclined to elicit response but allowed for little modification, whilst T₂ and T₃ encouraged development in answers. All the teachers had distinguishing features but the general classroom climate was of "medium" dependence. (Flanders 1969).⁴
- b. There is regularity of participation. Given the observations in a. this is self-evident. The level of pupil activities shows some variance.
- c. There is constancy of physical surroundings. All lessons were observed in the same spatial area. Desks were arranged in rows with a table, dais and blackboard at the front.

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3. Bellack identified four basic pedagogical moves, structuring, soliciting, responding and reacting.
 4. 'Medium dependence.' A term used by Flanders in his research on teacher influence in the classroom. It is when teacher direction is essential for initiating and guiding activities to which pupils respond.
'High dependence.' in the classroom situation is where almost every move complies with the wishes of the teacher.

- d. There are purposes for learning. The teachers had some understanding of objectives but these were generally of a lower cognitive order. (Bloom, 1956).
- e. A range of teacher behaviours are operative. For the most part these behaviours have been conceptualized with respect to polarized models. Keeping Flanders (1969) and the Medley and Mitzel (1963) category systems in mind this was feasible. T_1 keeps good order, has a tendency to give facts and his own opinions, but demonstrates affection for the pupils. He frequently jokes to relieve tension. T_2 is highly active, asking and answering questions and encourages statements from pupils. T_3 often reads from a paper and directs pupil activities but encourages response showing awareness of pupil interests and difficulties. T_4 has difficulty in gaining the attention of the class but when this is achieved uses illustrative examples to arouse pupil interest.

As can be seen from Figure 3.2.2 some progress had been made towards establishing the field. However, given my adjusted role, further self objectification was needed. Through note taking and discussion with staff I tried to ascertain perceived changes, but some dilemma was felt by staff that pupils still continued to seek attention even though I had withdrawn myself to the back of the room. For example, Jenny had torn her blouse and being the only adult female in the room, I was the obvious target for immediate assistance. My attitudes had to change so that pupils did not view me as involved in the decision-making processes of the classroom.

Many teachers felt they were restricted in issuing reprimand and punishment, although at times it seemed that some of their decisions appeared vindictive. When the teachers were questioned they dismissed the suggestion that my presence inhibited their behaviour, all were keen to present themselves as confident and competent. Clearly, I was never going to remove the knowledge that I was observing them, I was visible and without sitting in the store room would remain so. The most I could hope for was that as the days went by they would lose some conscious awareness of my presence.

My research role was becoming more clearly defined. The findings so far had suggested the importance of,

- a. identifying a key person
- b. retaining functional contact with those staff participating
- c. not short-circuiting this stage of negotiation
- d. adjusting to changes in the field
- e. retaining a continual triangle of relationships between members (teacher - pupil - researcher).

Adjustments to methodology

From the initial starting point adjustments needed to be made;

These essentially were,

- a. integrated to peripheral role
- b. active to passive participation
- c. covert to overt research tasks.

That one of the central principles underlying ethnomethodology is naturalism has already been established. It was therefore difficult at this point to see how I would retain the essence of this when introducing sound and visual techniques. In order to investigate these potential difficulties the objectives were now focussed on considering the,

- a. appropriateness of audio and video techniques
- b. effect of the techniques in a. on the members.

3.2.3 Audio and video techniques

Still conscious of my role as a non-participant observer I felt some obligation to try audio-tape recordings, combined with note taking. A cassette tape recorder was placed at the side of the room little noticed by the members. The complexity of the non-verbal data resulted in unavoidable human error as the speed and accuracy required was too demanding of one individual.⁵ Furthermore data had to be collected during the process of the lesson with no opportunity for a review. It was speedily concluded that the putting together of sound and notes was not going to solve my problem.

The introduction of video-tape required discussion of procedural details with those staff participating. No attempt was made to conceal equipment or microphone, but appropriate positions had to be negotiated and aware that one could not subject the same teachers and pupils to a full range of VTR systems, preliminary investigations had been arranged. These revealed that the time restriction on portapak tapes was an inconvenience and their reliability was suspect. When two cameras were used the preconception was that the watching of synchronized images would enable the viewing of interactions more clearly as action-reaction sequences, but the images were of poor resolution and somewhat confusing to view.

It was agreed that in my present situation that two methods of proceeding would be pursued and critically analysed.

5. Amidon (p.93) refers to students working in groups using audio and written techniques to collect non-verbal data. On the course, 'Video-tape and Classroom Research,' London, July 1980, I organised a group to probe the use of these techniques. No acceptable results were obtained.

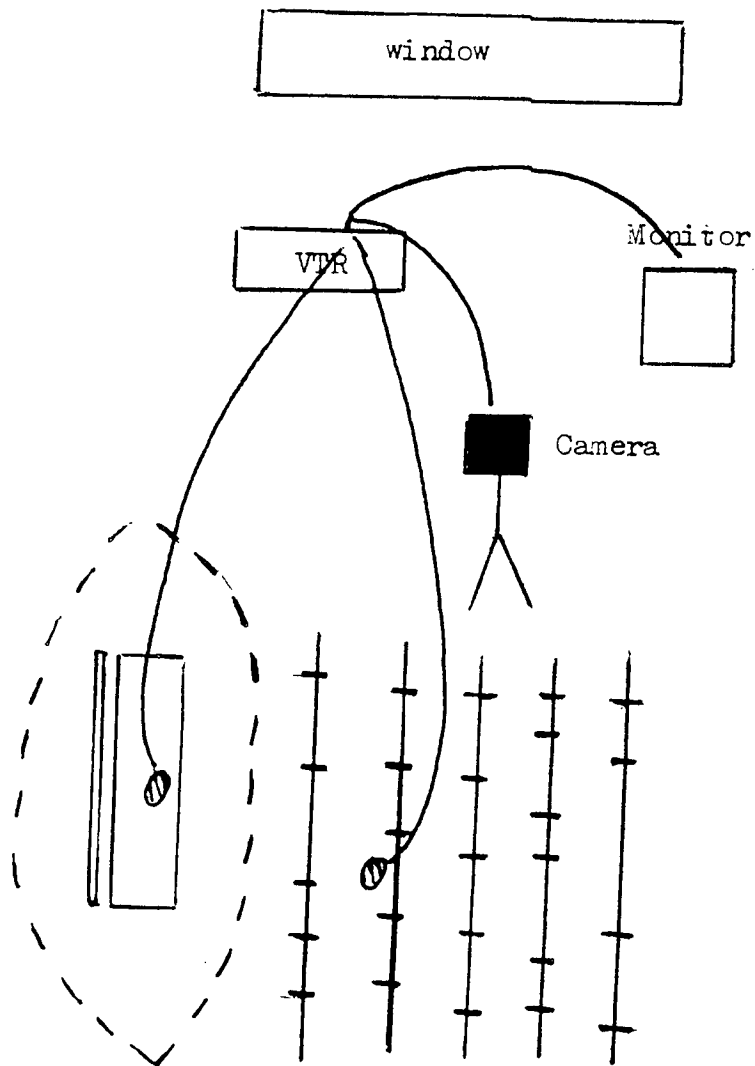
Although as a researcher I was well integrated into the social situation my presence with a roving camera and that of a technician with a stick microphone was hardly unobtrusive. It was inevitable that validity would suffer. Whilst the system was constructed to serve the purpose of obtaining verbal recordings without distortion and closer views of the participants because the camera operator selected the sequence of events, there was inevitable personal and selective bias.

A single monochrome fixed camera was therefore introduced for consideration with a wide angled lens (90°) and connected to a mains VTR. All this was in a confined space and wires across the path of participants was unavoidable. This is illustrated in Figure 3.2.3. The camera and VTR when left in the room were placed equi-distant for teacher and pupils, thus avoiding exaggerated actions. Initial curiosity was quite high, particularly from lower ability groups who always appeared eager to be distracted from the main task in hand. Familiarity with the equipment increased and when not present pupils would ask, "Are we not having the telly in today miss?" This was the most I could hope for, after all tape recorders, slide projectors and film projectors are familiar items of classroom equipment.

Accepting that video recording requires specialized equipment, facilities, prior procedural and personal discussions with staff, its advantages are worth noting. These are as follows,

- a. It provides a continuous record of the teacher and many of those pupils with whom he reacts, with some indication of context.

Figure 3.2.3 The arrangement of the VTR, camera and microphones in relation to the teacher and pupils in the classroom



- Key
- - - Spatial zone of teacher
 - Pupils seated
 - ⊙ Microphones
 - ▭ Desk
 - ▭ Blackboard

- b. Its emphasis is on naturalistic recording rather than artificially construed images.
- c. The permanent record obtained allows for replay with concentration on selected dimensions and for others to observe and to apply alternative explanations.
- d. Above all one can return to sequences and so bring some reliability to observations and descriptions.

Given these advantages video tape techniques can extend the possibilities of observation as a research method.

Because of these advantages a decision was made to reject audio recording combined with note taking. The methodological weakness of field notes always remains a problem, although in some circumstances they are often invaluable in supplementing other detail. Whilst audio-recording as a technique is not highly conspicuous and permits the retention of the non-participant role, its unsuitability arises from the complexity of notating skills required and the limited number of participants who can be recorded. These restrictions have consequent implications for reliability.

Even though the combining of the non-participant observer role with technical aids was demanding, it was essential to retain some contact with the teacher and pupils in order to interact with them (a covert research role was not acceptable), if only at the level of continuing to trust and accept my presence. In the classroom if any part of the equipment caused disturbance it was the presence of the monitor screen. Pupils had seen this in operation at lunch time when I viewed some of the material and their sideway glances at this during lessons showed their discomfort.

This apart, interest in the equipment was minimal from pupils and apparently its presence not disorientating to teachers. (Adams and Biddle, 1970).⁶ Given the consistent role structures little change was anticipated, but some reduction in the level of interaction was recorded in the field notes (Hawthorne effect). It was, however, considered that sources of error from reactivity would not markedly affect the research.

In attempting to resolve some of the methodological difficulties theoretical problems emerged. Particularly significant in ethnomethodology is what do we need to know in order to have accurately reconstructed events within a social setting. The question of recording adequate information to ensure comprehensible observations was already a dilemma as the one fixed camera technique had resulted in two to three rows of the class being omitted from the recording, resulting in only a partial view of events. Thus lapses in continuity were inevitable. It was also recognised that certain non-verbal actions were not available which could possibly impede the interpretation of data. Many facial expressions and micro movements of the hands and feet were difficult to locate and face and head shots superimposed in the corner of the screen only presented actions and not interactions. Some lighting complications also had to be recognised and problems of resolution resulting from the wide angled lens.

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6. Adams and Biddle made similar observations. However, they did not have the disadvantage of a camera operator as the equipment was remotely controlled. The teachers in this study when interviewed did admit to additional preparation of their material and feeling stressful in the opening phase of the lesson.
 7. Friedrichs, J and Ludtke, H (1975) p.29.

In summarizing at this point, in so far as visual recording devices are necessary for non-verbal research, it has been necessary to identify a technique or combination of techniques. Whilst note taking solved some of the problems of recording the social context, replication of non-verbal actions was found to be difficult and the specification of which actions and how many as the basis for judgement, was impractical. Sound motion pictures were too expensive to acquire and even when available are overwhelming in their range of stimuli (Rosenthal 1968, Thayer and Shift, 1969). Whilst still photographs can be used effectively (Ekman 1965, Ekman 1966, Walker and Adelman 1972), the limitation is that of having to investigate positions rather than movements. In this respect video-recordings have the potential to tie together strings of actions. The result is more detailed and accurate access to non-verbal actions.

Although technique can be free from bias, it was found that the video equipment used in conjunction with a fixed camera reduced the level of reactivity. Further, it could be set in motion and left to run, again minimizing the level of disruptiveness. On the other hand, any technique which records velocity of image and sound presentation is a difficult medium to analyze. What must follow are careful and disciplined observations which require not only a high level of observation skill, but an ability to see unifying threads. Control mechanisms for fast stopping, rewinding and freeze facilitate this. (Adams and Biddle, 1970).

As well as considering procedural reactivity, that is the extent to which the structuring of the setting affects reactivity, this stage of the research has concerned itself with related issues of personal reactivity, that is the participants' responses

to the presence of the researcher. Thus the investigation of an appropriate technique has been viewed alongside the range of roles required to implement it. Initially in order to gain the trust of participants an integrated role was adopted, the theory being that ordinary behaviour tends to prevail when the observer is trusted and blends into the situation. Although this was successfully achieved, it was followed by a role adjustment to observer as participant as reciprocal influences were occurring which were seen as having the potential to disturb the field. The adoption of video-recording required further re-definition of the research role (Schwartz and Schwartz, 1955).⁸ If the use of a one-way window from an adjoining observation room as used by Rosenfeld, 1966 in his work had been available, then the significance of the research role would have been minimized.

What is evident from the investigations of this section is that solutions to procedures for collecting data and role definition are a methodological pre-requisite to unhindered perceptions of the field and so a key to validity. The decision to adopt a single camera, as the decision to seek a peripheral research role, places an inevitable shape upon the data.

8. A similar pattern of roles is identified by Schwartz and Schwartz,¹ complete integration,² pseudo-participation,³ incomplete participation,⁴ non-participation. Roles 2 and 3 were indistinguishable in this research.

3.2.4 Establishing the notation systems

Central to the study is the task of transcribing the interactions contained on 3, 610 metre high density Sony tapes. The transcribed actions, both verbal and non-verbal will be the data on which analyses will be performed. Prior to the completion of the transcription, it is not possible to focus on a specific set or cluster of actions, because what will be of interest is not yet defined.

In all eleven lessons had been videoed and from these one lesson given by each teacher (T₁ T₂ T₃ and T₄) were considered in more detail in order to,

- a. ascertain the quality of the material
- b. select appropriate sections for work on establishing symbols.

3.2.5 Identifying the problems

Technical

Given the room was small and the equipment for some situations had to be adjusted and moved to a different point, it was not always possible to arrive at the appropriate angle in respect of the teacher/pupil interaction. It was decided that T₁ and T₄ material at this stage be considered less appropriate. However, it was noted that the content of T₁ could well prove advantageous for notating postural shift:

Level of interaction

In the knowledge that this was a formal context, it was to be expected that teacher dominance would be in evidence. The teachers control of the talk constrained the level of interaction. On this account it was felt again that T₂ and

T₃ material represented what was required in the study.

Non-verbal activity

This was variable in teachers although all used hand/arm, head and postural adjustments. At this level of viewing subtleties were not apparent, but many pupils were considered more posturally orientated. This was to be expected as they were only involved in the interaction by virtue of having to be in their desks. From the teacher non-verbal actions, all were acceptable.

3.2.6 Selection of material

Overall considering the quality and appropriateness of the material T₁ T₂ and T₃ were selected for more detailed analysis, particularly noting the level of interaction, the amount of gestural activity and the angle of view of the teacher and pupils. Further viewings were made of the three remaining lessons and it was decided to take stratified random samples of approximately 5-7 minutes from each. These were taken from approximately the first, the middle and last parts of the lesson. It was clearly too cumbersome to attempt transcription of twenty to thirty minutes from each.

3.2.7 Notation systems

The first transcription task was to record long handed what the participants were saying. Initially, this was attempted from the video-tapes, but to avoid damaging these, audio-tapes were made of the relevant sections. The immediate problem was to decide how much verbal and its attendant phenomena to notate. Trager's (1958) work has resulted in a publication containing statements and symbols

about paralinguistics, the categories of which have already been referred to in Section 1.4.2. His theoretical descriptions of the field akin to that of Abercrombie, highlight the close relationship of paralanguage to kinesics. On the other hand, linguistic researchers, notably Duncan and Fiske (1977) and Ellsworth and Ludwig (1972) point to intonation as a natural contact between language and kinesic activity. All allude to the need for further observations to be made and additional refinements to their systems.

Keeping in mind the need for a simple but relevant and effective system it had been decided to work with the Trager symbols. Application of the principles of this system revealed,

- a. it was very time consuming,
- b. it was visually complex to read resulting from fine discriminations,
- c. it did not characterize the pattern of exchange,
- d. it neglected intonation
- e. it did not take account of periods of silence.

Given that teaching is essentially interactional, involving sequential sequences, some of which overlap, some of which are separated by pauses, a notation which took account of this, together with intonation and paralanguage seemed more appropriate. A decision was made to consult the sociological analysis of natural conversations by Schenkein (1978)¹ (see Figure 3.2.7) Although using different symbols this identifies Trager's vocal segregates and vocal

1. Schenkein acknowledges the considerable contribution by Gail Jefferson to this notation system.

- | | | |
|----|---|-----------------|
| 1. | <u>Simultaneous utterances</u>
(utterances starting simultaneously) | [|
| 2. | <u>Overlapping utterances</u>
(when utterances do not begin simultaneously) | [|
| 3. | <u>Contiguous utterances</u>
i. (no interval between adjacent utterances)
ii. (when flow is separated to different lines of transcript) | = |
| 4. | <u>When more than one speaker latches on to a just completed utterance</u> | = [|
| 5. | <u>Intervals within and between utterances</u>
<u>Timed in seconds</u> | (3.0) |
| 6. | Untimed pause between utterances
Untimed pause within utterances | ((pause))
- |
| 7. | <u>Characteristics of speech delivery</u>
(vocal qualifiers) | |
| | Extension of sound or syllable | ju:st |
| | More colons with prolonged stretch | ju::st |
| | Fall in tone | . |
| | Continuing intonation | ; |
| | Rising inflection not necessarily a question | ? |
| | An animated tone not necessarily an exclamation | ! |
| | A halting abrupt cut off in the stream of talk so marked as to have a stammering effect | r-rent |
| 8. | <u>Emphasis. The larger the capitals the greater the stress</u> | TONE |
| 9. | <u>Audible aspirations and inhalations</u>
(vocal segregates) | tha(h)nk
you |

10. Double parentheses to enclose phenomena
transcription does not want to wrestle with ((coughs))
(vocal characterizers)
11. Single parentheses (items in doubt) (We-all)
Single parentheses (no hearing would be achieved) ()
()
12. Horizontal ellipses (utterances only being
reported in part)
13. Vertical ellipses (intervening sections of
talk removed) .
.
.
.
14. To draw readers' attention to part of the text .

characterizers, but not the range of voice qualities and qualifiers. In addition symbols were more easily incorporated into the transcript. My own view and observations lead me to suggest that 'overflow,' or 'overhigh,' pitch does not relate to meaning whilst pitch due to intonation does. Practical application of the Schenkein system revealed that in accommodating the omissions from the Trager system it provided a reasonably accurate and economical set of descriptive terms with which to recognize the basic phenomena of speech. This system was added to the verbal transcription of material T₁ T₂ and T₃. An illustration of this is shown in Appendices 2a, b and c from T₂ material.

Although I had carefully planned to relate my strategies to my own skills and experiences, it had always been apparent that a system of notating the non-verbal aspects would be necessary. I now had a record of what was said and this served as an important anchor for the rest of the transcription. The next step was to choose a system of non-verbal notation from the diversity of available systems and to decide which categories of action should be coded.

The key difficulty in any notation system is the amount of information needed to give an accurate, detailed unambiguous record on two dimensional paper of the salient positions of each part of the body in three dimensional space and to superimpose on this the qualities of time and intensity. To achieve this all researchers in this field have had to acquire a vocabulary of written symbols. The present systems in use fall broadly into three categories, the note, abstract and

pictorial system and in order to select from these four questions had to be asked and answered. These were,

- a. is it legible?
- b. is it easily readable?
- c. is it accurate and economical?
- d. does it have the potential to cover all parts and aspects of the body?

Deciding what is cursive is, of course, a relative matter, it is relative to background, skill and the purpose for which the system is required. These factors are not unrelated, which is simply to say that if you are a trained musician rhythm will translate itself through minims, crotchets, quavers, intensity as largo, presto, staccato and the presentation will be on a horizontal staff. Stepanov (1967), Conté (1967), Nikolas (1959), McCraw (1964) Causley (1967)⁸ and Eshkol - Wachman (1967), all musicians and dancers have adopted this structure. If, however, your view is that non-verbal actions cannot be studied in isolation from spoken language, a knowledge of syntax and intonation may well be pre-requisites. (Birdwhistell 1971, Duncan and Fiske 1977). Similarly, if you are a social psychologist the presentation of your notation system may well have to take account of cause and effect. (Leventhal and Sharp 1966, Amidon 1970).

It is interesting to note that most of the systems have solved the problem of indicating direction. For example, Nikolas uses the visual device of having the stems of the notes point into the forward, backward, sideward direction,

8. Benesh movement notation has been compiled and presented by Marguerite Causley in conjunction with Joan and Rudolf Benesh.

but he runs into trouble with whole notes of course, as these have no stems. McCraw uses the lines and spaces of the musical staff, but these must be learnt by rote as his basis is alphabetical. Benesh likewise uses the music stave, positioning his abstract symbols only on the lines. The Eshkol-Wachman (1967) system is based on numbers and have an apparent simplicity, but are only serviceable to those who have mathematical abilities and can think of gesture as 2 over 0. In this respect Birdwhistell has simplified his symbols by using arrows. Laban⁹ adopts abstract directional symbols which conform to the way in which we form our kinesic images, that is left forward should look like left forward. More general systems have omitted this information altogether.

The third query is should a notational system have the potential to cover all parts and aspects of the body? But what constitutes 'all' parts of the body? For some systems all is synonymous with major, that is head, face, legs, arms and torso, for others it is to include the detail of smiling or the joints of the hands, fingers, feet and toes. Whatever the level of this detail it is a fact that all movement occurs in space and time and with different degrees of intensity. But within the notation systems any recognition of intensity (degrees of tension) is very limited. Benesh makes some superficial reference adopting technical words through the expression of music, strong, very strong, largo, moderate, staccato. The 'effort,'¹⁰ graph as

-
9. Laban notation was the initial conception of Rudolf Laban. Its development and application have been a major concern of Abrecht Knust, Ann Hutchinson and Valerie Preston-Dunlop (see Preston-Dunlop (1969) for full range of notation symbols).
 10. 'Effort,' is manifested in bodily actions through Weight, Time, Space and Flow elements. Not all of these motion factors are always significant and according to their combination they produce particular shadings.

developed by Laban (1965) is the only in-depth study in this aspect of movement.

There are also different approaches to identifying the phrasing of non-verbal actions. The problem for some music note systems lies in indicating the timing accurately. In many systems it is cumbersome, as where there is no movement the notes have to be written. The Benesh System has overcome this and whilst using the music stave includes no written notes. Duncan and Fiske use brackets to indicate the commencement of a gesticulation and its termination and similar conventions are applied by Leeder. Laban's device is to lengthen and shorten the symbol.

In attempting to summarize the different notational systems that have been featured one could suggest that Birdwhistell's system is precise, highly detailed, but it is neither cursive, simple or economical. The Benesh approach is cursive, visually simple to read, but the analysis of the symbols results in identification of a range of superficial movements which are ballet based. The remainder of the music notation systems whilst variable in their preciseness and range of symbols provide only limited indications of dynamic content.

To say that any one system satisfies all the criteria is not feasible but Laban notation is capable of precision with symbols which show directional progression consistent with our own images of movement. Its vertical staff and easily identified time patterns permit uncomplicated reading and it is so designed to accommodate a basic framework of symbols which have the potential for elaboration. Above all it facilitates the inclusion of modifying symbols which capture the dynamic quality of how an

action is performed. It is significant that Birdwhistell (1971) recognizes the debt we owe to Laban, particularly the high reliability the system affords its users.

3.2.8 Identifying the symbols

In the light of these reflections a decision was made to investigate the potential of the Laban system for the purposes of this study. The decision also took account of my own skills and background. Using the 5-7 minute extracts from material T₁ T₂ and T₃ the procedure was now to,

- a. note those gestures and posture/gestures easily discernible
- b. formulate operative categories
- c. develop a symbol system of minimal complexity from the selected sections of material.

The material was re-viewed and a simple summary of impressions were taken. It was noted that many actions were in the upper torso region as pupils were confined to their desks and that the teachers were also more active in this region. Without reference to the initial summary the material was re-described in subjective terms. From these observations broad categories for the main body parts of head, hand/arm, hand, leg/foot and leg were determined and symbols added. These and other basic notation symbols are illustrated in Figure 3.2.8.


The hand and arm symbols are identified as left or right by the angle at which they are drawn, whilst leg and foot symbols must be preceded by L or R. A distinction between hand and hand/arm and foot and foot/leg is made according to the emphasis of the gesture. Some hand and foot gestures are discrete from other body parts, whilst the significance of

Figure 3.2.8

Notation symbols based on Laban system

A. Body Parts Involved

HEAD C


HAND 


HAND-ARM 

FOOT 

FOOT-LEG 

1. Thigh † 2. Knee † 3. Ankle †

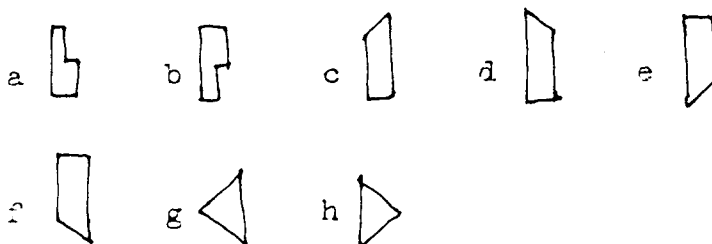
Standing position arms by side 

Right arm by side 

Left arm by side 

B. Spatial Aspects

(i) Directionality



a. forwards

b. backwards

c. right forwards

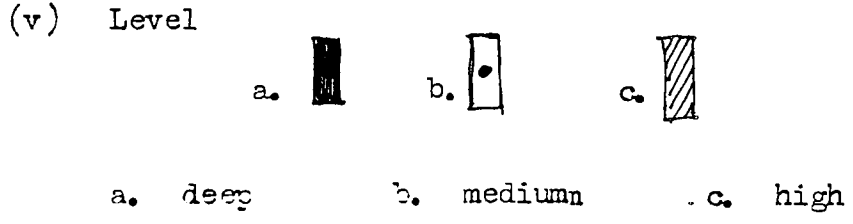
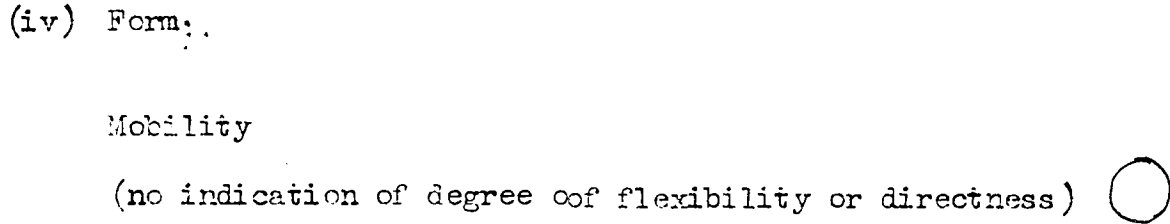
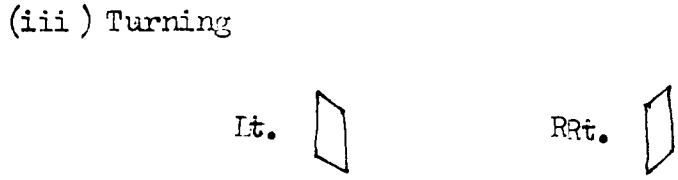
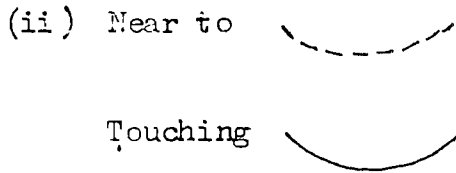
d. left forwards

e. left backwards

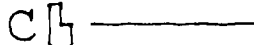
f. right backwards

g. to the left

h. to the right



C. Temporal Aspects

Sequential transfer from one action to another indicated by duration line. Duration line indicates length of time for gesture to occur. 

D. Posture

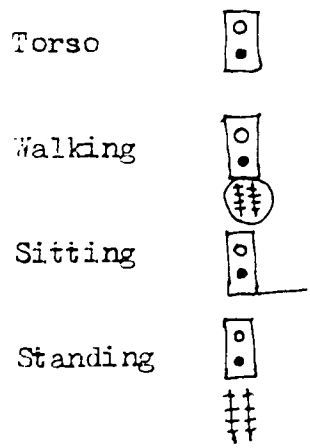


Figure 3.2.8 (continued)

Postural shift ● Head, body, torso ALL change direction
at once.

Postural tilt ○ Torso only

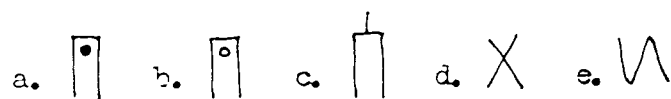
The degree of turn is shown by inserting the pin in the
turn sign.



- a. quarter turn clockwise
- b. half-turn clockwise
- c. a quarter turn anti-clockwise
- d. a three-quarters turn clockwise
- e. a complete turn
- f. two-and-a-half turns

Additional Symbols

Detail of hand




- a. the palm
- b. the back of hand
- c. finger pointing
- d. contraction
- e. extension

Face

Object

others is achieved by a composite movement of the limbs and its parts. The complexity of attempting to notate the extensions of the main categories was soon apparent and it was decided to focus in the first instance on the head.

The intention was to notate actions of the head as a series of positions, reading from left to right. The initial starting position was noted for those speech syllables over which the action occurred and in some instances was completed. A pause as this is known, lasts from the end of a previous action symbol until another action symbol indicating a change of state. Therefore, the length of the gap between two action symbols indicates the duration of the pause. Where an action or actions in achieving its completion was protracted over several syllables a duration line was used to indicate the initiation and completion.

Directional changes were also very much in evidence and the eight directional symbols were applied. A key decision in any notational system is the base position from which all judgements are made and for this the limbs have a system of reference based on the building of the body. Thus if the teacher should lie across the table, the arm placed past his head in line with his torso, this would be referred to as up, just as the arm raised in front of where his chest is facing would be known as forward. The directions from the body established in the vertical standing position remain fixed, even though the body may be subsequently tilted. For example, the head when in the base position is represented by  . Because identifying a diagonal line using a two dimensional image was not feasible these symbols two were not included.

Symbols $\triangleleft \triangle$ were retained to indicate a movement of the head almost as far as its anatomical hinge permits it (e.g. head cocking). To fill the spatial void between 1 and 2 and 7 and 1 and 2 and 8 the turn symbol was introduced. In the following extract teacher T₁ uses a lift of the head into a single nod. The symbols selected at this point did not cater for this. This was resolved by the introduction of level symbols illustrated below.

$C \square - C \blacksquare$

T. In London and who were the members of this board

$C \square - \text{---} - \text{b}$

of health the first one to be set up?

$C \square$

P₂ Chadwick

$C - \square - \square - \blacksquare \blacksquare$

T. Chadwick was one.

Supplementary observations were made from other material (T₂ and T₃) to test their applicability. Any sequential repetitions occurring in other transcripts were indicated by the symbol /.















Observations of hand and arm movements gave rise to the following comments.

- a. the potential range of mobility of the hand and arm is greater given the three joints of the arm and the smaller joints of the hand,

- b. some actions involved the face,
- c. many actions were in relation to objects,
- d. that different actions occurred in different spatial zones.




In order to provide more detail the hand symbol was developed. In trying to contain the complexity, symbols for shoulder, elbow and wrist were omitted. As limb gestures were frequently seen to be in relation to other body parts the symbol for touching and near too were incorporated. Points of contact were face, upper abdomen, lower abdomen and legs. The latter were differentiated into thigh, knee, ankle, because of their frequent use. Finer discriminations in the face were not developed. Other studies on the face have highlighted its complexity. (Argyle and Graham 1975b, Ekman and Friesen 1975, Rosenfield 1966).

The application of the symbols outlined so far is represented in the following extract.

T.  Right cottages - poor construction - made of wood -   
 don't imagine they will be very warm - Graham don't 
 imagine they will be very warm in the winter - also  
 they're inhabited BY the family - not by strangers 20  / 
 or 30 living together - but the family. Okay ((pause)).  
 Number six. What does the use of the stove tell us 
 about winter conditions? ((pause)) What did they do  / / /
 with the stove for a start? 

Interpretation of extract is as follows,

Teacher sits on desk:

Left hand contacts face, returns to object, hand returns to face and quickly back to knee. Left hand contacts knee, moves to face, hand finally comes to rest on the arm. Followed by finger pointing, mobile hand/arm gesture, which is repeated. Left hand contacts left knee and right hand on object. Lifts right hand only from the wrist, shaking finger at the pupils. A viewer interpreting the script and not the recording could only assume the shaking, the symbols only give the information  right hand,  finger pointing and mobility. Both hands return to the object and then to the knees. As in the previous example the hand does not remain in contact, but moves forward to make its gesture and so is used in conjunction with a direction symbol  . This gestural action is repeated over the syllables indicated. Further examples of the combined use of the verbal and non-verbal transcriptions are contained in Appendices 16a and b.

The importance of postural and gestural actions has been previously discussed and to take account of this, a postural notation was investigated. The torso being the central region of the body has a limited range of action acting as it does as a point of contact for the limbs. The upper and lower abdomen symbols have already been identified and combined from the trunk. If a teacher or pupil is sitting, standing or walking adjustments will be from the base of the spine. Body tilts

were not observed in this material. As participants adopted one or more of these positions, standing, walking and sitting were assigned specific symbols. Observation of the taped material highlighted two further distinctions, postural 'shift,' and postural 'bend.' The former was particularly evident in T₂ where the torso of the teacher was not always frontally placed. In this example the front (forward) goes with the teacher. Additional symbols were required to make this clear. The following extract illustrates the application of these during teacher (T₂) and pupil (P) interaction.



T. Think about rate payers. How is the thing financed?



How is it paid for? Michael?

P. Out from the rates.



T. Out of the rates. Yes.

In relation to the class the teacher is a quarter turn clockwise. He walks along the front of his desk. Reaching the end he performs a quarter turn anti-clockwise and retraces his steps, faces the class and addressed his question to Michael.

The second extract from material T₂ demonstrates the torso sign combined with directional signs, indicating bending or leaning.




T. Lord Ashley who became Lord Shaftesbury. Probably know him better as Lord Shaftesbury but in 1848 he was still Lord Ashley er his first title and the other



name we have mentioned who investigated typhoid fever



in Whitechapel in London in the 1830's.

The teacher is sitting, bends forward and returns to base (i. e. ) bends backwards, returns to base, then moves backwards through to forwards passing through base. Finer discriminations have been developed by Hall (1974) who uses a 0 to 9 point scale, for example 2 is standing, 5 is squatting.

Initial work in adapting aspects of Laban's notation system has made reference to certain basic principles. It is a movement notation, since the symbols represent movement and the absence of movement is shown by the absence of symbols. The basic elements required to describe any movement are part or parts of the body (direction and level), timing (fast or slow), dynamics (strong or light), flow (bound or free). It is clear that all these aspects have not been utilised. It has not yet been determined whether dynamic and flow qualities are essential to the research.

One of the features of Laban notation which has not been adhered to is the visual lengthening and shortening of symbols to show time value. Because the interactional nature of the verbal and non-verbal is acknowledged a horizontal design is presented. However, pause and duration lines give some indication of the pattern of timing¹¹ of individual and clustered gestural actions.

One of the proposed objectives (p.74) was that of retaining an acceptable level of simplicity and with that in mind a number of omissions were made. That the hand and arm have a wide range of movements is well defined. If an arm is lifted forward the changing angle of the elbow with degrees of shoulder rotation, in written form, could require some seventeen extra symbols. Similarly, detailed interpretations of posture would also require contributory symbols. As sitting and standing were observable actions in the material used these required notating.

11. Relational timing of non-verbal to verbal, not actual time span.

Other personal changes were made for objects and face.

(refer to Figure 3.2.8)

It must be recognized that symbols adopted so far have emanated from repeated and actual observations of the material. Although participants were observed to use the full range of major body parts, distinct repertoires were evident for different individuals. It must also be recorded that some types of action did not occur; pupils did not walk about the room and generally teachers showed no physical contact with pupils.

It would therefore seem that exploration of the Laban system in the context of this study has given its principles some credence. It can be written with ease, assuming one is conversant with the symbols, it is bodily and spatially accurate and it can be operationalized with different degrees of specificity. Using this information visual records were compiled of verbal and non-verbal actions to illustrate the flow perspective of observed events. All the symbols were written horizontally and read from left to right.

The non-verbal actions were written in the spaces between the horizontal lines from the top downwards in the order hand/arm head, posture, foot/leg and where symbols were vertically in line they were placed simultaneously.

3.2.9 Validity of the symbols

As the development of the non-verbal notation technique in itself was not the main focus of the research, the procedure for validating the symbols was not elaborate and in order to facilitate this the assistance of two persons qualified in Laban notation was sought. In their reading of the transcription

mistakes did occur, some of these located in the postural symbols, but their interpretations were recognisable. There was some acceptance on their part that errors were due to lack of frequent practice and in particular to the re-orientation of the notation staff. It is acknowledged that such limited viewing of the symbols does not totally substantiate the validity of the symbols, but the accomplishment of comparable interpretations does generally indicate that the symbols represent what they are intended to represent. At this stage a non-verbal notation system has been established which,

- a. has minimal complexity
- b. the potential for expansion to cover additional detail
- c. provides coverage of bodily and spatial characteristics.

The writer has now established two functional systems of notation which enables the pursuance of the research objectives. In so doing reference has been made to material T₁ T₂ and T₃ and the processes involved are shown on T₂ material, appendices 1, 2, 3, 4 and 5. The same processes undertaken with material T₁ and T₃ are contained in the research notebook. The combined use of the notation systems from extracts of T₁ T₂ and T₃ material are presented in Appendices 6, 7 and 8.

3.2.10 A re-appraisal of study one

3.3 Adjustments to the Research Design

It had been intended to continue the exploratory stage by collecting the filmed data in the situations already negotiated. There had been a degree of success in selecting a technique accepting that there are difficulties in obtaining recordings of sufficient quality and accuracy and that there can only be partial access to close up images of the participants. Nevertheless, work on transcription identified problems, solutions to which, required a re-adjustment of the research setting and techniques.

Apparent was a reinforcement of the power differential and this was evident in sections of the material where there was a high incidence of teacher performance and a diminution of the role of the pupil. In the early weeks in the field medium dependence had been observed but during the recording of material there was a move towards high dependence. Although this change in emphasis was minimal it was sufficient to suggest that reciprocation was little in evidence and that the development of the study and the achievement of its aims could be impaired. This diminution in pupil participation gave rise to re-considering the population for the main case study.

However, it is not my intention to move from a social situation where the teacher has optimum control over the learning situation to one initiated and controlled by the learner because pupils and teachers could enter and leave this kind of situation and cameras and microphones would need to be

mobile. This would create consequent difficulties in handling the recording technique and affect validity. It is therefore proposed that the study will be re-directed to focus on situations where the teacher stimulates and sustains the learning process of the pupils and will use a fixed camera with a lens angle of fifty degrees.

3.3.1 Strategies for entry

To this end a school with different structural features with opportunities for more active teacher and pupil relationships was sought. The school selected had a pedagogy where pupils were not expected to be passive recipients of information, but were encouraged to explore and solve problems utilizing the opportunities provided by resource based learning. Consistent with this was a diffusion of social roles where every pupil was regarded as an individual with his own potential to be developed in a variety of ways. The fostering of cohesion and co-operation was further completed by structural divisions of the school into mini-bases so giving identity and responsibility to smaller groups of pupils and teachers. In all it contained many of the characteristics of the open classrooms - as described by Stephens (1974) - and reflected the co-orientation approach described by Harrison (Section 1.4.1). The achievement of the research objectives was largely dependent upon gaining access to situations where co-learnership was more in evidence.

On my arrival at the school in May 1981 there was a friendly and receptive atmosphere and it was soon apparent that the staff in the school had established interdependent working patterns and shared responsibilities. The head was characteristic of

Getzel and Guba's (1957) "ideographic leader," p.427 making few organizational demands and relying upon teachers own commitment and values to ensure that ideas were initiated and implemented. Because of this, few demands were made upon the researcher and I was left to make my own decisions. I spent several days introducing myself to staff and generally absorbing the physical arrangement of the school.

It became apparent that the social groups formed amongst teachers were largely the result of curriculum organisation and that the cohesiveness and co-ordination of the members of the group was guided by heads of department. The importance of gaining access to the field through these key persons has been emphasized by both Lofland and Lofland (1981) and Schatzman and Strauss (1973). Once the preliminary introductions had been completed, I was afforded the opportunity to observe the style of teaching adopted by different teachers. Most, whatever their aims, were involved in promoting discussion and personal interaction within varying degrees of orderliness. A note was made of those teachers where pupils acted in flagrant contradiction of what was asked of them with a view to the difficulties of filming in this situation.

Given that the mixed ability concept was applied to all ages and all subjects with the focus on pupils ability to organize and interpret information individually or in small groups, it was necessary to observe those teachers who combined this with class teaching. General discussions with and observations of teachers gave some insight into their potential to participate in the research. Over a period of 2 days a week for seven weeks

close relationships were established with a range of staff from different subject backgrounds who were supportive of the proposed work. At the end of this introductory period of observation and discussion I felt satisfied that the school promoted a different view of learning where the processes of thought were considered as important as the products of learning. My observation of these classrooms are presented in Figure 3.3.1.

3.3.2 The researcher role

Although my relationships with the staff were well established, there were pressures to provide plausible explanations for my presence and guidance on how the research was to be implemented. This may well be that teachers sought assurance that they were not to be used as objects of a doubtful interest and in order to alleviate this concern the research aims were disclosed. To avoid teachers giving selective attention to the area for observation these were couched within the general communication framework.

The task now was to define the role which would enable me to fulfil the expectations of the teachers and respond to the requirements of the research. Because the researcher and teacher relationship was relaxed and friendly there was the risk of reciprocal influences and consequent sources of error. Although feedback can not be completely avoided the opportunity for affecting events in the classroom had to be minimized. Until this point the definition of my research role had arisen from the social structure within the classroom and the need to comply with the norms of the school. On the one hand this had

Figure 3.3.1 Characteristic features of the lessons observed by the researcher in the Second School.

a. Most lessons have a structure. Teachers generally begin by introducing pupils to the sequential stage a topic has reached or initiate a new area of work. Confronted with a topic pupils apply to their substantive knowledge their own interpretation and extrapolation. They are encouraged to think systematically, independently and critically. Although some time is devoted to classroom discourse about facts, there is opportunity for both pupils and teachers to solicit and respond thus allowing for autonomously achieved insights to emerge from pupils. Contrary to the conclusion drawn by Bellack (1965), the most common type of pedagogical move is not the teachers solicitation and the pupils response. Whilst structuring, that is drawing attention to the subject matter is predominantly the function of the teacher, the roles of soliciting, responding and reacting are shared with pupils.

b. There is regularity of participation by both teachers and pupils

Although there is not equal participation by all pupils, individual contributions and active participation is encouraged. This fosters a reasonably high level of pupil involvement.

- c. There are various teaching-learning spaces. The physical resources are ordered to meet the demands of the lesson. Seating, teaching aids, audio-visual equipment, black-boards and displays are arranged to provide an environment conducive to learning. Sometimes the physical layout is formal, but more often groups of desks and chairs allow for easy sharing and retrieving of materials.
- d. There are purposes for learning. The focus is on "expressive objectives," rather than "instructional objectives," (Eisner 1969 p.14) allowing for unspecified abilities, responses and materials to emerge.
- e. A range of teacher and pupils behaviours are operative. Both participants offer information, search for ideas, ask questions, seek responses, give opinions, synthesize material and express feelings. However, the teacher can and does intervene if the progress of the work is impaired or threatened. For the most part, the characterizing feature of the teachers is that they do not exercise a monopoly over discussions but constantly encourage pupils to contribute and conjecture. The outcome is that relationships are reciprocal.

enabled me to experience normal events in representative situations, on the other, it raised the possibilities of not collecting valid data. Adjustments in my social relationships with both teachers and pupils from an integrated to a more peripheral role had to be made. This occurred with minimal disruption, particularly with pupils, thus reinforcing that although there was apparent affinity, my perceived role was really that of 'visitor.' So, as before, the need to explain the essence of the research to participants and to establish a passive and peripheral role had manifested itself.

3.3.3 Video-recording techniques

Having become socially sensitized to the aims of the school and considered some of the constraints of the field, it became necessary to identify and discuss the means whereby the video equipment could be introduced into the working spaces. Although previous investigations had resulted in the decision to use a fixed camera with a wide angled lens, in the meantime a new technique had been developed by Peter Kay a member of the North Staffordshire Polytechnic Educational Development Unit. This had a dual channel recording device in which the output of two video cameras were combined to form a sequence of alternate frames which could be recorded on a standard video recorder.

As teaching areas occupied different spatial areas trial runs were made of where this system could be most appropriately placed and decisions made about the seating of pupils and the spatial zone of the teacher in order to facilitate, in analysis, an adequate view of their physical responses. All this was planned to occur when the pupils and staff were not in the room in an

attempt to reduce reactivity from the introduction of cameras, microphones and recording machines. As similar equipment frequently supplements the resource based learning in the school it was anticipated that reactivity due to equipment would be contained. As with the single camera, the dual recording equipment could be left to run so minimizing any researcher obtrusiveness.

The decoding of the image sequence was achieved by a switching process which routed all the frames from one camera to a monitor screen and the frames from the other camera to a separate monitor screen. Initial viewing of the material indicated that the methodological concern to obtain a view of the processes of interaction between teachers and pupils in their natural setting had been achieved. The angle of observation, the resolution, the ability of the system to focus on specified frames, combined to satisfy many of the previous criticisms. However, prolonged viewing revealed a bright flicker due to the decoding process. This process necessitates the inclusion of a blank frame on alternate monitor screens and the result of this alternation was a noticeable flicker on the screen. Over a period of time this was distracting and made any sustained observation and notation stressful.

Because of the constant strain in viewing and the technician's commitments to other duties a decision was made to retain the single camera with a wide angled lens operationable by the researcher. In addition as a result of the fieldwork described in Section 3.3.2 a decision was made to adopt a non-participant observer role which would enable the researcher to remain apart from the teacher-pupil interactions under observation.

3.3.4 Sampling

Before the main study could commence, samples had to be decided upon. Nine classrooms were selected for this process.

Teachers were not sampled by reference to their age, sex or subject, but by reference to their capacity to fall within the general conceptual framework of the research. This requires that the channels of communication are within and across groups and between teachers and pupils. Because a requirement of the research design was to film these occurrences, an acceptable level of co-operation was necessary. Preliminary observations identified that S₁ promoted a flexible environment in which pupils could learn, S₂ arranged a wide range of learning situations and opportunities, S₃ promoted relaxed and open relationships, S₄ allowed freedom for pupils to move about and work together, S₅ S₆ and S₉ were under pressure to cope, S₇ provided opportunity for pupils to develop responsibility for making decisions about their own work and developing personal autonomy and S₈ promoted a relaxed and tension-free atmosphere. Characteristic of them all, was an approach to education where expression of ideas and feelings were encouraged between teacher and pupil and where pupils contributed to the decision-making process in the classroom. This approach, however, was only sustained and under reasonable control by teachers S₁ S₂ S₃ S₄ S₇ and S₈. It is with these six class teachers that negotiations were re-established.

From discussions with these teachers it became evident that problems of disclosure were not fully resolved and although the general aims of the research had been established more detailed information was being requested in respect of the

research purposes and the likely consequences. Although the area to be investigated was not a particularly sensitive one about which to inform participants, to reveal its focus was to risk heightened reactivity. After all, one of the fundamental principles of ethnographic research is that the processes of interaction under observation are minimally disturbed. Therefore, some deception and manipulation was inevitable. Nevertheless most of the teachers displayed understanding and accepted that they might ascribe characteristics to their responses and attitudes which were not in their usual repertoires. Although one of the team was distrustful and feeling threatened, she agreed to continue with the research. To set all the participants at ease arrangements were made for a post viewing of the videoed material. In addition it was agreed that there would be confidential treatment of the data and effective ways of preserving anonymity were proposed by coding names, subjects and institution. It was necessary to agree to such requests in order to sustain negotiations and fully sanction admission to the classroom settings. The importance to the research of retaining the normal teaching-learning processes was seen to justify the ethical decision not to reveal the precise focus of the research.

The decision by the researcher to adopt a peripheral role allowed penetration into the classrooms and co-opted friendship with teachers. This permitted viewing of participants in their settings and introduction of the filming equipment with minimal disturbance. In spite of this whenever the researcher is in evidence, personal reactivity and the implications this has for reliability can never be completely controlled.

Whilst reciprocal relationships formed the basis for sampling the participants, some time sampling had also to be pursued. The timetable and discussion with staff precipitated some of the decisions. For the teachers the first period which followed upon class tutorials was not a settled time nor was the last period of most days. The remaining periods were viewed as more representative of the activities of the classroom. In addition more manageable units of time were obtained by planning the presence of the researcher during single periods. Because of the design of the school uninterrupted teaching spaces were not always available and light and floor space was variable. Some selection in respect of these was necessary in order to provide sufficient lighting and enclosed teaching spaces.

Although the sampling gave rise to potentially relevant groups from which to obtain data, withholding detail of the research objectives did create an ethical dilemma for the researcher. Also recognised was the possible impact of personal reactivity on the communication processes within the classroom. The introduction of the recording equipment and its perceived effects had been monitored in the first study and because observations made then suggested that there was minimal reactivity, it was anticipated that this would be so again. This period of work in the school which included gaining entry, establishing social relationships, observation of teaching styles, establishing a research role, considering the possible placement of the video equipment and sampling procedures, was completed in October 1981.

3.3.5 Methods of data collection

The data collection technique for this work will be the video-tape with supplementary observations in the form of field notes. These will be complemented with information from teacher and pupil interviews.

3.4 Summary of Study One

What the fieldwork of the first study has revealed is that when in schools it is not possible to be without an identifiable role and that when that role has the potential to influence there is the constant problem of bias. The need to appraise the role of the researcher has required a range of techniques including informal interviews, discussion, participant observation, culminating in a non-participant observer role. Although personal impressions are recorded in field notes contained in the fieldwork file the bulk of the data is recorded on video tapes. In addition, considerable time has been given to investigating the most expedient and functional combination of cameras, lens and microphones and even though this equipment is intrusive it does afford the opportunity to minimize selectivity and inference. In order to avoid the criticisms of Friedrichs and Lüdtke (1975) and Brandt (1972) that researchers do not generally make explicit the processes by which they refine their techniques this researcher's actions, reflections and decisions have been fully described.

The first part of the study has also identified the setting for the research. During the period April 1980 - July 1980 this required the exploration of the social and

pedagogical organisation of five schools, each with their own boundaries for allowing the integration of the researcher. All possessed social structures within which social roles and social relationships could be identified. As the initial strategy was to seek a school with formal organizational structures which would allow for readily manageable entry to the field and easy identification within a department, one of the secondary schools was selected. On attachment for 2 days a week for one term from October 1980 to December 1980, this setting was found to unduly limit the scope of the research and a school with a more informal structure was sought.

A school in a different educational authority fulfilling this requirement was contacted and moves were made to gain access. Knowing the difficulties created by role conflict from the previous school based work, a peripheral role was adopted at an early stage. The possible reactive effects of the presence of a researcher and the video equipment were observed. Sampling procedures relevant to the research were carried out. The period for this work extended from May 1981 to October 1981 (2 days a week). In total so far, the school based work had been phased over sixteen months.

Thus using the framework of ethnomethodology the following areas have been considered in order to understand and make explicit the commitments to the method of the main study.

- a. criteria for the selection of the research setting
- b. the nature of the research setting
- c. the effects of the researcher role on teacher-pupil interaction
- d. criteria for the selection of recording equipment
- e. the effects of the equipment on teacher-pupil interaction

- f. technique for recording the data
- g. the establishment of and validity of the notation systems
- h. criteria for sampling
- i. range of data collection methods to be adopted.

SECTION 4

MAIN STUDY

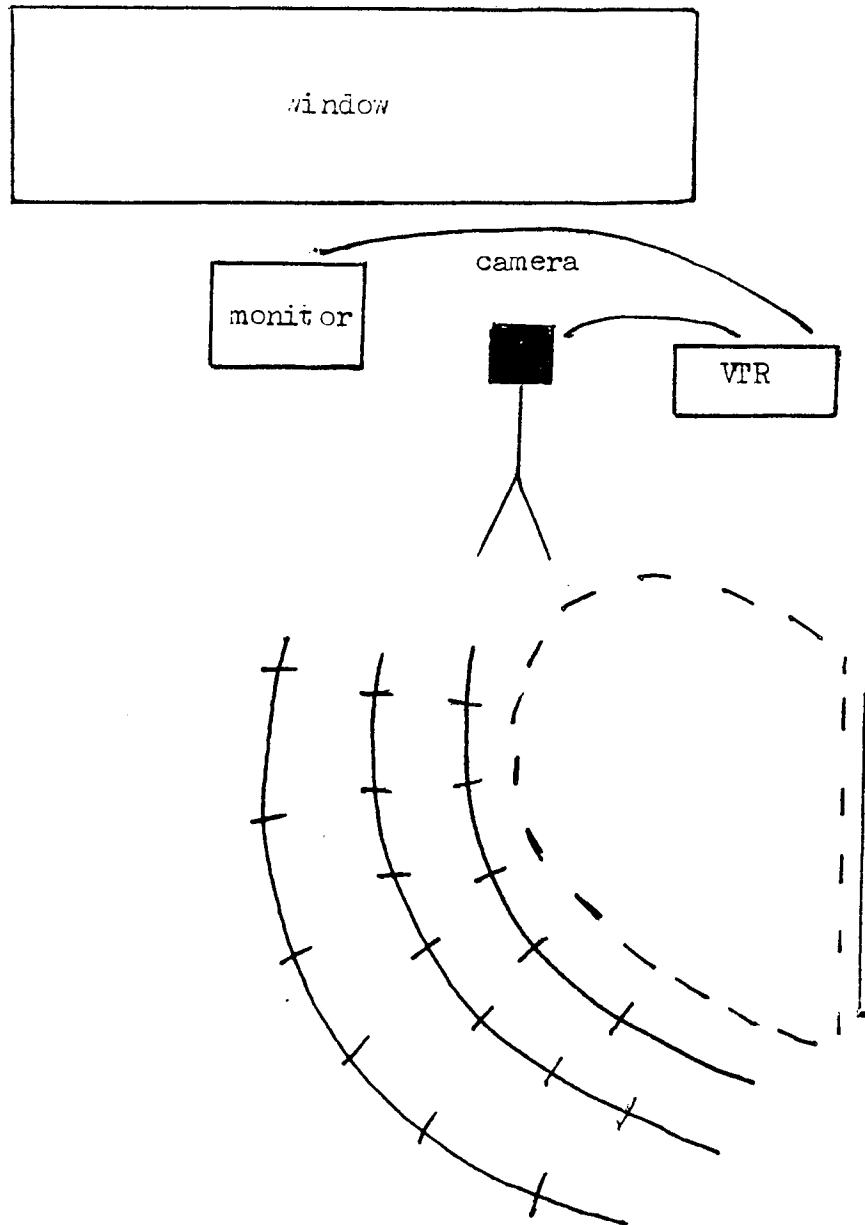
4.1. Data Collection

The general commitments to the research whereby the researcher sets out to generate hypotheses in a systematic manner and the potential effects of the researcher on the data have already been outlined. The research now proceeds to consider the collection of the data material.

The first objective was to obtain a sociological description of the interplay of verbal and non-verbal, between teachers and pupils. Data was recorded for analysis of both verbal and non-verbal activity and because the framework within which these are to be analysed only conceptualizes the general features of communication, a broad spectrum of these were obtained. To take this into account 6 complete lessons were recorded incorporating a range of pedagogical manoeuvres. These are contained on six 610 metre Sony high density (V-62) video-tapes. In view of the importance attached to reciprocation, all participants in the interactions were accommodated in such a way that the sequences of actions as far as possible were available for observation. In order to preserve the widespread inclusion of non-verbal activities some adjustments in the organization of the physical resources particularly the seating of pupils were made. This may have affected the phenomena being studied and must be acknowledged as a constraint of the design. A typical classroom layout is presented in Figure 4.1.

The second objective was to acquire teacher and pupil comment upon non-verbal activity in the classroom. Whilst the view has been expressed that the communication process between teachers and pupils is, in part, rule governed, it may also be,

Figure 4.1 A typical classroom arrangement of the VTR, camera (built-in microphones) in relation to the teacher and pupils



- Key
- ! spatial zone of teacher
 - pupils
 - ▭ blackboard

in part, the result of intentional activity. Goffman (1969), page 2 in his book, argues forcibly that non-verbal activities are managed by both senders and receivers to form impressions of the self and to influence the perception of others. The dilemma in respect of teachers and pupils is the relative level of awareness that these activities command. Participants information about reactions to non-verbal activity may well provide some insights into which non-verbal actions are discriminated. Because of this view a decision was made to collect additional data using the technique of interviewing.

To facilitate this a schedule was devised containing questions related to the purposes of the research. (Appendices 9 and 10). These required the recognition of the referential use of non-verbal actions and their interactional functions. As these questionnaires were to be used with teachers and pupils careful attention was given to the format. This included a consideration of the participants level of education and ability to cope with the content area. The first resulted in two questionnaires with different linguistic demands, the second a more open approach to allow for a relationship to develop with participants.

All interviews were arranged to occur immediately after their respective lessons and participants were briefed as to their purposes as it was important to make all those involved feel at ease. Although the prepared questions gave structure to the interview the wording and sequence was not fixed. Although it was known that more structured questions would have enhanced the reliability, this was balanced against the need to stimulate responses in a difficult and for some, embarrassing area. That this might lead the interviewer to overstate or guide responses or inadvertently seek support for his

preconceived notions and so affect validity, was also recognised. Finally, to avoid imitative responses from either teachers or pupils interviews were held separately and access to all information withheld until all the interviews were completed.

The period for the collection of data in the main study extended from January 1982 to June 1982. Figure 4.1a illustrates the time scale for all the school based work.

4.1.1 Presentation of data

Whilst different aspects of the data are contained in the practical workbook combined verbal and non-verbal transcriptions are presented on approximately 12 x 18 centimetre sheets of squared paper. Each horizontal line designates an aspect of non-verbal action and together they are placed in relation to the relevant word syllables. Because reciprocation is fundamental to the research, the actions of both teachers and pupils are shown as they occur. Whilst this was not problematic in the case of the teacher, it was not realistic to expect to transcribe all the non-verbal actions of pupils. It therefore became necessary when the teacher did not address the whole class or small group to ascertain to which pupil the non-verbal cues were directed. Additional symbols (Appendix 11) were written to take account of these different interactional situations. The vertical lines provided a means for aligning the actions.

Figure 4.1a Diary of school based work

FIRST STUDY

(Consisting of preliminary fieldwork)

1980 April - July Survey of potential schools for
research. Selection of one
appropriate social setting. 4 MONTHS

1980 October - December
(2 days a week) Discussions and meetings with
staff.
Examination of classroom
settings.
Piloting of research role.
A consideration of the video
in the classroom.
Re-selection of a school. 3 MONTHS

1981 May - October
(2 days a week,
excluding holiday period) Discussions and meetings with
staff in re-selected school.
Observations of staff and
pupils willing to participate.
Clarification of researcher
role. Identification of
video constraints.
Sampling. 4 MONTHS

MAIN STUDY

(Data collection)

1982 January - June
(2 days a week excluding
holiday period) Video recordings of data
for analysis.
Teacher and pupil interviews 5 MONTHS

Time in the Field extended
over a period of 16 MONTHS

SECTION 5

ANALYSIS OF DATA

5.1. Stage One - Preliminary Analyses

Although the data collection had extended over several classrooms, the plan at this stage was to build preliminary analyses around the consideration of the events of a single classroom. The verbal responses were initially transferred onto audio tapes to prevent excessive damage to the video tapes. In addition, because of the complexity of the non-verbal actions, some pre-selection of videoed material was desirable.

The first criterion of this was self-explanatory in that the video tape had to be of sufficient quality to permit the detailed transcription of actions, the second, that the level of teacher-pupil reciprocity was of an acceptable level and thirdly, that the material selected contained a relatively large number of non-verbal actions. Whilst normal viewing of the tape facilitated criterion one and two, it did not sufficiently accommodate three and so in order to provide a more systematic, although still general analysis, Harrison's technique for the presence or absence of verbal and non-verbal actions was introduced and modified.

To achieve this, the non-verbal was subdivided into categories of gesture, posture and total movement and consistency was achieved by using a thirty second time interval. Only non-verbal actions that were a part of the presentational aspects of the lesson were recorded. The results are shown in Appendix 12. These provided guidance for the selection of data from which to continue a more detailed analysis. Using the selected extracts the verbal and vocal cues were copied onto audio-tapes to avoid excessive use of video tapes and possible damage. These were then transcribed in script form. (Data X Appendix 13).

Using graph paper non-verbal action and activity were added.¹ (Data Y Appendix 14). Transcribing the interactions in this way provided a sociological description of the verbal vis a vis the non-verbal of the participants. All subsequent analyses of the data were taken from the Y transcripts.

5.1.1 Analysis of data X

Taking the broadly defined research hypothesis that interaction in the classroom between teachers and pupils is, in part, facilitated by non-verbal activity, several viewings of data X were carried out. From these viewings two observations were made, one, that there was an apparent orderliness and two, that clustered non-verbal actions appeared more frequently than single actions. All extracts can be located in Appendices 13a-d. With each extract a line reference is given to guide the reader to the appropriate part of the Appendices.

In considering the first of the extracts, if we examine the verbal there is a regular sequence of teacher speaks followed by pupil and if written in letters where T is the letter assigned to the teacher and P a pupil, what occurs could be written as T - P T - P.

1. Standing, walking, sitting actions are recorded as postural.

5 T. Now then - if this one here (3.0) is
 6 .01' can anyone tell me what that one is' (7.0)
 7 Who can tell me what that one is'
 (3.0)

8 P. one five =
 9 T. One five - you reckon (2.0) but if [I tell you
 10 P. Two]

Because in classrooms there are many potential P's in order to establish that the same pupil is not responding, the sequence could be T - P₁ - T - P₂ T - P₃ . This is illustrated in transcription S₁ 125 - 155 X 5 - 11

5 P₁ Well, the next one will be 03 three squares
 6 along (()) (2.0)
 7 T. Doesn't matter if you're right or wrong' - we
 8 can always rub it out if you're wrong'
 9 P. (())
 10 T. RIGHT 03 THERE (2.0). All happy about that
 one? (2.0)
 11 P₂ I'll try the () again.

Nevertheless, this pattern would suggest a high degree of order. However, an examination of S₁ 510-572 X L1-11 indicates that the alternating pattern of teacher contribution, pupil contribution is not always a feature of classroom interaction.

1 T. We've got 2⁻ 1' (1.0)
 2 F. Yeah but that 3-1 be outside see you'd have to move
 3 along a dot - be going in a [diagonal] =
 4 P's [yeah]
 5 P = line.
 6 T. Where are we. Two four, two three, two two, two one
 7 (2.0)
 8,9 P. That'll have to go [((muffled))]
 10 P. [There there]
 11 P. [Yes]

Within this data there are two sets of three consecutive pupils contributing. Written as a formula this would be T - P₁P₂P₃T P₄P₅P₆.

Although of different patterning these three extracts indicate there is an order of speaker and that teachers and pupils are able to accomplish orderly exchanges.

Sacks, Schegloff and Jefferson (1978) argue that such systematization is present in other exchange systems (debates, meetings, ceremonies), each with their own turn-taking parameters. They say,

"this linear array is one in which one polar type (which conversation instances) involves, 'one turn at a time allocation,' that is the use of local allocation means, and the other pole (which debates instance) involve 'preallocation of all turns,' and medial types (which meetings instance) involve various mixes of pre-allocational and local allocational means."

page 46.

That is 'pre-allocation', regulates who shall contribute and by so doing minimizes the potential for others to contribute, whereas 'local allocation', does not regulate the organization of who shall speak and therefore provides the opportunity for more participants to speak.

In the research data the organization of contributions is variable. In some parts of the transcription the evidence is that the teachers participation rights are maximized permitting the methodological ordering of who shall contribute to the lesson. This would fall under the pedagogical rubric of 'high dependence,' emphasizing the pre-allocation of turns. Where this is not the case, either a pupil picks up from a fellow pupil or interrupts the teacher. In these circumstances there is the potential for any pupil to seek to make a contribution so minimizing the teacher's rights to select who contributes. Within the speech exchange system proposed by Sacks et al (1978) this is designated 'local allocation.' Overall the data indicates that the allocation of who shall contribute at any point in time involves a mix of pre-allocational and local allocation.

The occurrence of these patterns and their different forms can be illustrated.

Transcription S₁ 510-572 X L12-16

12	T.	=	Two 0 there (1.0) Go on now Mandy (1.0) tell
13			us-s yer problem - tell us yer problem (2.0)
14	P.	=	2 - 0 and 3 - 1 =
15	T.	=	The 2 - 0 and the 3 - 1 - Whats the problem Alan? =
16	P.	=	Next one will be four - two =

It can be seen from this transcript extract that in lines 15-16 the teacher makes a statement at the end of which the first pupil selects to answer, the transfer occurring without a gap, whilst in L13-14 the pupil uses the short transition of (2.0) seconds to establish his sequential turn. That is, the transfer of participation rights from the teacher to the pupil occurs in both examples via smooth transitions.

Where such transitional points are not available, interruption and often consequent overlap occurs. Transcription S₁ 0-31 X L9-11 clearly shows this.

9 T. One five' - you reckon (2.0) but if =
 10 P. [= 1 tell you]
 11 T. ((Two))
 T. THAT one (2.0) is (3.0) three three (5.0) does it put you off'

At the end of line 9 the pupil begins to overlap with the teacher but is unable to sustain the interruption. The teacher re-establishes that he will continue. Note the emphasis on the word 'that,' and the three pauses, none of which are interrupted. In this extract teachers and pupils are both claiming participation rights. Other transcribed data shows that where the level of reciprocity between interactants is high overlaps are more frequent, but nearly always brief usually 4-6 syllables duration.

In addition, transitions between one contribution and the next are brief, there is some evidence that pupils will utilize these to establish their right to make a comment.

S₁ 510-572 X L34-37

34 T. = That's a C minus 1 - isn't it' [And that's a 0]
 35 P₁. [That's a minus Sir]
 36 P₂. = I think that other one should be rubbed out
 37 T. = 'which - one's' =

In line 35 the pupil establishes his right to participate by the use of overlap, but in line 36 pupil 2 selects himself to continue the participation. This is accepted by the teacher without adverse criticism and an apparent need to re-establish order. Throughout there is no interval between adjacent utterances. In this extract it is the pupils who are claiming participation rights, albeit that only pupil two acquires the right.

What is of note is that, potential transitions, usually averaging between (1.0) and (6.0) during a teacher's contribution are rarely exploited.

S₁ 0-31 X L3-7

T. . . . Can I get round that side' I'm going - to put some dots (1.0) on the board here (7.0) Now then - if this one here (3.0) is O1' can anyone tell me what that one is' (7.0) who can tell me what that one is' (3.0).

In this instance the teacher is apparently at ease in employing pauses of different lengths without fear of interruption.

What can be usefully summarized from these exploratory observations of verbal classroom interaction is that the exchange of information and ideas between teachers and pupils is generally regulated and organized and is characterized by different exchange strategies. What the exchange strategies that have been described provide is the opportunity for participants to claim the right to a turn. Briefly summarized, they are that if at an exchange point,

- a. the turn is constructed so as to involve the use of a "current speaker selects next," technique, then the speaker selected has rights and obligations to take the next turn and no others have such rights and obligations.
- b. the turn is not constructed so as to involve the use of a "current speaker selects next," technique, self selection for next speakership may, but need not be instituted, with first starter acquiring rights to a turn.
- c. if the turn is so constructed as not to involve the use of "current speaker selects next," techniques, then current speaker may, but need not, continue, unless another self selects.

Features of the Rules are as follows,

- d. the Rules are ordered; Rule b only applying if Rule a has not; Rule c only if Rule a and b have not.
- e. the whole set of Rules re-applies at each exchange point.

As Sacks et al (1978) have shown, these rules exist as a resource for facilitating the organization of talk in conversation. But detailed viewing and re-viewing of the data has shown that the teaching-learning process also depends upon turn organized activity. The foregoing extracts from transcripts suggest that medial (pre-allocation¹ and local)² types of exchange are so arranged to permit this. These illustrate that teachers and pupils do exercise the right to select next speaker and self-select to continue their turn. However, in this data, modifications of the Rules appear to apply. The first of these is that the teacher appears to have the right to 'select next speaker,' (Rule a), whereas the pupil as current contributor is usually prevented from selecting another pupil. Teachers frequently self-select (Rule b), but pupils also seek opportunities to do this. The operation of Rule c by pupils has not been observed, it is the teacher who seems to exercise the right to maintain a turn. From these initial observations, the indications are that the rights to a turn during ordinary conversations as exemplified in the Rules of Sacks et al, (1978), are not fully available to teachers and pupils during classroom interaction.

-
1. Signifies who shall speak
 2. Does not signify who shall speak

5.1.2 Screening of data Y

Examination of the data was continued on the Y material and because the verbal pattern discussed in Section 5.1.1 were partly accompanied by single and linked non-verbal actions, a decision was made to pursue further clarification of these linkages by counting the different relationships of the verbal to the non-verbal. All data references in this section and in 5.1.3, 5.2 and 5.3 are as follows,

S₁ 0-31y are contained in Appendices 14 a,b,c,d

S₁ 125-155y are contained in Appendices 14e,f,g,h,i,j

S₁ 510-572y are contained in Appendices 14k,l,m,n,o,p,q,r

In order to screen the relationship of the verbal to the non-verbal a list of single and linked non-verbal actions was compiled and collated in Appendices 15a-e. Data 0-31y illustrated that some body movements were discrete and that these were largely associated with the head, arms and hands. Kendon (1975) also refers to the prominence of arms and hands. A similar pattern of gestural occurrence was noted in Data 125-155y and 510-572y. Dittman (1977) proposes that these non-verbal actions often have an agreed specified verbal translation. In addition postural changes were recorded but the legs and feet were little in evidence. Proxemic changes were not transcribed. In all the data extracts the indications are that gestural and postural activity occurs singly and in clusters, but that clustering features more prominently.

Further investigations showed that single head arm-hand and postural actions had a definite link with the verbal. In Data 510-572y of the 26 arm-hand actions 20 were accompanying the verbal. There is some indication that these were predominantly by the right hand, that is right handed individuals gestured mainly with the right hand. However, clustered actions are not so intimately connected with the verbal. In data 0-31y of 14 head linked actions, 11 were not accompanying the verbal and 7 of the 13 arm-hand actions occurred only in a non-verbal form. The fact that postural activity also showed no link to the verbal may be supportive of Schefflen's (1972) view that postural changes occur between turns.

As a result of this initial review of single and clustered non-verbal actions, the following can be stated,

- a. that the head, arm-hand and torso are the most active body parts,
- b. that clusters of actions occur more than isolated actions,
- c. that single actions relate more to the verbal,
- d. that clustered actions are more frequently observed during pauses.

What we have at this point is that single and clustered non-verbal actions occur within the process of communication between teachers and pupils. What is not clear is their placement in relation to the verbal. The research questions are now,

- a. do single actions occur between participants contributions?
- b. do clustered actions occur between participants contributions?
- c. do single actions occur within participants contributions?
- d. do clustered actions occur within participants contributions?

In order to proceed along these lines of enquiry the sequential occurrence of the non-verbal will be inquired into.

The tracing of single actions suggests that many of these have regular links with the verbal. This regularity occurs significantly in the region of pause. In considerable evidence are those actions which occur at the end of a phrase and precede a pause. Some examples of this are in Data 0-31Y L14, 17, 39, 70, Data 125-155Y L100, 124, 126, 177 and Data 510-572Y L220, 256, 267, 321, 322. Others, but less so, are observed during pauses, Data 0-31Y L3, 9, 21, Data 125-155Y L113, 147 and Data 510-572Y L321, 345, 389. These actions usually extend over the period of the pause and are frequently longer in duration than those preceding a pause. The latter consistently extend over single syllables. Of further interest is that such single actions occur more within turns than between turns. The possible exceptions to this are the postural actions which are more in evidence during teacher and pupil overlap and prevalent during pupil turn seeking activities. In addition, as Data C-31Y L51, Data 125-155Y L122, 148 and Data 510-572Y L346 demonstrates, there is a tendency for single actions to accompany vocally stressed words. It may well be that they also accompany the pitch of the voice but there is insufficient notation of pitch to make any useful comment.

Further analyses focussed on the non-verbal actions that were clustered. Where these occurred predominantly functioning together were head and arm-hand gestures. Small clusters were largely concentrated within turns, whilst larger clusters were more in evidence at other points in the interaction. Data 125-155Y L92-96, L153-156, 510-572Y L358-359 illustrate examples of

large non-verbal clustering pre a verbal response. Pupils particularly show a preference for this and it could be speculated that it is a speech preparatory activity. Significant clustering also occurs during teacher and pupils overlap, with some indication that pupils are particularly non-verbally active when requesting a turn. Data 125-155Y L193-199 and Data 510-572Y L247-258 are examples of this. Data 0-31Y L73-79, Data 155Y L177-180 exemplifies similar clustering but these occur at the completion of a response and are mostly teacher performed. The same combination of actions within clusters does not always occur and within some clusters different actions change direction at the same point in time.

In responding to the questions raised, the observations accrued so far indicate that,

- a. discrete actions occur within the verbal contribution of teachers and pupils,
- b. although discrete actions do occur during pauses they are more frequently used to accompany word syllables and stressed words,
- c. clustered actions occur at points where turns are exchanged,
- d. although clustered actions occur during pauses they are more manifest between teacher-pupil turns.

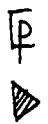





5.1.3 Summary of stage one analyses

In broad terms what analyses appear to suggest so far, is that there are rules which organize the taking of turns during classroom interaction and that non-verbal activity is notably located in those areas where exchange could and does occur. This is consistent with the initial observations of orderliness and non-verbal clustering referred to on page 110. In order to substantiate these observations further, the next section will examine in more detail the rules of exchange and the incidence of non-verbal clustering and in so doing reference will be made to some of the data already cited.

5.2 Stage Two - Additional Analyses

That teachers and pupils are involved in distributing turns has been established. However, there are certain clues in the data which might establish the claim that the teacher (in some instances) selects to do this using non-verbal activity. Consider the extract presented in Figure 5.2. In this extract the teacher employs non-verbal activity to indicate just who has been selected to answer the question. After the phrase, "Who can tell me," the teacher turns towards the selected pupil, at the same time turning the head to the right with a lift. A 3.0 second pause follows, during which time the pupil can think about the answer he will provide. The teacher fills this gap with a head nod, a postural shift forward and pointing to the blackboard, thus reinforcing that the selection of that pupil is to continue.

This extract illustrates the positioning of the non-verbal in relation to the verbal when the teacher selects the next speaker.

19 T. Who - can tell me what that =
20 
21 
22
23
24
25 = one is? (3.0)
26
27 
28
29
30
31 P. (2.0) One five =
32
33 
34 
35 
36

Again, in Figure 5.2a it is clear that the teacher uses, by conversational standards, a large pause with apparently little concern that he might be interrupted. The teacher asks his questions to the class and waits for two seconds. Applying the Rules of Sacks et al (1978), at this point any pupil could select to be a first starter. (Rule b). But this appears to be avoided by the use of non-verbal activity and the pupil's name. Again, however, a long pause ensues (4 secs) before the pupil leans forward, puts her hands to her face and produces a response (inaudibility made it too difficult to transcribe). Overall, the indications are, that in this extract, the teacher's right to select the next contributor seems established and is reinforced with non-verbal activity. Whilst most of the exchange points at which this occurs are between one and six seconds in duration, in the Appendices Data 0-31Y Line 75 shows a pause of fifteen seconds, sustained throughout by non-verbal activity. This pause appeared to be perceived by pupils as too long; they started to cough. The teacher responded by re-phrasing the question. This is in accord with Rule C which says that the speaker can select to continue his turn.

At this point, the interpretation could be that teachers need not be concerned with having their turns interrupted, that if systematic signalling occurs there will be the minimum of interactional disturbance. But examination of the data suggests that pupils can and do claim rights when not selected to have a turn. Typical occurrences of this are shown in Figure 5.2b (i) and (ii). In both these extracts, pupils solicit a turn and the result is overlap. The source of this difficulty could be that there is no pupil selection. In both instances, the teachers in their contribution do not directly select

Contained in this data are examples of two
uninterrupted pauses as the teacher seeks
to exchange the turn

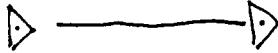






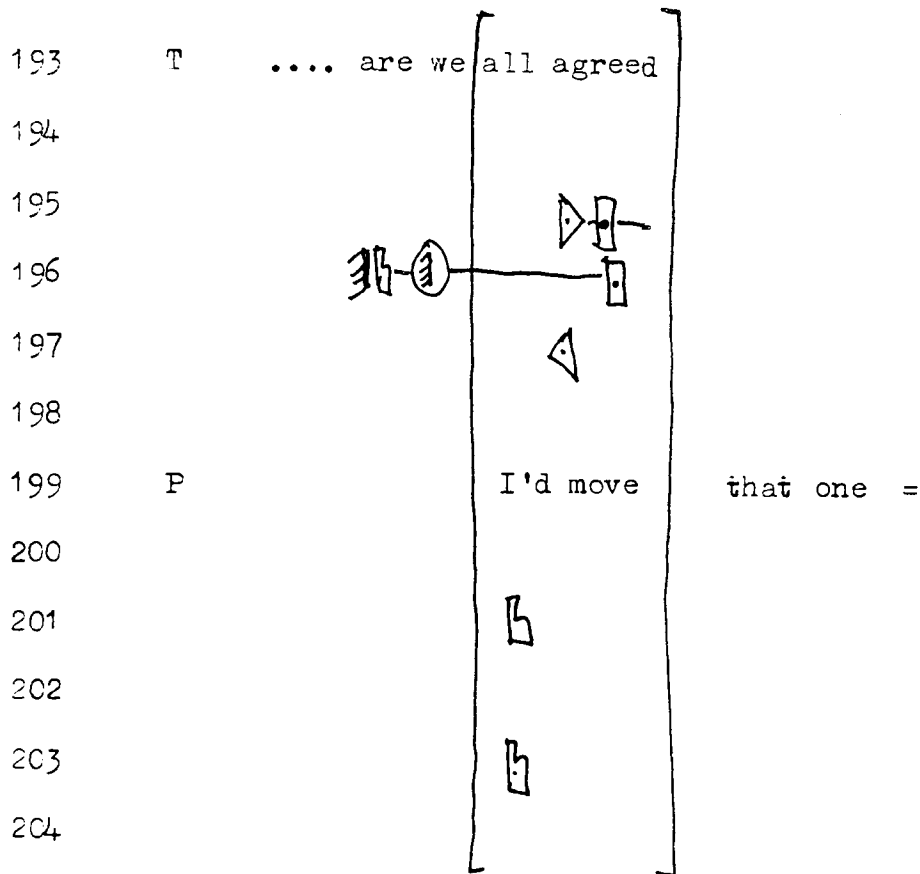
86 T Do you think it's right - this one (2.0) Susan (4.0)
87 [c] e)P
88 
89 
90 
91
92 P (())
93 
94 
95 
96 
97

Figure 5.2b (i) and (ii)

In these extracts pupils self select to have a turn and the outcome is overlap with the teacher

(i) Data S₁ 125-155Y L193-199





(ii) Data S₁ 510-572Y L373-384

373 T isn't it (1.C) and that's a 01 =

374

375


376 

377 

378

379 P that's a minus sir =

380

381 

382

383

384

who shall respond. In addition, a potential completion point occurs because of the presence of an unfilled pause.¹¹

There are, of course, other unfilled pauses during a teacher's turn when pupils do not interrupt, but these occur largely within a turn and not where the end of a turn is indicated. Figure 5.2c is one example of this. Other examples in the data suggest that teachers in these circumstances can employ quite long pauses without interruption.

Returning to the incidence of overlap; later investigations of the transcript revealed that pupils could solicit and achieve a turn without overlap. If Appendices 14h Data 125-155Y I193-373 is referred to (too extensive to provide in the text) one can see that after the first pupil operates Rule b, a second pupil operates Rule b. In this data, the teacher allows up to four pupils to invoke this rule. The pupils appear to achieve their own selection for a turn by avoiding a gap between adjacent utterances. If the teacher did not allow this selection process there would be more evidence of teacher-pupil overlap. However, the time often comes when there is a threat to interactional order and some kind of repair is required. In conversation the usual repair of such an occurrence is for one speaker not to complete. This does not appear to be the case in classrooms where both participants complete, albeit that the pupils, in all instances, make contributions of a much shorter duration.

What is significant throughout the data is that when a pupil or several pupils have made a contribution, the teacher latches

11. Unfilled pause - contains no non-verbal activity.

Contained in this short extract are
three examples of un¹interrupted pauses
within a turn

49 T = THAT one (2.0) is (3.0) three three (5.0)

50

51

52

53

54



directly onto a subsequent utterance. Neither filled or unfilled pauses occur. This may be one strategy for ensuring a turn and thereby maintaining order.

Other interesting reparative procedures are the use of extended sounds and word emphasis in the verbal channel and non-verbally the introduction of mobile hand and arm gestures. Examples of these are given in Figure 5.2d. Preceding this extract there is an outburst of simultaneous talking by pupils accompanied by postural adjustment. This is a violation of the acceptance by teachers and pupils that one contributor shall speak at a time and is obviously threatening to the teacher. In Figure 5.2d the teacher places his hands on his face together with the head gestures to establish his right to self select, over-rides further attempts by more persistent pupils to self select, points, finger wags, gestures with head, leans forward and prolongs the word th::nk. Verbally and non-verbally the teacher is searching to get back to normal. If this same data extract is followed through in Appendices 14m and 14n it shows the teacher does not achieve this with ease. Another pupil interrupts, is ignored and the teacher increases the gestural activity. The indication is that teachers may not always manage to control who shall make the next contribution.

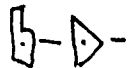
Other parts of the data suggest that when requested by teachers to take a turn pupils are adept at signalling that they are prepared to make a response. However, absence of such signals appears to be perceived by the teacher as an indication to continue his turn.

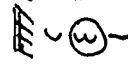
Figure 5.2d


Data S₁ 51C-572Y L319-336


This extract illustrates verbal and non-verbal strategies of repair


319 T So - we are getting somewhere 1.0 I still th::nk -

320 

321 

322 


323 


324 

325 (())

326

327


328 P  x2

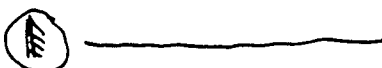
329 P  x3

330

331 T = aren't right

332

333 

334 

335

336

What can be established from the observations in the extracts presented is that it is the teacher who selects the next speaker (Rule a), self selects when appropriate (Rule b) and that this is accomplished, in part, by means of non-verbal activity. Some of the exchanges were observed to occupy up to fifteen seconds, a period of time which is usually not sustained in normal conversation. It is also the teacher who exercises the right to continue a turn and who is sufficiently confident to employ pauses during a turn sustained by non-verbal activity. In the data presented, pupils do not apply Rule c and only infrequently Rule a. This, of course, may not apply to other transcriptions. The conclusion from this evidence is that the teacher has most of the rights and that these rights are understood by pupils.

Further investigation of the data has revealed that pupils compete with teachers to make a contribution, that is, they operate Rule b. Typical occurrences of this are when the teacher pauses before completing his contribution and although these pauses may contain non-verbal activity they appear not to clarify the intentions of the teacher, that is, whether he will continue or proceed to select the next speaker. The disorderly consequence of insufficient signalling is to increase the potential for any pupil to select to start. There are examples in the data where this is permitted, others where it is resisted. In many instances the outcome is teacher-pupil overlap and when this occurs the teacher 'repairs' the situation by minimizing the use of pause or removing the gap between turns. The use of this strategy to re-establish order is usually not problematic for the teacher.

A much more serious source of disturbance is when different groups of pupils within the class simultaneously assert their right to respond. The teacher seeks to resolve this potentially disruptive situation by word emphasis, which is sometimes accompanied by sustained non-verbal activity.

That interactional order is facilitated by the, 'one party at a time,' conversational rule of Sachs et al and that there are applications and modifications of this in the classroom, has been routinely encountered in the data. Some similarity with these rules lies in the fact that 'current speaker selects next speaker,' and 'self selection,' occurs, some modification, in that not all participants are permitted to operate all the rules. Teachers usually select the next speaker, pupils much less frequently. Teachers self select as do pupils to quite a notable degree, but it is usually teachers who have the right to prolong their turn. McHoul, A (1979) found very few examples of pupil self selection in his analyses of the teaching-learning process in the classroom. However, what is of particular note, is that in normal conversation the application of Rule b, that is anyone may self select, is generally non-threatening, whilst in the classroom it may become a source of disruption.

5.2.1 Summary of stage two analyses

In sum then, the application and modification of these rules would seem to have implications for the establishment of interactional order¹ in the classroom at broadly two levels,

-
1. Order that results from claims to participate in the communication process as distinct from order linked to curriculum planning and organisation.

(1) the maintaining of order, (2) the detection and resolving of disorder. In addition, and of particular interest to this piece of research there are a variety of gestural and postural actions that appear to function to facilitate this order. Observations of these indicate that the orderly verbal exchange of turns between teachers and pupils is, in many instances accompanied by non-verbal activity, that overlap, with the potential to initiate disruption, is, in part, controlled non-verbally and that reparative procedures when applied are also, in part, often non-verbally formulated. From the analyses in Section 5.1.1, 5.1.2 and 5.2 it is possible to move from the general hypothesis which stated that interactions in the classroom between teachers and pupils were, in part, facilitated by non-verbal activity, to propose that, non-verbal activity systematically influences the exchange of turns between teachers and pupils.

Clearly though, substantiation of this hypothesis requires much more precise information. To this end the next stage will direct attention towards acquiring more accurate analysis of the exchange of turns, including reference to the verbal, vocal cues and non-verbal activity. The exchange of turns will define the units of analysis.

5.3 Stage Three - Further Analyses

Analysis of the data so far has indicated that teacher and pupils accomplish the exchange of turns by operating rules which shape the organization of the interaction. This organization is co-ordinated by transitions. In some parts of the data transitions occur from one turn to the next with no pause and no

overlap, in others the exchange is achieved with a filled pause. Both are known as smooth transitions. At other points of exchange the pause is characterized by teacher-pupil overlap; the transition is then referred to as simultaneous.

Having offered, so far, a modification of the rules of Sacks et al (1978) as a possible system for organizing teacher-pupil interactions and the hypothesis that the presence of non-verbal actions may, at least partially, contribute to the shaping of this organization, it is now necessary to provide more detailed observations of the interactional unfolding of these exchanges.

In data Y material S₁ there are many examples where the teacher seeks to and accomplishes a response from a pupil, where the teacher must indicate that the selection of the next speaker is imminent. In Data 125-155Y L86-91 the indication is that the teacher is preparing to terminate his turn. There is a rise in pitch, 2 seconds of head and arm activity, the use of the pupil's name and a further 4 seconds pause (unfilled). A smooth transition is effectively achieved and one might conclude from an obvious combination of vocal cues and non-verbal activity. But Data 0-31Y L18-30 illustrates the same smooth transition, note again the rise in pitch, the 3 seconds of non-verbal activity, but no use of name. Similarly Data 125-155Y L122-127. Pupils are also attuned to responding to those questions that are followed by unfilled pauses. In Data 125-155Y L151 the question is followed by a 2 second unfilled pause and the pupil's response is preceded by a 1 second unfilled pause.

What all have in common is that the verbal is designed to elicit a response, that is a question is posed and a response is anticipated. In these instances it may well be argued that the

questions in themselves are sufficient indication of, 'the teacher selects the next speaker,' in which case the non-verbal is redundant. However, the persistent presence in the data of clusters of non-verbal activity, in the same position vis a vis the verbal, that is in the pause post the completion of the question, could suggest a reinforcement of the turn completion.

But the question is not the only structure by which a smooth transition is accomplished. The explanation in Data 125-155Y L110-121 with no terminal rise in pitch hardly signals to pupils what they should do next. Nor, the instruction in Data 125-155Y L217-272. These appear to indicate only possible turn exchanges. If this is so, perhaps the 3 second and 2 second pauses filled with non-verbal activity that follow could confirm the turn completion.

In the teacher's question, instruction and statement there is no word emphasis or use of "mm," "alright," or "okay." Only in the question form is there a rise in pitch. All of these are often signals of completion. It is also arguable that, 'where,' 'what,' and 'why,' at the beginning of a verbal contribution indicate very clearly to a pupil that what follows is going to be a question. What is not always clear is when the teacher has completed, whether he may continue to ask more short questions, or whether he may combine a question with an instruction. There has to be a signal that the teacher's turn is completed and the pupil has the right to begin.

On the completion of a turn, it is anticipated by teachers that a pupil(s) will accept or reject the offer. Instances of acceptance in the data are 0-31Y L31-36, 125-155Y L122-133. At each point of exchange a postural shift occurs prior to the verbal

response. This may be a device by which the pupil illustrates his acceptance. It is improbable that any pupil will verbally say, "I wish to respond." The feature in these extracts appears to be that non-verbal activity occurs post the teachers verbal contribution and pre the pupil's contribution. Unlike other forms of interaction the request by the teacher for a response is rarely totally rejected by a pupil(s). What is more likely to occur is minimal acceptance. In this data there are three examples of pupils coughing and or mumbling, Data 125-155Y L80, L92, L139. There is no non-verbal activity illustrating acceptance as in other more successful exchanges. If rejection does occur, that is a full response is not forthcoming, the teacher continues the topic by introducing additional explanation and or clarification.

What appears to exist are 'parts,' that adjoin. The question and answer parts are a common form of organization in teaching (Duthie 1979, Cohen and Manion 1977). Plainly, the order a response follows a question is a natural sequence of events. What is of interest are the features which accompany these parts. There appears to be a form of non-verbal 'match,' between teacher and pupil responses¹ that is, when a turn is offered and accepted the termination of the offer is followed by a filled or unfilled pause and the preparation to the acceptance has familiar features. However, when the allocation of turns is not verbally clearly framed by the teacher, that is the first part in each instance is not a question, the non-verbal pairing is not always so clear. In the examples of Data 125-155Y L1 0-121 and Data 125-155Y L217-222 of explanation and statement, the

1. Sacks, H (1972) refers to these as adjacency pairs.

completion of the turns by the teacher are clearly accompanied by non-verbal clustering and the acceptance by the pupil is similarly prefaced although the non-verbal used by the pupil is less pronounced. But whatever the degree of non-verbal activity it is present at the same key points of the exchange.

At this point, the observation that can be made is that in the selected extracts pauses between turns are generally accompanied by non-verbal actions and clusters. The questions that this raises are,

- a. is there perhaps something about the occurrence of pairs of non-verbal clusters at points of exchange where the teacher selects a pupil(s) to respond which contributes to the organization of the exchange?
- b. does the pairing of non-verbal activity reinforce the exchange and by so doing ensure a smooth transition?

Continued analysis of the data revealed that there was only one instance of the pupil selecting the teacher to be the next contributor. This pupil had indicated his interest in accepting a turn Data 540-572Y L325-330 by non-verbal activity. This indication was rejected by the teacher who adopted the strategy of continuing his turn. The data continues from L330 to clearly demonstrate that he and other pupils are seeking a turn. The pupil, without permission from the teacher establishes his turn L355 by directing a question to the teacher. This request by the pupil for additional explanation of the topics is accepted. Again the overall structure is question/answer. In the sequence just outlined the pupil precedes his claim to a turn by a cluster of non-verbal activity including a postural adjustment.

The cluster is not repeated at the end of the question. The teacher, who is now the receiver displays a cluster of non-verbal activity prior to his verbal response and accepts the turn.

The precise points at which the clustering occurs differs. When the teacher selects the next speaker he does not non-verbally preface his verbal contribution, on the other hand, pupils in the same position do. This may be explained by a difference in rights, the teacher assuming a right to select in circumstances where pupils are less assured. When teachers and pupils accept their turn they both precede this with clustered non-verbal activity.

What seems to be operating between the teacher and the pupil are effective devices for selecting the next speaker. The occurrence of question, statement and instruction set obvious constraints on what should be done in the next turn, that is a question promotes an answer but it is also of note that such verbal pairs at similar points in their occurrence are frequently accompanied by non-verbal activity. In addition, on the few occasions when a pupil selects the teacher to respond the verbal contribution is preceded by non-verbal activity.

Further examination of the data revealed that paired matching of verbal and non-verbal is not always employed. There were several instances where the teacher chose to continue his turn, by presenting a series of instructions or statements. The turns are also extended by appendaged questions. Why is it that the relatively prolonged turns that result are not interrupted? Data O-31Y L1-18 provides some illustration and possible indicators. The series of explanations are separated by brief pauses containing very little or no non-verbal activity and the possible points of

turn exchange are minimized so as to restrict the possibility of pupil interruption. It is feasible that these characteristics assist the teacher to promote his turn. By contrast at the termination point of the prolonged explanations the pause is lengthened, there is a rise in pitch, the non-verbal activity is increased and a smooth exchange occurs.

Data O-31Y L7-24 exemplifies turns further. In this the teacher indicates his desire to continue even though there are points at which he could have transferred the turn or have been interrupted by a pupil. The points, in this extract, at which an interruption could have occurred are after, "on the board here," (L13) and "this one here O1." (L19). The point at which transfer actually becomes possible is at the end of Line 19 when the teacher offers a turn to any pupil in the class and proceeds this by a 7 second period of non-verbal activity. As it happens because no pupil accepts the offer, the teacher is compelled to continue.

Again we can see that in Data O-31Y L61-79 there are three possible points of interruption, Line 61 pauses of 3 seconds and 2 seconds and Line 67 a pause of 2 seconds where the teacher provides an opportunity for the pupil(s) to generate further comment on the topic. Or does he, Line 61, the 2 second pause contains no non-verbal activity and in Line 67, the 2 second pause is accompanied by a retreating posture movement. Continuing with Line 67, the question asked is followed by a 12 second filled pause. On the basis of previous comment this is an attempt to transfer the turn. The turn is not accomplished so the teacher tries again and the 2 second filled pause is followed by, in Line 73, a 15 second filled pause. A muffled response from a pupil is achieved.

It would seem that at some potential exchange points the teacher has held off a response by minimizing the pause and the use of non-verbal activity until his explanation is fully completed. When the teacher requires a response, both the pause and the non-verbal activity are considerably increased. This is only a feature of the teacher's contributions, the pupils' contributions are consistently of a shorter duration.

In summarizing so far, what the data extracts illustrate is that teachers and pupils are able to recognize the approach of a turn prior to its actual occurrence. When the teacher selects a pupil, the completion of the verbal may be indicated by a rise in pitch, the use of a name and word emphasis, but it is also frequently marked by succeeding non-verbal activity. That the pupil is collaborating appears to be indicated by pre-response non-verbal activity. Similarly, on the few occasions when the pupil wishes to initiate the selection of the next speaker, non-verbal activity is detectable prior to the occurrence of the verbal. Teachers do not exhibit this pre-response non-verbal activity. In addition a prolonged contribution by a teacher is accompanied by minimized pause and non-verbal activity and it seems possible that these features enable the teacher to sustain an uninterrupted turn.

Until this point it has been proposed that in most instances it is the teacher who initiates the exchange of turn and the pupil who is in a position to accept or reject, although parts of the data demonstrate that pupils can initiate. Analyses of other extracts exemplify this pupil initiation. In the extract 125-155Y L193-216 the teacher has the turn but towards the end of this and during the words "all agreed," the teacher begins to

change his posture and head gesture. The head gesture down and combined with a detectable posture change may well have acted as a pre-closing signal. The pupil anxious to contribute violates the rules and self selects to continue. This violation is initiated with postural shift and head gesture, both in a forward direction and overlapping the teacher's turn. A similar pattern emerges in Data 0-31Y L37-48. The teacher pauses, moves the head in a forward direction, follows this with word emphasis and the pupil prepares posturally to make his contribution. Again the pupil overlaps the teacher's turn.

The same interconnectedness of pupil interruption and teacher repair is observable in Data 510-572Y L247-258. In this instance the teacher's non-verbal activity and the verbal interruption are concurrent but equally serve to accomplish the break in turn. Likewise in Data 510-577Y L373-384 the teacher's turn appears completed; the rise in pitch, the leaning forward with the arm extended suggest that this is the situation. The pupil lifts the head and responds and the result is overlap with the teacher's continued turn. Data 510-572Y L319-335 illustrates a similar sequence of events but the location of the non-verbal is different. In Line 319 the filled pause is responded to by pupils who continue their postural adjustments until the next pause at which point they verbally interrupt, an interruption in this instance they do not sustain. Characteristic of pupils seeking a turn is that they pre-empt their verbal response pre-dominantly with postural and gestural activity.

From these extracts one could come to the swift conclusion that teacher-pupil overlap is a result of the teacher's inadequacy to cope. Such interference with the teacher's turn is usually

referred to as disruptive behaviour. In this classroom the teacher could cope. What might be a more probable explanation is that the teacher employs pause, vocal cues and non-verbal activity at what are viewed by pupils as potential exchange points. A pupil's apparent interruption may be no more than an incorrect interpretation of the signals they observe.

What is of further interest is that the teacher accommodates the mis-use by the pupils of the turn-taking system. The pupil's self-selection threatens the continuance of the teacher's contribution so the teacher Line 49 Appendix 14b clarifies the uncertainty by the use of rhythmic markers, each phrase being punctuated by vocal cues, and non-verbal activity. The line reads, "THAT - one (2.0) is (3.0) three three (5.0) does it put you off." After the first phrase the teacher makes a short torso movement forward and a head nod also in a forward direction, the second and third phrases are followed by periods of silence and in the final phrase the teacher moves his posture back through 'normal,' and leans back. This provides an illustration of how the teacher re-establishes his turn and thereby control of the interaction.

Again in Data 510-572Y L265 and 510-572Y L319 a very similar pattern emerges. It is of particular note that firstly the forward postural movement whilst usually absent in smooth transitions is much more in evidence in 'repair,' situations and secondly, that non-verbal actions are usually of short duration. The teacher appears to be reinforcing his verbal response with visual signals and thus establishing that he is self-selecting his turn. In these three instances the teacher allows the pupil to complete his turn before he continues, but there are other

instances in the data where the teachers' self selection process interferes with the pupil's completion of his turn. In Data 510-572Y L319-336 the verbal is accompanied by a forward movement of the head and mobile hand gesturing and in 125-155Y L134-138 the first verbal statement is similarly accompanied. The pupil has to relinquish his turn.

Where the teacher is less anxious he does not terminate the pupil's contribution but suspends his turn by allowing pupils to self-select. In Data 125-155Y L191 pupils make several postural adjustments in a forward direction. Data 510-572Y L223-246 contains a sequence of four pupils self-selecting. The first one following the teacher's turn has a pattern not dissimilar to that adopted by the teacher when repairing an interruption, that is phrases are clearly punctuated, the second and third pupils use only a verbal response and may feel security in their joint contribution, whilst the last pupil moves his posture forward in order to add his brief verbal comment. Data 510-572Y L253-264 has some of the same characteristics but it is a head gesture which accompanies the first word of the phrase. In Data 510-572Y L389 the pupil starts to move posturally backwards prior to his verbal contribution.

There are other instances in the data when pupils self select where non-verbal activity does not occur but there are more selection points which are accompanied usually by gestural activity but more frequently by postural shifts. At this stage the level of analysis is insufficient to support Schefflen's (1972) proposal that senders and receivers will sit in the same postures and move synchronously.

What analysis of the data has clearly shown is that the verbal serves to maintain the basic framework of order, in that when one participant makes a contribution, the others are expected to listen. In addition, in describing such exchanges there is some evidence to suggest that combinations of pitch, gesture and postural movements serve to contribute to the maintenance of this order and the repair of potential disorder. During teacher-pupil interactions smooth and simultaneous transitions both appear to reflect some regular properties. These are as follows,

- a. that there are non-verbal clusters preceding a verbal contribution which accompany and seemingly confirm acceptances by both teachers and pupils,
- b. that there is less occurrence of non-verbal activity and minimizing of the pause at potential points of exchange, when the teacher wishes to retain control of his turn,
- c. that there appears to be misplaced non-verbal signalling by teachers when pupils interrupt,
- d. that when the teacher takes measures to re-establish his turn the non-verbal activity accompanying the verbal is increased,
- e. that there are instances where non-verbal activity pre a pupil's anticipated response fails to occur and in those instances the pupil does not accept his turn.

It is hoped that reference to the data in Section 5.3 although limited, has illustrated some aspects of the hypothesis proposed in Section 5.2.1 giving some substance to the content therein, that non-verbal activity vis a vis the verbal serves to clarify uncertainties about who shall contribute and that such activity contributes to the systematic organization of teacher-pupil interaction in the classroom.

5.3.1 Analysis of interviews

Although the central concern of the research is to obtain and analyse descriptions of video-data a decision was made to utilize a different research technique. The technique consisted of interviewing teachers and pupils separately, with the purpose of identifying at a fairly general level, whether they perceived non-verbal activity to be occurring during the lesson and where it was located.

After recording the interviews with both teachers and pupils free responses were distinguished from responses to pre-determined categories. This was achieved by counting and coding (see Appendix 18 and 19), from which the following interpretations emerged. The counting did not indicate the number of pupils who were receptive only that a response had been perceived. That there is a dual role for teachers and pupils had already been established but for the purposes of analysis senders were distinguished from receivers. Analysis of the interviews resulted in the ensuing comments.

Only one teacher indicated awareness of the use of the head, whereas the pupils in all groups were receptive to this non-verbal action and could recollect its referential function to be one of substitution for the verbal. The face was not of particular note but pupils indicated that it was an important area for signalling emotions and spoke of pouting mouths, frowns and pleasant smiles, whilst teachers articulated in terms of intentional strategies (Argyle 1975), referring to the eyes and the stern look as means of creating an effective pupil response. It is probable that for pupils the face was a means of monitoring the affective state of the teacher, for the teacher it served more to facilitate the interaction.

Of particular note were the responses of the senders and receivers to the hands, their shapes many which they could clearly define and their relationship to the verbal. Pupils were highly receptive to gestures which supported or replaced words, pointing, shrugging the shoulders, extending the arms, raising the hand were viewed as potentially complete messages in themselves. This would seem to support the findings of Ekman and Friesen (1969), that participants in an interaction more readily observe gestures which support or replace words. Other hand/arm gestures were viewed as being directed at the self. Rubbing the hands, scratching the head, clasping the hands round the knees appeared not to be intentionally conveyed or received. Pupils suggested that these could indicate a teacher's attitude. What is of note is that teachers and pupils gave particular emphasis to their perceptions of the hands. This is contrary to the view expressed by Davitz (1964) that the face is the primary source of information; these participants did not perceive it to be so. However, the face may well be a concentrated source of signals of which participants are not consciously aware.

That posture was an important means of conveying meaning can be illustrated from the following taped extract,

Teacher	:	I will tend to lean forward as well.
Interviewer	:	Are you doing that.....?
Teacher	:	Yes at times I make a point of leaning over as though.
Interviewer	:	Its a positive thing.
Teacher	:	Its a positive thing, I want to indicate....

Certainly, some postural adjustments provided feedback for pupils. Four of the six pupil groups recognised the occurrence of postural change, but their variation and functions were not clarified.

In the teaching situation, the spatial activities of standing, walking and sitting mainly indicated a change in activity, that is a teacher sat down after instructing the class on how to proceed or walked round the room to distribute resource material. Even though it was well known that many teachers took up a prominent posture-gesture position when presenting material to a class, for the teachers in these interviews awareness of sitting and standing was fairly limited. However, most were aware of adapting their spatial position in relation to the interpersonal form of communication they required with pupils. Similarly, pupils appeared to be particularly conscious of the approach of teachers towards or away from their own personal space.

The next section of the interview schedule sought to relate the referential aspects of non-verbal activity to their interactional function(s). In respect of this, both teachers and pupils made reference to the non-verbal activity accompanying the opening of a lesson. The intention from the teacher to signal and the receptiveness of pupils to this intention from the teachers was well established from the interviews. For many pupils the hands were active in performing this regulatory function.

The use of question and answer by the teacher in procuring the involvement of pupils was also viewed as a control strategy. The non-verbal activity when used by teachers to facilitate this kind of exchange seemed to be recognised and understood by the pupils. Manifestations of this were more readily observed in the hand, hand-arm gestures and the position of the torso. The responses of teachers suggested that pupils conveyed by appropriate gestures that they accorded attention or that they wished to contribute.

It would seem that the range and location of some of the non-verbal actions attended to by teachers and pupils bares some similarity to those observed and discussed by the researcher in Section 5.2. Teachers acknowledged that their selection of the next speaker was sometimes accompanied by non-verbal activity. Similarly, pupils recognised, that, in part, they indicate non-verbally that they wish to accept the turn. This ordered exchange of turns is referred to in the text as a smooth transition. Teachers and pupils also considered silence as a useful interactional management technique. Further, that although there was opportunity to respond it was recognised by pupils that they made demands upon the teacher by spontaneously declaring an interest. This has parallel in the transcribed data where pupils self select and the result is teacher-pupil overlap. In commenting on this simultaneous exchange pupils indicated some awareness of gestural activity but did not identify the postural changes apparent in the transcribed data. The overall responses of teachers and pupils indicated that they were more aware of receiving non-verbal signals than sending.

However, in their own lessons teachers were aware of the intentional use of gesture to control pupils and to minimize opportunities for their contribution. Again this gives some support to analyses of the transcribed data where the non-verbal is a feature of the teacher continuing a turn or re-establishing one.

By gathering information from teacher and pupil interviews useful descriptions of non-verbal activity have been acquired and although these could only be obtained from post hoc viewing of the tapes there are some useful complementary strands. Even accepting that the interview sample was small and the interview schedule in parts unstructured, the comments of the teachers and

the pupils are still useful, if only to inform the researcher that some gestural and postural actions are discriminated by teachers and pupils and that some non-verbal activity is seen to occupy points at which turns are exchanged.

Interpretation of the responses to the interviews also indicated an awareness of the qualitative content of the non-verbal actions. Pupils could consistently recollect the qualitative nuances of their teachers. That these qualitative nuances are important for teachers to be aware of has been referred to in Section 1.3.1 (Ekman and Friesen 1967, Mehrabian 1968), where it is argued that intensity of affect is related to emotional states. It is also claimed that changes in bodily tension can affect the motivation and consequent participation of pupils (Section 1.3.3, Bentley 1981, Woolfolk and Woolfolk 1975, Woolfolk, Woolfolk and Garlinsky 1977). It was therefore decided that some consideration of how non-verbal actions were performed might prove relevant. Investigation of this was pursued by further analyses of Data Y (for distinguishing purposes referred to as Data Z).

5.3.2 Analysis of data Z

To Data Y, qualitative emphases were added. The recording of these emphases has been possible because of the development by Rudolf Laban (1965) of a model with appropriate symbols (Appendix 16). This model consists of four 'effort' qualities, Space, Pressure, Time and Flow. All are present, to some degree, in the actions of participants, but only the pre-dominant use of these qualities, either singly or in various combinations with each other have been notated. Smooth and simultaneous exchange points were analysed for the possible presence of re-occurring qualitative patterns.

In discussing these analyses all data references in the section will be as follows,

0 - 31 Appendices 17 a b
125 - 155 Appendices 17 c d
510 - 572 Appendices 17 e to i.

Line references are given to guide the reader to specific extracts used in the text.

Data from 0-31Z L19-43, I49-103 and 510-572 L355-360 were representative of smooth exchanges. Respectively these are examples of teacher selects next speaker, teacher selects next speaker and pupil selects next speaker. In the first exchange the teacher uses little hurried movement, but his actions are firm, in the second his movement is again sustained but more spatially direct. The pupil in his selection of the teacher has a postural change that is sudden, direct and firm, but gestural activity which has little tension, is direct and sustained. It is probable that in all three instances the participants were endeavouring to display decisiveness of purpose, but the effort qualities to achieve this are variable. The sudden postural movement of the pupil may be an assertion of his intention to seize his opportunities, whereas the teacher is more established as a selector of the next speaker and is therefore more relaxed.

The pupil response in the first and second instances are accompanied by non-verbal actions which have a direct spatial emphasis and are sustained. The teacher's response contains a wide mixture of quality; head action is direct, sustained with little tension, arms are direct, sudden, with little tension and posture is direct with tension and suddenness.

What all the participants have in common is their intent to select another contributor, therefore they have to be alert and indicate their assertiveness. They all achieve their intention, but this is not always accomplished by the same combination of effort qualities. Indeed, there is some suggestion in the data that postural qualities may differ from gestural activities when performed at the same time.

Simultaneous exchanges in Data Z were used to exemplify other effort qualities. In Data 125-155Z L193-209, 510-572Z L247-272, L373-399, L319-336, it is the pupil who interrupts the teacher with resulting overlap. In the first instance, the teacher's non-verbal activity is spatially direct, sustained, with little tension, the second, firm, direct and sudden, the third, flexible, firm, sustained and in the fourth, firm, direct, sustained. Analysed as a group there are tendencies towards directness, firmness and sustainment but these are not consistently combined. Considering the data in the same order, the non-verbal interruptions of the pupils in the first two instances are qualitatively parallel, direct, sudden and firm. But the third and fourth exchanges contain direct, sustained movements with little tension. The difference in effort combinations does not change the nature of the exchange. In Data 510-572Z L337-354 the pupil has the turn and demonstrates qualities of spatial directness, little tension, but considerable speed. The teacher's interruption is accompanied by non-verbal actions which are clearly firm and direct. Comparing the instances of simultaneous exchange in this data, there is no consistent affinity between effort qualities.

Rose (1978) through reference to Laban's concepts of effort has suggested that management capabilities are reflected in non-verbal behaviour. That is, certain effort combinations are present in Communicators, Presenters, and Operators and that each will produce different styles of interaction. It seemed that this notion could have some applicability to the classroom. The Communicator using definable qualities promotes reciprocal exchange, the Presenter, self-selects and the Operator frequently selects others. It was considered possible that participants might have similar idiosyncratic effort qualities in order to achieve their turn-taking roles.

Although the analyses are limited, consistency could not readily be detected. The exchange of turns appears to function well with different effort combinations, which suggests that the teacher may well alter how a non-verbal action is performed according to the situation that exists at that point in time. If the data yields anything, it is that overall this teacher has a pre-disposition towards the direct use of space, with firm tension, but is not hurried in his actions. The pupils are also more inclined to be direct in their use of space, but use less tension and a shorter time span. There is little in this data to support Rose's (1978) notion of linked effort qualities with the management of interaction. In view of this and the difficulties of notating accurately the various shades of quality, it has been decided to discontinue this line of inquiry.

5.3.3 Summary of stage three analyses

Analysis of Data Y at this stage has considered the organization of the non-verbal vis a vis the verbal with reference to smooth and simultaneous transitions occurring in S_1 material. Detailed descriptions of smooth transitions have revealed that patterns of non-verbal activity characterize the Rules a and c (Sacks et al 1978 Section 5.1.1). Although teachers predominantly apply Rule a, instances of pupil application were also cited. Rule c in this data was always the prerogative of the teacher and was achieved with some identifiable non-verbal features. The application of Rule b (Sacks et al 1978 Section 5.1.1) frequently resulted in a simultaneous exchange between teachers and pupils. The presence of non-verbal activity was examined in relation to these interruptions and in relation to their repair. Some repetitive patterns were in evidence. Preliminary explorations of the qualitative nature of the non-verbal actions did not produce any potentially significant lines of enquiry.

These descriptive analyses of the data were complemented by interviews obtained from teachers and pupils and sought to ascertain the participants' perceptions of how, in part, interaction turned around non-verbal activity. There was some general recognition of the presence of gestural and postural activity and identification of non-verbal actions at points of exchange.

In sum, the analyses of this section have examined the accomplishment of the exchange of turns by teachers and pupils by describing the participants' co-ordination of their verbal,

vocal and non-verbal activities during smooth and simultaneous transitions. The presence of non-verbal activity at these points of exchange has been well established, the existing non-verbal sequential relationships require further verification. To this end the following specific hypotheses will be considered in the next Section,

1. When teachers select the next speaker, they show a preference for succeeding their verbal contribution by non-verbal activity.
2. Pupils precede their acceptance of a turn with non-verbal activity.
3. Rejection of a turn by a pupil is characterized by the absence of preceding non-verbal activity.
4. Verbal 'matching pairs,' are paralleled by non-verbal pairing.
5. Teachers convey their intention to continue their turn by minimizing pause and non-verbal activity.
6. Teachers use non-verbal activity to repair potentially disruptive teacher-pupil exchanges.
7. Non-verbal activity precedes self-selection by pupils.

5.4. Stage Four- Final Analyses

The final analyses were taken from Data Y S₂ material containing 38 exchanges, S₃ 34 exchanges and S₄ 46 exchanges. Additional exchanges from material S₇ and S₈ could not be pursued due to the storage damage of the video tapes. All data

references in Section 5.4 are as follows,

Data S_2 is contained in Appendices 22 a to m.

Data S_3 is contained in Appendices 25 a to m.

Data S_4 is contained in Appendices 28 a to k.

A line reference is given to enable the reader to locate a specific extract in the relevant appendix.

Since the achievement of smooth transitions between teachers and pupils are specifically relevant to the first hypothesis, that is when teachers select the next speaker they show a preference for succeeding their verbal contribution by non-verbal activity, their patterns were examined. Questions were characterized by a terminal rise in pitch succeeded by non-verbal activity and the use of a pupil's name. Predominantly present was non-verbal activity particularly head and arm gestural activity. Only one of the questions form exchanges utilised no non-verbal activity. This is contained in Data Y S_3 L146-149. It should be noted in this instance that a two second pause (unfilled) could equally serve to manage the exchange, with the added indicator of the name of the pupil.

Explanations were not always predominantly succeeded by non-verbal activity. Approximately half displayed the pattern, fall in pitch, no pause, no non-verbal activity. This is exemplified in Data Y, material S_3 L21-25 and S_4 L26-30. Several other exchanges of this kind were achieved by a fall in pitch and a short pause (unfilled). These exchanges contained other possible signals of completion, that is the use of a pupil's name or Um-mm. Only two instructions were available in this set of data and both verbal utterances were proceeded by non-verbal activity. This lack of instructional sequences was due to the pre-selection of material

containing reciprocal teacher-pupil exchanges.

In order to consider the second hypothesis that pupils precede their acceptance of a turn with non-verbal activity, analysis of Data Y was continued. A typical example of accepting the offer of a turn can be seen in Data Y, S₂ L311-315. In this instance, the teacher completes his explanation and the pupil posturally moves forward, extends the head forward and moves the left arm in all directions. This cluster of activity is immediately followed by the pupil's response. A corresponding pattern is seen in Data Y, S₃ L166-170 where again the teacher completes his turn and the pupil pre-fixes his response with a tight cluster of non-verbal activity consisting of head gesture to the left, right arm and posture forward. Of the eighteen exchanges viewed from S₂ and S₃ material, thirteen showed pupils preceding their responses by non-verbal activity, two accompanied the first syllable of the first word with non-verbal activity and three pupils responded without any pre non-verbal activity. This distribution is clearly of interest.

Data Y, S₄ material did not reveal the same recognizable patterns. At parallel interactional points, little and in most instances no non-verbal activity was in evidence. Data Y S₄ Line 137 illustrates the teacher's verbal contribution which does not terminate in non-verbal activity; what follows Line 141 is a joint pupil response. Similarly, Line 51, the teacher produces an indistinct non-verbal cluster and five pupils commence to chatter. Of the eight smooth exchanges viewed in Data S₄ all of the pupils recognized the on-coming turn. Some form of recognition has to be accepted as none of these exchanges showed initial teacher-pupil overlap. If there is an acceptance that pupils prepare non-verbally

to indicate their desire for a turn then these pupils were operating a different system. In only two instances was non-verbal activity preceding a pupil's contribution and in both, they were gestural and weak.

The analyses continue to focus on smooth exchanges but in relation to hypothesis three, which states that rejection of a turn by a pupil is characterized by the absence of preceding non-verbal activity. In Data Y material S₂, there is one instance where preceding non-verbal activity is absent but this does not result in a pupil rejecting the turn. Data Y material S₃ reveals two instances but both are followed by an acceptance by the pupil, albeit only a one word response. It has already been established that there are many instances in Data Y S₄ where the pupil does not establish non-verbal activity pre his verbal response but these observations in themselves do not provide sufficient clarity. In some instances, for example, in Appendix 28 Line 31-35, "Fhew," is the response, in Line 51-55, chatter follows, in Line 86-90, "Sir Sir," and in Line 245-249, "Sir," and in others such as Line 226-230 the response is "Writin in our books." There is no significant pupil rejection of a turn in the data where preceding non-verbal activity does not occur. The pupil responses can only be distinguished by their brevity and lack of relevant content.

Implicit in hypothesis four which proposes that verbal 'matching pairs,' are paralleled by non-verbal pairing is the notion that smooth transitions require the co-ordinated action of both participants and that these are punctuated with appropriate non-verbal activity. The components of such pairs in this data are notably Question-Answer, with some use of Statement-Response. In Data Y material S₂, these forms can be briefly examined and their non-verbal

features identified and placed. Taking Line 1-10 the teacher's question is succeeded by a head and arm gesture and the pupil's response with a head gesture and postural change. Other question and answer forms in material S₃ demonstrate a similar pattern. On the other hand some verbal pairing have only one part of the pair with non-verbal accompaniment, in others the non-verbal accompaniment is completely absent. The latter only occurs in a minority of pairs. Data Y, material S₄ does contain verbal pairs, but unlike the previous material these are predominantly Statement-Response and for the most part do not show the pattern of non-verbal matching being discussed.

A general observation of the material relevant to hypothesis five, that is, that teachers convey their intention to continue their turn by minimizing pause and non-verbal activity, suggests that teachers can embark on quite extended turns. In Data Y material S₁ Appendix 14 there are many examples of a shortened pause¹ between pieces of on-going verbal transcription. Lines 46, 61, 66, 100, 111, 191, 196, 200, 286, 291, 296, 301 and 306, all contain between one and four pauses. The same application of the pause can be evidenced in S₃ material, L56-100, L13-150, L170-180, L211-220, L251-259 and in S₄ L146-165.

This long list of references gives some indication of the occurrence of the within a turn pause. With few exceptions these pauses are unfilled.² The impression is that teachers need only attend to the pupil contributions they call for. However, occurrence

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1. Shortened Pause - used to refer to break of less than one second.
 2. Unfilled Pause - contains no non-verbal activity.

and position of extended pauses accompanied by increased non-verbal activity as seen in Data Y material S₂ Line 66 and an extended pause followed by Um,mm in the same material Line 111, both occurring at the completion of an extended contribution suggests that this activity might serve to indicate the relinquishing of a turn.

On the tape containing Data Y, material S₂ Line 41-50 there is a piece of data which illustrates hypothesis six which states that teachers use non-verbal activity to repair potentially disruptive teacher-pupil exchanges. In Line 41 the pupil commences his turn but the teacher's decision is not to allow the pupil to continue his turn. Orientating his attention to the whole class the teacher indicates his rejection by initiating his interruption with the word, "Just," and coupling this with an overlap gesture and a postural move forwards. There follows a short period of simultaneous talk but the pupil withdraws from his turn and the teacher self selects to continue. At the point of achieving the turn the teacher uses word emphasis coupled with a postural adjustment to establish that his contribution will continue, accompanying part of the verbal with gestural activity.

In Data Y S₃ material Line 241-250 the teacher self selects and verbal overlap with the pupil results but the overlap is not sustained by the pupil and the teacher re-establishes his turn. Gestural and postural activity occur at an early point in the teacher's re-established turn. What follows is a series of mobile gestures, some of which are given prominence because of their mobility. These occur within a relatively short teacher contribution. The presence of these gestures may well be a way of ensuring the enforcement of the turn, particularly, as in this instance a rise

and fall in the pitch of the voice was not used as a strategy for reinstating the teacher's position in the interaction. This was the only point in this data when the teacher had to assert his right to a turn.

More examples of simultaneous transitions can be located in Data Y material S₄ Lines 56 to 85. During Line 56 several pupils are chattering and the teacher is anxious to control this disorderly outbreak. He begins his assertion with non-verbal activity only and marks the remainder of his short verbal contribution with extended arm gestures. These are not illustrative gestures as they lack the necessary spatial shaping. The pupil chatter continues and by Line 66 the repair has not been achieved. What follows is a repeat of the teacher-pupil overlap where the overlap is not preceded by non-verbal activity and an apparently non-effective rise in the pitch of the voice is immediately sequenced by the coupling of verbal and highly active non-verbal activity. An unaccompanied cluster of non-verbal activity completes the teacher's endeavour to establish his turn. An examination of Line 71 shows non-verbal gestural activity to be located pre the teacher's self-selection and verbal overlap results, but this is terminated with combined word emphasis and non-verbal activity. Having achieved his turn the teacher continues to couple his verbal contribution with increased non-verbal activity, thus still appearing to be insecure.

A final illustration of the pattern teacher self-selection, teacher-pupil overlap and repair is illustrated in the same data, Lines 261-275. The teacher interruption is a firm combination of word emphasis coupled with non-verbal activity sufficient to re-establish the teacher as the sole contributor. This is not sustained, several pupils chatter in the background and whilst not

seeking a turn do disrupt the established interactional sequence. In Line 276 the teacher works to repair the momentary disruption and employs word emphasis coupled with non-verbal activity thus appearing to stress the continuation of his turn. The examples selected from Data S₄ are characteristic of the teacher seeking to self select in a situation where either the pupils contribution is not required, is not relevant, or its continuance could lead to disruption in the orderliness of teacher-pupil interactions. Repair patterns are embarked upon and repeated where warranted.

Instances of pupil self-selection which relate to hypothesis seven which states that non-verbal activity precedes self-selection by pupils can also be considered from Data Y material S₂ S₃ and S₄. The first of these taken from S₂ material Lines 161-175 is an example of one pupil self-selecting from another. The pupil self-selecting couples gestural and postural activity with the first word of the overlap. Posture rocking is recorded. Lines 251-265 in the same data are not dissimilar but here there are several pupils simultaneously overlapping with the teacher. In both these examples gestural and postural activity is present. The pattern of pupil self-selection continues in S₂ material with comparable sequences in Lines 201-210 and Line 236. Line 210 again illustrates the prominence of postural change with a prolonged backwards rock. Unfortunately, the non-verbal activity in the pupil's self-selection and consequent overlap in Lines 236-245 could not be accurately recorded.

Also relevant to hypothesis seven are examples in Data Y material S₃ and S₄. Examination of material S₃ Line 103 shows pupil-teacher overlap preceded by a non-verbal gesture. Lines 205-210, 270-275 and 285-290 illustrate several pupils spontaneously self-selecting. The teacher appears unable to attract the attention of

any one pupil in particular. Material S_4 generates ten more instances of pupil self-selection and resulting overlap of teacher and pupil contributions. Those demonstrating non-verbal activity preceding the pupils contribution are recorded in Lines 16-25 and those with non-verbal and first word coupling are in Lines 36-45, 101-110, 116-125 and 126-135. The point that can be made is that in the data available pupils do self-select and whilst in some instances they engage in this without accompanying non-verbal activity, in the majority of extracts non-verbal activity precedes the self-selection or is coupled with the first word of the interruption.

5.4.1 Summary of stage four analyses

A distinction between smooth and simultaneous exchanges has been established and from analyses of examples selected from Data Y material S_1 seven specific hypotheses were developed. In order to consider these hypotheses extracts were selected from 118 exchanges which were investigated in order to ascertain how teachers and pupils might organize and in some instances co-ordinate their verbal and non-verbal activity. The patterning that occurred when teachers selected the next speaker with the corresponding pupil acceptance or rejection, when teachers and pupils self-selected or teachers maintained their turn illustrated and reflected different aspects of the hypotheses. The implications of the sequential organization of the verbal and non-verbal in relation to each hypothesis will be discussed in Section 6.0.

5.5 Overall Summary of Data Analyses

Sections 5.1, 5.2, 5.3 and 5.4 have illustrated the constant interplay between acquiring data and analysing this for relevant explanations of the non-verbal vis à vis the verbal. They have been written in a form which reflects the defining and re-defining necessary to advance the ideas of the researcher.

Analyses in section 5.1

Analyses in this section were guided by the hypothesis that interaction in the classroom between teachers and pupils is, in part, facilitated by the co-ordinated organization of the non-verbal with the verbal. Material S₁ Data X was examined for information that had some bearing on this and as the analyses unfolded it became evident that teachers and pupils were able to establish orderly exchanges. The observation of such a phenomenon suggested the existence of turn exchanges and at this point reference was made to the turn-taking model as proposed by Sacks et al (1978). This model provided a potentially fruitful framework from which to continue the research. However, in the course of viewing the classroom based data it was found that there were some modifications of the conversational regularities observed by Sacks et al. These were that,

- a. in respect of Rule a, the teacher usually had the right to select the next speaker,
- b. in applying Rule c, the teacher usually had the prerogative of continuing a turn.

Continued exploration using Data Y S₁ focussed on the occurrence of non-verbal actions and identified,

- c. that these appeared more frequently at points of exchange and seemed to have the quality of punctuating the exchanges. This punctuation was facilitated more frequently by clustered actions rather than single actions,
- d. that those actions occurring within a verbal contribution were single actions often paralleled by word syllables and stressed words.

Analyses in section 5.2

As mere reporting of the occurrence of non-verbal activity was not sufficient in itself more detailed analyses of 58 relevant exchanges was pursued in Section 5.2.1. An examination of the processes of exchange provided some evidence that these could be accomplished either,

- a. smoothly, that is the current speaker relinquished his turn and the next speaker accepted the turn,

or

- b. simultaneously, by both participants claiming the turn with resultant overlap.

During smooth exchanges the data illustrated that teachers frequently displayed non-verbal activity which indicated the termination of their turn and/or the selection of a pupil to continue. The evidence pointed to this being largely achieved by gestural and postural adjustments and prolonged pauses, in many instances filled with non-verbal activity. During simultaneous exchanges pupils frequently interrupted the teacher with consequent overlap. Some of these interruptions were viewed as being the outcome of imprecise signalling from the teacher. Pupils were also allowed to self-select from each other, again sometimes overlapping. The potential threat of these occurrences to interactional order appeared to be recognised by the teacher who employed various combinations of the following strategies.

These were,

- a. avoiding gap by latching on to the immediate completion of a pupil's contribution,
- b. interrupting the pupil's contribution with extended sounds and word emphasis,
- c. introducing mobile hand and arm gestures.

On the basis of the analyses in Section 5.2 the initial hypothesis was more clearly defined to state that non-verbal activity systematically influenced the exchange of turns between teachers and pupils.

Analyses in section 5.3

Using the same data Section 5.3 was embarked upon and the interrelationships of the verbal and non-verbal at smooth and simultaneous exchange points were further investigated. The information resulting from interviews gave some credibility to the notion that teachers and pupils were cognizant of some aspects of the form and quality of their non-verbal behaviour. More detailed analyses of the qualitative aspects did not lead to lines of enquiry sufficient to justify further exploration. From the detailed analyses extending over Sections 5.1, 5.2 and 5.3 the following were evident in the data,

- a. that succeeding a teacher's question, explanation and statement, non-verbal activity frequently occurred,
- b. that acceptance by a pupil of a turn was preceded by non-verbal activity which often included some postural adjustment,
- c. that non-verbal activity was less in evidence when a pupil selected to reject a turn,
- d. that selected verbally paired units had accompanied non-verbal activity,
- e. that the teacher minimized the possibility of pupil interruption by shortened pauses restricted non-verbal activity and that this facilitated, where appropriate, an extended turn for the teacher.

The same interrelationships were considered in simultaneous exchanges and the following were encountered,

- f. that pupil interruption of a turn was characterized by non-verbal activity,
- g. that teacher interruption of a turn was characterized by non-verbal activity,
- h. that the teacher responded to potential threats to his control of the interaction by increased occurrence of non-verbal activity.

These identified features (a to h) formed the basis for the more focussed hypotheses presented on page 154.

Analyses in section 5.4

By reference to additional data S_2 , S_3 and S_4 Section 5.4 sought some verification of the hypotheses. Using video tapes obtained from three classrooms, exchanges were carefully viewed. The detailed analyses obtained from these relatively short amounts of transcribed material proved some examples of the particular kinds of interactional organizations hypothesised.

In all, the analyses of the data extended over four sections and included investigations into 176 exchanges. With some reference to the verbal, the analyses incorporated, a consideration of the range of possible non-verbal actions used by teachers and pupils during classroom interaction, produced evidence to support the occurrence of these actions and after collation and detailed analyses of the findings, guided the researcher to the final formulation of the hypotheses. These hypotheses were subjected to careful examination and the ramifications of this examination will be pursued in the next section.

SECTION 6

DISCUSSION OF DATA

6.1 Introduction

This piece of research has not set out to prove pre-established hypotheses but has aimed at the discovery of interactional phenomena and ultimately at the formulation of more detailed and empirically based hypotheses. In order to facilitate this process, the observational method which Bailey (1982) views as being the superior method for studying non-verbal activity, was adopted by the researcher and decisions were made about the nature of the setting and the means of facilitating the research; both being considered in relation to the purposes of the research. As these decisions had some bearing on the data collection and consequent analyses, it seems appropriate to refer to some of the limitations encountered.

6.2 Discussion of Methodological Decisions

Bearing in mind the research method and the concern to record the reciprocal occurrence of non-verbal activity, a school which permitted an interactive style of teaching was selected. Because of the researcher's professional status and background gaining access presented no difficulties and even though the pattern of organization of the school had been identified it was still recognised that within any formal organizational structure teachers and pupils would differ in their roles and consequent patterns of interaction. During Study One, the dilemma for the researcher was to identify a role within the classroom situation which enabled the observation of non-verbal activity and the collection of relevant data without heightening reactivity.

The advantages of a peripheral or covert research role are well documented (Bailey 1982, Friedrichs and Ludtke 1975, Hammersley 1979), but it was considered in the natural setting of the classroom that such a role would be difficult to sustain. Given the obvious physical presence of the researcher a more integrated and active participatory role was sought, even though it was known that this had the potential disadvantage of causing the participants to react differently because of some awareness of being observed. Over a period of time it became evident that the researcher's presence and involvement in various ways was affecting the level of reactivity and the notion of a more peripheral role was reconsidered. Such an adjustment only served to reduce the level of reactivity, not remove it, as participants knew that aspects of their behaviour were being studied. However, this is not the same as claiming that participants were aware of all the aspects of their behaviour being observed, although given that the researcher had to pilot the video and audio techniques did precipitate a request from the teachers for some explanation of the relevance of the equipment to the purpose(s) of the research.

The possible effects of the use of video had been noted. For example, some reactivity was attributed to teacher and pupil changes in voice tone, level of posture and gesture and in some instances, direct reference to the camera. Although it was difficult to counteract the participants awareness that personal behaviours were being recorded, such factors as limited lighting, immobile cameras and fixed microphones, did render the equipment less prominent. The observations of the researcher support those of Renne et al (1983) that children adapt more quickly than adults when being videoed. It appears that they forget the camera more readily and

become absorbed in the interactional activity. There was no evidence of the introduction of unrepresentative responses by pupils or teachers. It was concluded that teacher and pupil reactivity was unavoidable if the natural setting of the classroom was to be sustained. Although video-tape can be used through a one-way mirror without disturbing the participants, this is clearly not feasible in the everyday school situation. However, the procedures outlined by Renne et al (1983) were recognised and for the most part incorporated. These included 'preparation,' which was concerned with obtaining the consent of teachers, 'familiarization,' where over a period of time, teachers and pupils handled and observed equipment, 'minimization,' where all precautions were taken to reduce the effect of the camera and microphones and finally, where the situation allowed, some account was taken of 'programming,' that is recording prior and beyond the period required. 'Adaptation,' which allows participants to become accustomed to the setting was inappropriate for teachers and pupils well established in their own classrooms.

The availability of video tape enabled the researcher to obtain data that had previously required large research grants. Its advantages were reusability, transportability, the ease with which an amateur could use the tapes for recording and the control over playback speed. These advantages were, however, balanced by the disadvantages. Shadows did interfere with some recorded images, particularly as supporting artificial light had to be included. The fixed camera did not permit any flexibility and the interactions had to be those obtained from the pre-set angle of 50°. This was clearly not always the best angle from which to view all the activity. At the analysis stage two tapes were found to contain poorly defined

images and this deterioration was seen to be the result of poor quality tapes. Nevertheless, for the most part, video tapes provided the researcher with greater flexibility in the analysis of data after the event and the opportunity to record complex and subtle changes in non-verbal activity. The same range of points in making decisions about the use of video-tape have been referred to by Bealing (1973) and Maxwell and Fringle (1983).

As mentioned on pages 69-70 there are numerous systems for linguistic analysis using a basic set of symbols which would represent the pronunciation and pattern of speech. The Schenkein (1978) system offered this in that it included the onset, offset and overlap of speech and a range of paralinguistic actions. It was recognised that even after repeated and extensive listening to tapes that intonation patterns were not always easy to detect. However, it was concluded that the Schenkein symbols were sufficient for the data analyses required. The problem of recording silences was overcome by the use of a stop watch.

Whilst the Schenkein system could be readily adaptable to the needs of the research, the existing non-verbal transcription systems proved to be either too focussed on specific parts of the body, as with the Benesh approach where the selected movements were ballet based, or as in the Birdwhistell system, so complicated, that notators required extensive training. Given these circumstances it was decided with reference to the Laban system to review the taped research material and identify the categories of movement mostly in use by teachers and pupils. From these observations it was possible to collate the range of non-verbal actions relevant to the study being undertaken. For example, detailed notations of the face were not incorporated into the transcription as had been anticipated

in Section 1.3.1 as these could not be adequately recorded with the technical facilities at the disposal of the researcher. The most time consuming aspect of the non-verbal notation was the gestural activity. This was frequent, often complicated and extended over several speech syllables. In addition, the left and right hand-arm gestures could be engaged in different activities. Only restricted measures were taken to validate the symbols as these were essentially for use by the researcher, but note was taken of the point made by Maxwell, Pringle (1983) that in validating the symbols, from those participating, repeated interpretations of the symbols should be obtained in order to ensure some accuracy.

Despite careful and detailed observation and a process of exploration and selection from both verbal and non-verbal systems of notation it is acknowledged that sources of error are a possibility. These may be in the transcribing process itself, the occurrence of an intonation could have been misrepresented or the commencement of a gesture misplaced in relation to a syllable. In some instances, if these errors have occurred, they may well be sufficient to cause misinterpretations during the data analyses. In addition, lengthy sessions had to be avoided because of the difficulty of maintaining the notational accuracy and because of the overheating of the video machines.

Returning to the decisions to be made about the setting for the research it became clear that concern about the level of reactivity was justified. Whilst the researcher recognised the established relationships and the time invested in the first school setting, this had to be balanced against the achievement of the proposed aims of the research. The initial decision to observe in this school was

the outcome of careful preparation and the indicators were that teacher-pupil reciprocation was of an acceptable level. However, the intrusion of the researcher had affected the participants responses more than anticipated. The choice was either to continue and work towards a possible reduction in the level of reactivity or move into a setting where a high level of reciprocity was in evidence and could more likely be sustained. After applying Scatzman and Strauss (1973) criteria of suitability, feasibility and tactics and knowing all the additional work required the decision was made to change the setting and seek a population more representative of the concerns of the research.

Given the difficulties in teacher-pupil reciprocation experienced in the first school preliminary observations of teachers and pupils gave particular emphasis to this, in particular, the level of pupil contribution. Thus, the level of teacher-pupil interaction was the basis for sampling; age, sex or subject were not relevant. Even so, only nine teachers and their respective classes, out of a staff of thirty-six were prepared to participate. From these nine only six teachers were suitable for further observation. It is acknowledge by the researcher that this is a restricted sample but increased sampling where the strategy is to collect material through video-taping results in data which the researcher has not the time to analyse. The organization of time sampling also provided more manageable coverage of data. It was impractical to try and predict those periods taught by teachers which would perhaps result in detailed and more relevant data and because of the technical difficulties of transporting equipment complete lessons were recorded. It was understood that this could result in strain on the participants and the tapes were viewed for indications of unusual behaviour.

In relation to this analysis of tape S₄ took account of the modified behaviour of the teacher.

All the teachers in the final sample were monitored for possible reactivity. Whilst there were methodological reasons for the researcher not being completely explicit about the research because of the possible important effects on the research findings, there were ethical reasons why the participants were informed of the general directions of the research. It is therefore accepted that some reactivity was inevitable. Observations of non-videoed lessons were compared with observations from videoed lessons and these suggested that the reactivity was not sufficient to interfere with the reciprocal interchanges between teachers and pupils.

Whilst the advantages of collecting data on video tape have already been outlined, additional data was obtained from field notes and interviews. The field notes enabled the researcher to unobtrusively collect information during the initial survey of schools and during the 'gaining access,' stages of visiting the schools in the First and Main Study. These notes were also consulted in decisions made about the selection of the final sample of teachers and pupils and in respect of the plans for the organization of the video equipment. It is recognised that the problem of selectivity is more embedded in this technique than in video tape recordings.

In order to carry out the interviews the problem of getting access to interviewees was solved in that relationships had already been established between teachers and pupils. However, it was noted that those relationships were variable across teacher and pupil groups and that this affected the willingness of some participants to respond. In compiling the questionnaire whilst most questions were 'structured,'¹

1. Questions framed to elicit the required information.

it was recognised that ambiguity could not be completely avoided. Particular attention was given to the use of different language levels for pupils and teachers in order to avoid some pupils having to puzzle out the meanings of certain words. An illustration of this can be seen in Appendix 11a No.1. and Appendix 11c No.1. The disadvantage of this language distinction is that less comparability between responses to parallel questions can be claimed. With hindsight it was realised that the recommendation by Evans (1968) that questionnaires should have brevity, could have been more carefully considered.

Because there was no attempt to strictly standardize the interviews except in the limited sense of collecting information on the same topic from a number of participants, any interpretation of the responses must be viewed as generally supporting information obtained from other sources. Whilst the responses by the participants to the interviews did indicate a notable awareness of the qualitative nuances of non-verbal activity and these were investigated further, this did not lead to any significant lines of enquiry. However, it was demonstrated that Laban's notational system did satisfy one of the criteria for its selection, in that, it could be extended to accommodate other visual dimensions. In deciding on the strategy for recording the interview the advice of Brandt (1972) that even a skilled researcher can only manually accurately record a fraction of what is said in the interview was responded to by a decision to use audio-tapes.

Notation of the verbal and non-verbal activity provided the initial possibilities for generating interpretations and explanations, but the process required to achieve this, inevitably involved a certain amount of selectivity. Harrison's technique was an attempt to

minimize selectivity by tallying as accurately as possible the occurrence of verbal and non-verbal activity. From this form of recording the general segmentation of the data was accomplished. The developmental pattern of the lessons bore some similarity to the pedagogical moves of Structuring, Soliciting, Responding and Reacting identified by Bellack (1965). In notating the taped material the researcher had always in mind the difficulties in avoiding inference-free perception. Notating periods were kept short in order to sustain an accurate representation of the verbal vis a vis the non-verbal. Bailey (1982) comments on the adverse effect of fatigue and stress on the quality of sensory perception.

At the genesis of the research a firm commitment to existing non-verbal patterns had not been attempted and therefore an exploratory research strategy was pursued. This was not, however, undertaken with a complete lack of expectation of what was to be observed. The researcher did not adopt the role of "acceptable incompetent," p. 38 (Lofland and Lofland 1971). Instead careful observations were made of the selected segments of data in order to search for potentially interesting patterns worthy of further consideration. Consistent with the emphasis on teacher-pupil interaction, regularities were observed which had some resemblance to the turn-taking system of Sacks et al (1978). As described in Section 5.1 the pattern outlined on page 116 accounted for every turn exchange. What had been observed were options that were available to teachers and pupils during the course of a lesson. This led to notions about how a speaking turn might be achieved and the analysis of non-verbal activity.

The findings suggested that clusters of non-verbal activity were prominent at points where turns were exchanged. Some of these turns occurred with the minimum of interactional disturbance, others involved overlap with a potential threat to order in the classroom and thus requiring some kind of repair procedure. These observations culminated in the hypothesis that non-verbal activity systematically influences the exchange of turns between teachers and pupils. The extent to which this might be so was considered in some detail. Regularities were found between the non-verbal activity of speakers and the subsequent activity of the respondents. The nature and implications of these observed sequences resulted in further hypotheses which provided the basis for further consideration of the sequences of action occurring between teachers and pupils. The proposed seven hypotheses stemmed from the discovery of certain regularities in the transcribed data, and were then examined in additional data. The following section discusses the findings relevant to each of the proposed hypotheses.

6.3 Discussion of Hypotheses

Hypothesis 1 - when teachers select the next speakers, they show a preference for succeeding their verbal contribution by non-verbal activity.

An examination of S_1 material revealed that a smooth exchange when characterized by a question and answer form was interceded by vocal cues and non-verbal activity. This combination which usually succeeded the teacher's verbal contribution did not always exhibit the same sequential pattern. Of particular note was the repetitive occurrence of non-verbal activity and the gestural nature of its form, the presence of both these aspects being extremely frequent.

The same process of analysis in Data S₂, S₃ and S₄ indicated the presence of comparable clusters consisting of similar combinations but with a notable emphasis on the use of pupil names. A rise in pitch was a feature of the termination of many questions.

The analyses of the explanation form revealed more disparity. Material S₁ showed examples of exchanges where the teacher's contribution exhibited no change in pitch and was succeeded by filled pauses, whilst S₂, S₃ and S₄ predominantly revealed exchanges consisting of fall in pitch, no pause and in some instances no non-verbal activity. There were occasional examples of the patterns found in S₁.

One of the questions that these analyses raise is, is there a distinction between a turn which orientates itself around the question and answer form and one which is more 'open' and results from either an explanation or statement? In all of these the teacher retains considerable discretion over the type and placement of the form accomplished. However, observation of these accomplishments indicate that such exchanges require the co-ordinated action of both participants. This raises the question of what carries the significant information for this process to succeed?

Because of the on-going nature of teacher-pupil participation and because of the presence of options available to all participants, it is possible to suggest that a question by nature of its linguistic form directly influences what is to follow. That is, the subsequent action is likely to be a response. The explanation and statement present the opportunity for more alternatives. On the other hand, the question form could serve to punctuate the interaction by itself. On the basis of the data analysed, this is not the case, the data shows a regular occurrence of non-verbal activity succeeding a

question. The speaker(s) appear to display a signal which gives clarity and direction to the exchange. Because a firm ending is less likely after an explanation or statement the necessity for a non-verbal signal seems self-evident. The data suggests that this is not so, the speaker(s) inclination was more to exchange the turn without pause and without non-verbal activity. The position and occurrence of non-verbal activity in the question and answer form is sufficiently consistent in its presence to indicate that it could influence the exchange of the turn.

Along similar lines, but in a conversational context Schegloff and Sacks (1973) have produced evidence to demonstrate that participants indicate when they are almost ready to pass on their turn by the use of pre-closings such as "O.K." "Well," "Um," "Ah," some with emphasis on the first syllable as in "ANYway." But if we apply these pre-closing phrases succeeding a question their presence seems unlikely to be functional. For example, "What do you consider might contribute to Anita Brookner's success as a writer?" O.K. or well well following this question does not usefully contribute to the interaction. Although single questions are usual it is possible to continue with a further question; so some clue must be provided to indicate that the speaker's contribution is definitely at an end. The data did not show any preclosers succeeding questions. However, a few statements and explanations had preclosings including Um-mm Yeah and So - . Thus preclosings could have the function of indicators and when occurring did so with accompanying non-verbal activity.

In addition, in writing about general conversational situations Knapp (1978) has identified the extended unfilled pause as a turn relinquishing signal. This feature was not present in the data

and supports the findings in Section 5.2 that extended pauses, filled or unfilled are more a feature of within turns rather than between.

As in the data analysed there are few examples of the question and answer form being achieved without the presence of succeeding non-verbal activity, the researcher suggests that the presence of the non-verbal activity is significant; the alternative is that it is a redundant display. The latter interpretation seems unlikely if we accept that some signal to other participants of a speaker's intention to complete is necessary in an interactional situation. That signalling is necessary is endorsed in the work of Heath (1979). Albeit in a doctor-patient context he describes, 'preparatory break movements,' whereby a pre-close offer is made, which he describes as occurring solely or in co-ordination with other verbal contributions.

In referring to the emphasis on gestural forms in the analyses it is recognised that gestures can carry diverse messages and that it is difficult to link a particular non-verbal signal to the inferences drawn by the receiver. The problem is further complicated in that it is difficult to isolate whether the predominant gestural activity is the signal received in preference to other facial and body movements that could be simultaneously occurring. The range of research produced on facial expressions (Section 1.3.1) including that produced by Ekman and Friesen (1975) and Friedman (1978) points to the importance of this non-verbal area in the communication of affect, whilst Dittman and Llewellyn (1968) propose that gestural activity in the form of head nods and hand signals can and do, function more to indicate the exchange of turns.

In responding to both dilemmas, the interpretation of gestures by receivers and whether these gestures carry the significant information, the researcher must make recourse to the position of the non-verbal vis a vis the verbal and the resultant pattern of responses of the participants. That something is decoded and inferred by receivers is self-evident in that the turns are exchanged. Whether this is due to the gestural activity is more difficult to ascertain. The research in this area, (refer Section 1.3.2) gives some support to the view that one of the functions of gesture is that of regulating the flow of interaction.

At potential smooth exchange points a combination of factors were operating, including verbal pre-closings, vocal pre-closings and non-verbal activity. Following a question the prominent combination was a rise in pitch, no pre-closing verbal signal and non-verbal activity. After explanations and statements, variations in pitch, usually not rising, more frequent pauses, some verbal and vocal (segregates) pre-closers and in some instances no non-verbal activity. With reference to hypothesis one, the indications were that during smooth exchanges speakers did demonstrate that they succeeded their verbal contribution by non-verbal activity and that the non-verbal activity observed was usually represented by gestural activity. This appeared to be involved in the signalling of the imminent exchange of a turn. A preference for non-verbal signalling was, however, significantly observable in the question and answer form.

HYPOTHESIS 2 - pupils precede their acceptance of a turn with non-verbal activity.

Drawing again on the total range of Y data the second hypothesis can be discussed. What has been suggested so far is that the teacher when in the role of selecting the next speaker arrives at a point in the interaction when the pupil may respond. In Data S₁, S₂ and S₃ our attention is overwhelmingly drawn to the presence of non-verbal activity pre a pupil's responses. Only three of these responses include the gesture of raising the hand, but the use of posture was overwhelmingly in evidence. In Data S₁, S₂ and S₃ of the 37 smooth exchanges 25 included postural changes and these were mostly in a forward direction.

There are times when the teacher directly selects by name a pupil to respond but if this is not the case then he has to scan the room for pupils who might exhibit an interest in accepting a turn. In one to one situations the synchronization of speaker and listener is more easily achieved but for pupils who are not generally in a position to use the strategy of interruption a non-verbal signal may serve to convey an explicit cue. Of course some pupils may move posturally forward as the result of discomfort and in this instance the teacher could misinterpret the communicative significance. What could not be notated and commented upon was the effect of the link between postural change and eye contact (Haldron 1975) but links between postural moves and head movements were notated. Forward and lifted head movements were most frequently noted and these have been recognised by Dittman and Llewelyn (1968) as indicating interest rather than disinterest. In addition, there are fairly consistent reports of studies which demonstrate that

leaning forward is seen as expressing a positive attitude and that leaning backwards is more likely to indicate disinterest. (Mehrabian 1968, Mehrabian and Friar 1969, Schefflen 1972).

Reference to these studies has been made in Section 1.3.2.

What is perhaps of more interest are instances in Data S₄ where smooth exchanges are achieved, pupils accept their turn but without preceding this acceptance with non-verbal activity. This observation suggests that pupil non-verbal pre-acceptance might not always be necessary for the achievement of smooth exchanges. These smooth exchanges did involve the teacher's use of intonation aspects of which have been highlighted in previous paragraphs. However, an examination of the verbal contribution of the teacher in Data S₄ showed that in only one instance a rise in pitch was recorded. All other verbal contributions indicated a fall in pitch or little or no change. It is feasible that a rise or fall in pitch may signal to pupils that the teacher is initiating a close and that their turn is imminent. This may well have been the perception of the pupils.

The reader has to look further at other sequences of data in order to reason whether non-verbal activity should have occurred pre a pupil's response. In other data extracts from S₄ material where pupil pre non-verbal acceptance did not occur participants in the exchange responded together and what followed was disruption and consequent class disorder and confusion. There was also some indication that the teacher-pupil overlap could be the result of inadequate or omitted non-verbal signalling by the teacher. The status of S₄ can only be limited but the notable absence of pupil pre non-verbal activity and the disarray in pupil responses when set against the evidence in material S₁, S₂ and S₃ where pre

non-verbal responses do so often lead to smooth exchanges does lead in the direction of supporting hypothesis two.

Whilst it is accepted that pupils may adopt different postural positions for different reasons, the repeated positional occurrence of the forward posture preceding a pupil's acceptance of a turn and the apparent response by teachers to this signal does indicate that some significance can be claimed for it. If pupil hand signals, verbal utterances and vocal cues are not occurring, yet a turn is desired and achieved this points to some communicative function having been served by the postural non-verbal signal.

HYPOTHESIS 3 - rejection of a turn by a pupil is characterized by the absence of preceding non-verbal activity.

Generally in Data S₁, S₂, S₃ and S₄ the indications were that pupils avoided rejecting a turn. What was in evidence was that where a pupil's preceding non-verbal activity was absent (as discussed under hypothesis 2) the responses were limited. "Phew," and "Sir," were hardly comprehensive or informative whereas responses linked with preceding non-verbal activity were more detailed and relevant in content. What seemed to be occurring was a different degree of participation by the pupils. Total rejection of a turn was difficult it was more likely that pupils preferred minimal agreement to full acceptance of a turn. Hence the restricted nature of some verbal responses.

In all instances the pupils had been selected by the teacher and following this selection where there were occurrences of minimized response there was a noticeable absence of non-verbal activity. The inference drawn from these particular observations was that the turn was not willingly accepted by the pupil. In some

teacher-pupil interactions a non acceptance is indicated by silence, but the pupils in the data made some attempts to accept their turn. However, there was not the "mutual sensory stimulation," (Bull 1983) for fruitful exchange to proceed. Where a pupil accepted, gestural and postural activity was displayed. It must be explained that display was not in terms of time but always in relation to the turn exchange units. In this research the non-verbal activity was considered to be completed at the exchange point, that is, notation was always in respect of either the teacher or the pupil whilst in actual fact non-verbal activity at some stages is likely to be concurrently occurring by both or many participants. Non-verbal activity was considered actual when it was seen to be accompanying the process of interaction. Movements such as shuffling, rubbing hands, groans, yawns, as referred to in Section 1.4.2 were not considered to be active. Judgements had to be made by the notator as to which gestures and postures were active.

What is being highlighted in relation to hypothesis three is the absence rather than the presence of non-verbal activity. If, as the data suggests the absence results in many instances in a particular type of response from pupils then it would seem that such an absence is relevant. Heath (1979) in his study of doctor-patient interaction also identifies the importance of the absence of particular non-verbal actions. There are a number of detailed descriptions where he refers to the patient showing no postural shift or gestural activity. He concludes that when this occurs the patient is indicating his unwillingness to accept the next turn.

In returning to the teacher-pupil situation and hypothesis three, what seems to occur is not a total rejection of a turn by a pupil but more a resistance to take a turn, a resistance which results in minimized or omitted non-verbal activity. This pattern has been shown to have some close similarities to that observed during doctor-patient interactions.

HYPOTHESIS 4 - verbal 'matching pairs,' are paralleled by non-verbal pairing.

Hypothesis four can only be examined in relation to named affiliated pairs. In this piece of research these have been identified as Question-Answer Statement and Response, Explanation and Response. In Data Y material S₁ the appropriately placed non-verbal pairing was a feature more of the question and answer format. This non-verbal pairing was more evident in material S₂ and S₃. This situation of the non-verbal activity demonstrates a link with hypothesis one where questions were identified as being particularly succeeded by non-verbal activity. Some corresponding answers were observed to be succeeded by non-verbal activity. Where there were two utterance sequences the first followed by clustered non-verbal actions and the second similarly succeeded by non-verbal activity then this is referred to as "matching pairs." The data analysis was directed towards the possibility that these paired clusters could be composed of distinctive combinations. They were however found to be indiscriminate clusters, rarely single actions, but certainly there was no evidence to suggest that any combination of actions or single action had any prominence.

The tapes and the notation were also examined for interactional synchrony. Condon and Ogston (1966) propose that speakers and listeners appear to move in close harmony but their claim that this

movement pattern is a fundamental universal characteristic of human communication could not be verified in this data. It is possible that more sophisticated techniques were necessary but it is also possible that where one speaker is relating to large numbers of potential receivers that some fine tuning becomes less feasible. Whilst some combinations of actions contained postural movements, within matching pairs similarity of posture and holding of that posture, was only observed in a few instances. This maintaining of similar postures Schefflen (1964) refers to as postural congruence. It is possible that the taking up of this postural pattern is more tenable in small group situations where individuals are in closer proximity have more visual clues and have the time to adjust into their bodily positions. Although not on the tapes directly used in the present research the researcher has observed both interactional synchrony and postural congruence where small group teaching has been in operation.

Given that explanations and statements and their corresponding responses have already been demonstrated to have less paralleled succeeding non-verbal activity than the question and answer forms it becomes of interest to ascertain why this should be so. It is arguable that non-verbal signals in the teaching-learning situation are a means whereby teachers and pupils get into and out of their exchanges, but there are sufficient examples of successful exchanges without complete non-verbal pairing to withdraw this line of argument. Indeed, all the affiliated pairs could be successfully achieved linguistically. Sacks (1972) in his article has given detailed explanations of this phenomenon (p. 3).

One possible interpretation of non-verbal pairing in the question and answer is that the positioning of the non-verbal pairs deters pupils self-selection and consequent overlap. Whilst a question is linguistically geared to indicating that someone else should respond, teachers may draw attention by signalling that there is no repeat, and that pupils must attend to the necessity to respond. This format could be recognisable by pupils and could curtail any intention to self-select. Having gained the focus of the pupils there then follows the problem for the teacher of having any pupil answer a question. Having a pupil answer not wishing too can be lengthy and complex so the teacher has the problem of identifying those pupils who are wishing to participate. This dilemma, in some instances, is resolved by hand raising but more frequently by gestural and postural means. By selecting from these signals the teacher can avoid equi-first starters and the disturbance resulting from overlap.

In the data there is some evidence from the notation that teachers and pupils can and do orientate their non-verbal activity to affiliated verbal pairs. The fact that no examples of pairing were found in Data S_4 is accounted for in that the teacher asked questions, but did not wait for answers from the pupils or pupil responses were simultaneous with those of the teacher. However, in Data S_1 , S_2 and S_3 non-verbal matching pairs were located in some question and answer forms. It is unlikely that they were an indicator of rapport between the teacher and pupil; it is more likely that the non-verbal served to reinforce the question and answer combination. Thus in responding to hypothesis four it appears that matching non-verbal pairs are specifically located in relation to question and answer and when occurring only have

a limited function.

HYPOTHESIS FIVE - teachers convey their intention to continue their turn by minimizing pause and non-verbal activity.

An analysis of the data relating to hypothesis five suggests that the teacher can embark on his turn without the problem of pupil self-selection and that the teacher has the only right to select the next speaker. Reference to the data, in Section 5.4 shows that this is not the position of the teachers. Teachers know pupils can interrupt. Even so, they believe that they have 'rights,' but they also realise that there is no certainty that pupils will always respect these in classrooms where reciprocation is promoted.

An analysis of the teacher's extended turn in Data S₁, S₂, S₃ and S₄ provided some evidence of the repeated use of pauses which were uninterrupted by pupils. Even if all these pauses were an integral part of the grammatical punctuation and some clearly are, many occur at points where the potential for pupil interruption exists. Knapp (1978) suggests a figure of only 55% of pauses falling into the grammatical category.

An examination of the duration of the pauses revealed that most were less than one second but there were instances of two and three second breaks. There was a greater frequency of less than one second pauses. In the teaching situation it seems reasonable to accept the work of Bruneau (1973) that longer pauses may well be associated with thoughtfulness and cognitive thinking or drawing attention to certain words or ideas. But since the long pauses were less in evidence a possible explanation is that experienced specialist teachers delivering material that is often well rehearsed may well not require pauses for thinking about what to say.

Pauses were also considered in terms of being filled and unfilled. Two studies by Goldman-Eisler (1961) and Livant (1963) have associated filled pauses by participants with a range of undesirable characteristics such as boredom or anxiousness. Although both forms filled and unfilled occurred in Data S₁, S₂, S₃ and S₄ they were not evenly distributed. An increase in non-verbally filled pauses was observed in Data S₄ where the teacher was less in control of the interaction. In all other data examples non-verbal activity was minimized and no recordings were made of postural changes. The assumption from the observation of S₄ could be that this teacher was always more gesticulatory and that the other teachers moved with less display. This explanation for S₄ could not be substantiated. What is more probable is that the filled pauses of S₄ were more related to emotional activity, resulting from negative feedback from pupils.

What is interesting and consistent throughout the data is that there are no instances of pupil interruption where the teacher has an extended turn. In presenting this view it is recognised that many pauses were of a less than one second duration but this was sufficient time for any eager pupil to seek a turn, a turn which might not in the event be achieved but would be demonstrated in teacher-pupil overlap. The findings of Walker and Adelman (1972) that where pauses in a classroom are consistently short the probability of pupils seeking a turn is high, was not supported.

Interpreting the form of the gestures used during pauses by the teachers did not suggest that teachers were generally employing strategies to reinforce their rights to a turn. For example, contracted hand movements rather than flat open hand movements and head gestures to the right and left more than in a lifting position

were observed. Duncan's (1972) work resulted in similar observations. He found that when a speaker wished to prevent another participant taking over the turn that hand gestures were used as the cue, and that if the gesture was repeated the speaker could sustain his turn. This finding was replicated in a later study by Duncan and Fiske (1977). The indication from these studies is that the hand is used as a controlling strategy.

In relation to hypothesis five it would appear that during an extended turn the teacher enhances his participation rights by minimizing the potential for pupil self selection. It has already been identified in Section 5.2 that within turn pauses, in conversation, are much lower than in classroom interaction and that pauses are more prevalent during a teacher's contribution. This was borne out in consideration of Data S₂, S₃ and S₄. In addition some pauses were filled with only single actions which for the most part did not serve a controlling function. In contrast pauses and non-verbal activity were increased when the teacher sought to indicate to pupils that the opportunity for an exchange was imminent.

In final comment on hypothesis five, it does seem that teachers can use within turn pauses without fear of becoming interrupted by pupils by minimizing pause and non-verbal activity. Given that this pattern occurs teachers rights appear to be assumed and interpreted by pupils as such. That is teachers are relaxed and are not continually concerned with the possibility of their turn being cut off. Overall the data did not support the findings of McHoul (1979) that teachers could employ pauses within turns of practically whatever length they chose. An explanation of this difference could be attributed to the more formal classroom relationships from which his data was obtained.

HYPOTHESIS SIX - teachers use non-verbal activity to repair potentially disruptive teacher-pupil exchanges.

Although the concern in classrooms is to facilitate the organization that one participant at a time contributes, the data illustrates that this pattern is not always achieved. Having examined data extracts from S₁, S₂, S₃ and S₄ it appears that any teacher self selecting during a pupil's turn is a potential source of overlap. When these simultaneous contributions occur they have to be resolved otherwise a permanent state of disorder could ensue. Hypothesis six proposes that the repair of a potentially disruptive situation resulting from overlap is facilitated by non-verbal activity.

Where a teacher self-selects during or succeeding overlap the data follows a pattern of either preceding non-verbal activity or first word coupling with non-verbal activity. There is only one instance where this pattern is not in evidence. It seems not unreasonable to suggest that before requiring an individual or the class to focus on the teacher, that teacher must have the attention of the participants. When the teacher and the pupil are well synchronized they anticipate and signal that they are relinquishing their turn. Smooth exchanges, as discussed under Hypothesis One, are usually the result.

Further examination of the data revealed that when a teacher did not have the turn and wished to interrupt he exhibited a range of non-verbal activities. Intended interruptions were usually indicated by combination of such activities as folding the arms, moving the arms in space or head gestures. The teacher in S₄ often coupled these activities with word emphasis. An insignificant amount of postural movement was notated and as finger pointing and

an upraised index finger were also not recorded it is likely that these were not considered effective strategies. It was of some note that the display of non-verbal clusters at each point of self-selection did not continue over substantial periods of time and that few were repeated. This supports the idea that the non-verbal actions selected and the time for their display provided appropriate signals to the participants.

The selection of head movements and hand gestures are presented by Duncan and Fiske (1977) as cues significantly associated with the beginning of a turn. Duncan and Neiderche (1974) argue for similar signals but include additional factors of inhalation of breath and 'paralinguistic overloudness.' In normal conversation it is often the case that participants signal their interruption by the use of vocal cues and/or non-verbal activity. Ah, Er, stutter starts and inhalation of breath all suggest an impatience to interrupt. In this research data these cues were not adopted by teachers possibly because in the teaching-learning situation they are not sufficiently forceful. In addition, writers in the field have referred to "back channelling." Knapp (1978) suggests that this is a method of requesting a turn, whilst Duncan and Fiske (1977) refer to this process as a means of sustaining attention to the speaker's contribution. Consideration of these differing viewpoints was not possible because of insufficient resources for gathering parallel teacher-pupil responses.

As already established where a teacher self-selects to re-establish a turn the result is usually teacher-pupil overlap. Although not made explicit, it was clearly recognised by teachers that if disruption was to be avoided these simultaneous turns had to be resolved. Post the completion of the instances of teacher

overlap with a pupil increased non-verbal activity was consistently observed. Multiple cues were employed but no special preference for gestural and postural actions could be located. Thus it was not possible to ascertain the effect of any one particular action. Arm gestures when in use were notably mobile and word emphasis and sound extensions were very much in evidence. These all pointed to the teacher employing a combination of strategies in order to re-establish an ordered pattern of turns. The use of these strategies in all instances did result in the teacher emerging from the overlap with the next turn. Duncan and Fiske (1977) in their book, p.337 suggest that the status of the teacher may well influence the resolution of a simultaneous turn rather than the placing of the non-verbal actions. They admit though, that this view awaits more extensive confirmation.

On the other hand, Graham and Argyle (1956) and Van De Sande (1980) have demonstrated that perceived dominance by participants show a more significant relationship to eye gaze. What is known is that the possession of higher status in the classroom does not necessarily ensure the correct responses of the lower status individuals. The researcher is not in a position to discount the influence of status or eye gaze but does draw the reader's attention to the consistent use by teachers of non-verbal activity and/or word emphasis in instances where the normal classroom exchange pattern was under threat. In all the data extracts repair was operationalized and one to one teacher-pupil exchanges re-established. Although so far the discussion has focussed on the repair of simultaneous turns it must also be pointed out that there are a few instances in the data where repair is the result of a teacher having lost his turn due to successive pupil contributions. Similar occurrences of

non-verbal activity are visible at points where the repair is attempted.

For the most part, what exists in the data are situations where the teacher, once involved in overlaps with the potential for disorder that this precipitates, are strategies which re-establish order. Whilst the use of the voice is one strategy, there is clearly some evidence to suggest that teachers regularly precede their self-selection with non-verbal activity and vocal cues, with the non-verbal focussing on hand and head gestures and the vocal cues characterized by word emphasis. The regular occurrence of this pattern in the data and similar observations by other researchers gives some substantiation to hypothesis six.

HYPOTHESIS SEVEN - non-verbal activity precedes self-selection by pupils.

The suggestion contained in hypothesis seven is that non-verbal activity is observable at points in the interaction where pupils self-select, that is pupils self-select when another participant has already started with resulting overlap. It is true that in many classroom situations overlap can be avoided by having pupils put up their hands and the teacher selecting from those available. This was not the case in the material used in this research, hand raising was not asked for at any stage (but in some instances occurred) because as has already been established, the classroom ethos was one of reciprocation. What has been observed is that some pupils were intent on achieving a turn at points in the interaction which were not necessarily appropriate.

In order to achieve this phenomena, what has emerged from observations across all the data of non-verbal activity preceding self selection, is that certain non-verbal actions appear to serve a definite function in facilitating an exchange. Amongst those of significance were postural moves forward, postural rocking and arm and head extensions. In many instances these actions appeared in combination occasionally coupled with the verbal although the non-verbal frequently outweighed the verbal. The dilemma that remains is does actual observation of the occurrence of non-verbal activity demonstrate that there is necessarily any communicative function?

In seeking attention a pupil usually understands that he must discount using only the verbal (shouting is usually not productive) and pay more attention to the visual. Where this is the case the data demonstrates that pupil interruption is always effective. That is pupils achieve their interruption; what they do not always succeed in doing is sustaining a turn. The sustaining of the turn appears to depend upon the perceived degree of pupil violation by the teacher and whilst some pupils were permitted to proceed others only used one word contributions before the teacher re-established his turn. This curtailing of the turn is also recognised by McHoul (1979). As the verbal information conveying the pupil's intention to interrupt is absent or minimized the evidence points to the non-verbal conveying something positive. However, there are stretches of the data where pupils successfully self-select without non-verbal signalling but this was only observed when one pupil self-selected from another. The researcher's interpretation of this is that acceptability or non-acceptability is not as important between pupils. To self-select from the teacher is to recognize

that this could be a violation of the turn taking system and is more likely accomplished in part through non-verbal activity.

It is known that the interpersonal distance between the participants can also affect the balance of their respective approaches to each other (Lott and Sommer, 1967, Harnett, Bailey and Gibson, 1970). Because pupils were seated in this research social space was determined and the teacher was left to position himself at a distance which he considered allowed a level of reciprocation which was non-threatening. However, some status differential must be recognised and taken into account when seeking explanations of the prominent use of postural change. It is acknowledged by Danziger (1976), Schefflen (1964) and Heath (1979) that adjustments of the posture, particularly leaning forwards or backwards indicate potential transaction points in the interaction. It is unfortunate that more detail of the tension-relaxation aspect of posture (initiated but not pursued in Section 5.3.2 of the data analyses) is not available as this may well have provided some clarification to the notion that pupils, even in a reciprocal classroom situation, are aware of their lower status and that this could demonstrate itself in postural tension (Goffman, 1961, Mehrabian, 1969).

This role differential may be one explanation why pupils incorporate a forward postural lean in the non-verbal activity which precedes self-selection. This same emphasis on posture occurs when pupils precede their acceptance of a turn (hypothesis two). Deutsch (1952) in his article writes of postures that these reflect the motivations, attitudes and intentions that might not have been verbalized (page 199). Certainly pupils had intentions and although success in achieving complete control of a turn was rare this did

not deter pupils from seeking. The difficulty that remains and has already been recognised is that what is encoded is not necessarily decoded. This dilemma has been fully discussed by Bull (1983). However, the observation of constraining strategies by teachers towards pupils self-selection does indicate that non-verbal signals albeit in some instances in conjunction with the verbal were communicated and adequately interpreted.

In final comment on hypothesis seven the data clearly demonstrates that pupils do precede their self-selection to a turn by non-verbal activity (in some instances accompanied by the verbal) when relating to their teachers and that these signals are responded to. However, where self-selection is in relation to other pupils, pre non-verbal activity is less in evidence. The interpretation from the data must be that preceding non-verbal activity is not always observable as a pre-requisite for successful pupil self-selection but manifests itself more when pupils are interacting with the teacher.

6.4 Summary of the Discussion of the Data

Prior to this section the writer has endeavoured to provide accurate descriptions of what was observed to be occurring between teachers and pupils relevant to the purposes of the research. Once the decision had been made to observe the sequential patterns of non-verbal activity vis a vis the verbal, attention was given to this and from these attentions more detailed events were recorded and hypotheses developed and defined. It is these more empirically based hypotheses which have formed the basis of the discussion in this section. These discussions have included the possible sources of error and the limitations these may impose. Potential errors

that have been particularly noted include, observation faults based on; selective perception, the display period of non-verbal actions, inferences drawn from non-verbal combinations, accuracy in transcribing the position and direction of the symbols and the difficulties of interpretation of encoded and decoded signals. Taking these possible sources of error into account, after consideration of hypotheses two, five and six a significant number of observations pointed to relevant regularities in sequences of action and response between teachers and pupils, indicating support to the content of these hypotheses. In the case of hypotheses one, three and four, the patterns of non-verbal display showed less consistency and the discussions already presented have sought to ascertain possible reasons why this should be so.

In addition to analysing the hypotheses this section has also considered some of the problems encountered in conducting the research. It has endeavoured to identify certain common methodological problems associated with ethnomethodological research and has discussed the reasons for the decisions made and the strategies adopted. In so doing, reference has been made to, the difficulty of implementing the criteria on which the research setting was chosen, the necessity of adjusting the role of the researcher, the difficulties of avoiding reactive responses from participants, the constraints that ethical decisions impose on the research strategy, the limitations of a small sample, the limited reliability of the notation systems, the advantages and disadvantages of video tape, the difficulties of avoiding perceptual bias when only one notator interprets the symbols and finally, the

restrictive use of the interview as a technique for data collection. It has been recognised that failure to take these considerations into account could result in the production of descriptions, explanations and conclusions which are distorted representations of the research problems. The next and final section will consider the potential influence and consequence of non-verbal activity in teacher-pupil interaction and the implications of the findings for encouraging the development of the communicative competence of teachers.

SECTION 7

CONCLUDING COMMENTS AND SUGGESTIONS
FOR FURTHER RESEARCH

7.1 Findings of the Research

Given that interactional competence is facilitated by modifications of the Rules of Sacks et al (1978) (Section 5.2) the findings that have been identified from the research suggest that,

in achieving smooth exchanges

- a. Following a statement teachers frequently select the next speaker without non-verbal activity.
- b. Teachers show variability in their use of pre-closers to signal the termination of a statement.
- c. Following an explanation teachers sometimes select the next speaker without non-verbal activity.
- d. Teachers frequently use vocal pre-closers to signal the termination of an explanation.
- e. Following a question teachers frequently select the next speaker with vocal cues and non-verbal activity.
- f. The non-verbal activity observed in e. was frequently gestural.
- g. Non-verbal activity preceding a pupil's turn signals acceptance of that turn.
- h. Forward postural shifts preceding a pupil's turn indicates positive interest from that pupil in accepting the turn.
- i. Non-verbal activity preceding a pupil's turn is minimized or absent when there is unwillingness to accept the turn.

- j. Question and answer exchanges between teachers and pupils are each accompanied by succeeding non-verbal activity.
- k. Teachers minimize non-verbal activity and pause in order to sustain their turn.
- l. Teachers maximize non-verbal activity and pause to indicate the termination of their turn.

in responding to simultaneous exchanges

- m. Teachers use non-verbal activity to repair simultaneous turns.
- n. Teachers use non-verbal activity, much of it mobile, to re-establish their turn and that where this is in evidence these teachers are apparently more effective.
- o. The findings from m and n are accomplished by combinations of vocal cues and hand and arm gestures.
- p. Pupils use non-verbal activity to precede self-selection in order to avoid potential overlap when in relation to the teacher. This is less so when one pupil self-selects from another.
- q. During pupil self-selection postural moves forward, postural rocking and arm and head extensions are frequently observed.

7.2 Concluding comments

This final section makes reference to the assumptions underlying the research (Section 1.1.2) and provides concluding comments on its findings. Comments on the findings will be in the order these have been presented in 7.1.

One of the significant assumptions underpinning the research was that teaching and learning takes place through a process of teacher-pupil reciprocation and that a teacher is only teaching when the pupils are attentive, interpreting and responding to information. For this to be so a teacher must not only know the subject matter, but how to present it. The premise on which the research was based stated that non-verbal codes provided some of the information to facilitate these presentations. Thus, the main objective of the research was to examine how teachers and pupils co-ordinated their verbal and non-verbal activity in order to shape and mould the interactions in the classroom.

Hypothesis One (findings a-f)

That pupils participated in the interactions but infrequently asked questions was a phenomenon of the data. Questions were generally asked by teachers and were of such a nature that they initiated and encouraged a response or demanded attention from the pupils and were therefore a reciprocal affair. What appears to be understood between teachers and pupils is that for the most part questions were asked in order to be answered. With this shared understanding any occurring non-verbal activity would seem unnecessary. But an examination of the data suggested that this was not the case, certain types of activity, particularly head and hand gestures marked the points of exchange. It is therefore unlikely that these gestures serve no function. However, it is not easy to express with certainty their exact role and despite the general strength of the non-verbal regularities observed, the observations were not perfect for any gesture. For example, although in most instances a smooth exchange resulted from a pupil's apparent

response to a non-verbal exchange signal, there were few smooth questions and answer exchanges accomplished where no non-verbal activity was displayed.

Bellack et al (1966) report that teachers allow too brief an interval between asking a question and expecting an answer, often demanding almost immediate responses. Danziger (1976) also proposes that in some cases anxiety during exchanges spills over into the non-verbal sphere. If teachers feel a need to reinforce, prompt, give permission or insist that pupils reply, then the observations of these researchers may well provide some explanation for the presence of non-verbal activity.

In order to distinguish between statements and explanations, statements were viewed as not requiring any interpretation or representing any viewpoint, whilst explanations were seen to have the potential to extend the pupils' understanding of an event. Although both of these verbal activities were important in establishing the direction of the lesson, they did not always call for answers. This difference in function could account for the findings in a, b, c and d.

It seems not unreasonable to suggest that statements have more recognisable boundaries, identifiable by both teachers and pupils. This being so, the lack of change in pitch, the minimal use of pre-closers and pauses, often unfilled, appears explainable. That is the need for clues is not urgent. Explanations, because they can be repeated, exemplified or expanded at points of exchange were characterized by terminal falls in pitch, some filled pauses, but particularly verbal and/or vocal pre-closers. In their work on exchanges during conversations Sacks and Schegloff (1974) have identified pre-closers as a strategy for speakers wishing to pass

on their turn. Closer investigation into the patterning of verbal and non-verbal activity during statements and explanations could give rise to more clarification. It was noted that when explanations were extended these were sustained by each repeat being interceded with a minimal pause.

What can be stated from the data is that the patterning of the verbal, vocal and non-verbal in the question and answer form has a sequencing that is frequently repeated, the function of this being to frame the subject content so that pupils can participate; a teacher asks a question and anticipates a response from the pupils. In doing this, the research data significantly demonstrates that teachers terminate their questions with a combination of vocal cues and non-verbal activity. In the data analysis (Section 5.4) specific reference was made to the presence of hand gestures (finding f), an observation also made by Duncan (1972). The reason for teachers using these combinations can only be speculative, perhaps anxiety about whether a reply was forthcoming or the need to affirm, reinforce or prompt. It is recognized that not all questions have the pattern of a response and that some were used for a different purpose.

The findings that have been stated in (Section 7.1) a, b, c, d and e, indicate that teachers and pupils conform to the turn taking system and that when teachers select the next speaker they do so by activating a number of vocal and non-verbal signals. There appears to be a definite correlation between the placing of the non-verbal activity and the achievement of smooth exchanges, particularly in relation to the question and answer verbal structure. The alternative is to suggest that the similarity in patterns was mere coincidence.

It was also of interest, but not pursued, to note that there was some variability in time span and repeat of gestures. That is that different exchanges resulted in teachers responding vocally or non-verbally with different combinations whilst retaining the same turn taking organization. Other studies identify a speaker's use of non-verbal pre-closers and the use of non-verbal activity in selecting the next speaker bearing out some aspects of the research findings a, b, c, d and e. These have been referred to in Section 1.3.2 Knapp (1978), Duncan and Fiske (1977) and in Section 6.3 Heath (1979).

Hypothesis Two (findings g-h)

Although pupils in classrooms have restricted choice about their spatial organization in relation to each other and whilst there was little evidence of teachers and pupils attuning their non-verbal activity (Condon and Ogston 1966) there are obviously a range of non-verbal adjustments which can occur. In the research data when non-verbal activity was focussed at points of exchange before a pupil's potential turn it was particularly the torso that moved into a new position. Hall (1963) Kendon (1972) and Schefflen (1972) also recognised this relationship between the verbal and non-verbal. Other studies equally support the findings in i, arguing that postural movements specifically those in a forward direction frequently characterize commitment and interest (Section 1.3.1 Argyle et al 1970, Bull 1978, Ekman and Friesen 1967, Mehrabian 1968b).

Inevitably, there are going to be both teacher and pupil postural changes displayed over the time span of a lesson but what appears to make one postural change more influential than another is its position in the sequence of events. Whilst recognizing the important work

done on gaze (Ekman and Friesen 1975, Reece 1962, Rosenfeld 1966) in indicating willingness to respond, it may well be that when teachers scan a room full of pupils postural change is more easily identifiable.

In the data when pupils did precede their acceptances of a turn with non-verbal activity, in many instances a smooth exchange resulted, where they did not there were frequent occurrences of disruption. At an exchange point the teacher may complete his turn and signal this; pupils may then either pre-signal their acceptance or fail to claim the potential turn. Where there were examples of pupil pre-signalling acceptance and these were frequently observed in the data, smooth exchanges often resulted. On the other hand, where there was a breakdown in an exchange something else appeared to be happening. Pupil postural changes were minimized or absent, and in such instances the result was that teachers and pupils engaged in a course of action where there was a lack of understanding about the location of the turn and overlap ensued.

Hypothesis Three (finding i)

Returning more specifically to the instances where pupils reject a turn it has already been noted that preceding non-verbal activity is often minimized. In addition, pupils often give none informative brief responses. What appears to be happening is that pupils are demonstrating that no response is forthcoming. That is, they use some device which is acceptable to resolve their embarrassment at what is usually an inability to provide the information required. The teacher's perception of this may well be that the pupils have not understood, he may well go on or rephrase the question. This would be in accord with Rule c. If this does not occur, then at

points of exchange prior to a pupil's anticipated response rejection is signalled by minimized non-verbal activity, absence of non-verbal activity or short irrelevant verbal phrases. Although observations from the data were not always consistent Heath (1979) has produced similar results on the absence of the non-verbal. These are in contrast to the findings of Gross (1959) and Matarazzo et al (1964) who found that rejection of a turn was indicated by increased non-verbal activity.

Hypothesis Four (finding j)

Another sequential feature which operates within the turn taking system is that of non-verbal pairing. This has been observed in relation to questions and answers, statements and responses and explanations and responses. Such pairing may have some link with the control problem, that is how do teachers and pupils achieve that just one person talks at a time. If all turns were constructed of sentences then the problem of endings and beginnings would be eased. But this is far from what occurs, complete sentences are the exception rather than the norm. For pupils, in particular, it is likely that linguistically the completion of a turn is difficult to judge. Indeed, it is possible that many pupils look more than listen. Therefore, the presence of non-verbal activity could be to attract attention and by so doing reinforce the state of the exchange.

The difficulty lies in arriving at some concluding comment in respect of questions and answers, for questions so often signal that there is a possible forthcoming answer and have an almost inbuilt certainty for control. That teachers realize this may well account for the high percentage of questions often used during solicitation (Bellack 1965). But because control and maintenance of interactional order is a priority for teachers, the use of succeeding non-verbal

activity may give additional emphasis and so serve to inhibit any potential overlap. Although instances in the research data of non-verbal pairing are not frequent there are sufficient examples to suggest that where such features occur these appear to be a significant means of ensuring a smooth exchange.

Hypothesis Five (findings k and l)

Also pertinent to the findings of the research are that teachers can extend and therefore prolong their turns, a process which few pupils undertook. Understandably the teacher has more knowledge, skill and resources on which to draw and should feel sufficiently confident to include within his turn, pauses of whatever length he chooses. The fact that teachers did not generally employ long within turn pauses indicates their continual awareness that control in the classroom is a precarious matter.

The strategy appears to be short pauses which when filled contain gestures that are neutral and therefore not controlling. Postural activity was significantly absent, the exception to this occurring in the data where the teacher had difficulties in maintaining order. It seems understood that for a teacher to have a turn interrupted is to risk infringement to the flow of the lesson. What appears to exist is that teachers embark on turns knowing that pupil self-selection is a probability and operate their turn in order to prevent unnecessary interruption.

Once the turn is completed and the selection of the next speaker is imminent non-verbal activity is generated. This activity apparently functions to draw attention to the completion of the turn and to orientate the pupils' to this fact. What these patterns of non-verbal activity would seem to indicate is that whilst teachers

realise that reciprocation can only be facilitated through co-operative interaction, they also recognise that pupil self discipline is not always a complete substitute for teacher control.

Hypothesis Six (findings m, n and o)

Since one of the assumptions of the research was that the process of communication between teachers and pupils requires interactional competence, some of the most interesting findings were those in m, n and o. Because control in the classroom does not totally emanate from the teacher's personality it is the role of the teacher to understand the communicative process, its demands and to resolve any miscommunications. If the teacher selects the next speaker this more often than not leads to a smooth exchange. What is more problematic is when pupils self-select and this contribution continues simultaneously with the existing speaker. If this occurs and persists, the teacher is observed to re-affirm his rights. The teacher takes the opportunity of doing this, in some instances with word emphasis or non-verbally. An interpretation of this could be that teachers do not always consider verbal interruptions acceptable as these could be embarrassing indicating to pupils a lapse in teacher control.

It is also interesting to speculate on the many conscious and unconscious ways in which teachers exhibit status cues when interacting with pupils, even in a reciprocal milieu. In 'repair,' situations teachers engage in hand and head gestures, vocal cues and word emphasis which appear geared to preventing continued overlap. Such non-verbal activity seems placed to give maximum effect in attracting attention without adding to the disarray of the overlap. Features of 'repair,' are mobile gestures, their repetition and the consequent re-establishment

of the teacher's turn. This pattern enables teachers to mark their participation rights.

During simultaneous overlap in normal conversations it is more usual for one of the participants to allow the other to take the turn. This is not a feature of classrooms and what does occur during overlap is a threat to classroom order, with consequent interference in learning. Teachers do not have to be persuaded that interactional competence is desirable, for without it they cannot command and receive the attention of the pupils. What seems to operate for effective teachers is an implicit rule, shared by both teachers and pupils. That repair occurs and one contributor at a time is established is evidence that this is so.

The sequential placing and relationship of the non-verbal in relation to the verbal gives some substantiation to the hypothesis that teachers use non-verbal activity to restore potentially disruptive classroom situations. Frequently in the data teacher-pupil overlap occurs, the situation is in need of repair and non-verbal activity is observable. It therefore, seems not unreasonable to suggest a non-verbal contributory function.

Hypothesis Seven (findings p,q)

Of particular relevance in this research has been the establishment that pupils self-select. This implies some teacher-pupil conflict, not necessarily that the pupils are hostile, but more likely that they develop an enthusiasm to contribute. Verbal assertions of this are usually resisted by pupils as these contribute a challenge to the teacher's contribution. The available non-verbal options therefore for indicating impending interruptions are that they may touch the teacher, focus their gaze, raise their hand and/or use a variety of

head and hand gestures. Some of these may well occur, but in the research data postural changes were notable, not only for their actual occurrence but for their placing pre a pupil's turn. That certain postures have become associated with particular relationships has already been referred to in Section 1.3.1. There is, therefore, reason to suppose that leaning forward by pupils at points of preparation is in anticipation of a turn.

Pupils also appear sufficiently aware to know that attempts at self selection which achieve smooth exchanges are not likely without some non-verbal claim. Examples of these non-verbal claims have been identified in work by Duncan (1973) and Knapp (1978). Whilst one assumes that teachers in a reciprocal climate expect and wish that pupils initiate turns, the organization of this is not made explicit between teachers and pupils. It is interesting to note that the pre non-verbal signalling in order to self-select was not always adhered to when pupils self-selected from each other. In these instances because overlap did not frequently occur it may be that the closer proximity of the pupils facilitated more eye contact.

The findings from hypothesis seven also emphasize the inherent difficulties of being a pupil. In the classroom, reciprocation is a difficult practical concept for pupils for they do not have the superior knowledge and status of teachers. Therefore, for pupils, how to correctly proceed is difficult to realize. The clues from the data lead one to conclude that pupils, in part, resolve this dilemma by postural moves and gestural extensions which are placed to attract maximum attention.

7.2.1 Concluding summary

Overall, what the findings have established is the existence of particular non-verbal phenomena which feed into the interaction between teachers and pupils. Largely defined in relation to events in the vocal and verbal channels these phenomena have been focussed upon at potential teacher-pupil exchanges. Preliminary investigation of the data revealed that gestures, postures and vocal segregates often clustered at points of exchange. Following the identification of turn taking patterns it was generally hypothesized that the non-verbal could provide information to facilitate smooth and simultaneous exchanges.

Subsequent extensive analysis, however, did not substantiate all the detailed hypotheses (Section 5.3.3). What the evidence from the data has enabled the researcher to do is to conclude that in relation to,

- a. hypothesis two (findings g,h) pupils signal acceptance of a turn frequently with postural shifts,
- b. hypothesis five (findings k , l) teachers diminished their non-verbal activity in order to sustain their turn and increased it to indicate when completion was imminent,
- c. hypothesis six (findings m , n , o) teachers used gesture and vocal cues to repair and re-establish their turn,
- d. hypothesis seven (findings p , q) pupils used postural changes, arm and head gestures pre self-selection in relation to the teacher.

Because non-verbal patterns did not always consistently correspond, it is with more caution that claims are made about the remaining hypotheses.

In relation to,

- e. hypothesis one (findings a to f) teachers showed a preference for succeeding their verbal contributions by gestural non-verbal activity when asking questions. The presence of the non-verbal was less so after statements and explanations but verbal and vocal pre-closers were often present,
- f. hypothesis three (finding i) when pupils rejected a turn preceding non-verbal activity was minimized or absent.
- g. hypothesis four (finding j) that verbal matching pairs were not consistently paralleled by non-verbal pairs.

Although the type and quality of the non-verbal was investigated and some patterns were identified, these were sometimes interchangeable across the sample of teachers. Therefore, in respect of this aspect of the work no useful conclusions are presented.

Because a difference in competency was assumed to be present in teachers even though they were finally sampled because of their reciprocal approach to teaching some differences in ability were inevitable. Even so, verbal and non-verbal sequential patterns at points of exchange did show a frequent re-occurrence across the teachers in the sample. Even though this sample was mixed contrary to the results produced by Bentley (1981) and Hall (1979), patterns of response did not appear dependent on sex.

In addition, the sample of teachers did not have homogeneous characteristics, some were more motivating than others. Evidence from the data suggests that although warmth and approval encouraged some relationships it did not significantly affect the verbal - non-verbal patterning at exchange points. Indeed, parts of Data S₄ illustrated a warm friendly teacher who did not always have the necessary interactional skills.

Although there are studies of the verbal and non-verbal which emphasize the important role of the verbal as the communication channel (Stubbs 1974, Tough 1976), it is clear that verbal communications are constantly qualified by vocal cues and non-verbal activity. It is difficult to discount that re-occurring non-verbal patterns at points of exchange are not providing clues as to how the verbal is to be interpreted. The dilemma that remains, for any researcher in this area, is how much to ascribe to the non-verbal channel. Certainly it is unlikely that the non-verbal serves no role; the indications from the data are that at the very least it may help to reduce the ambiguity of what is required. Analysis from the interviews provides some support to this line of argument as teachers and pupils were aware of the presence of gesture and posture and in some instances could comment on their perception of what function was being served.

The information that the researcher could not precisely define was which non-verbal actions specifically influenced teachers and pupils. Because participants cannot attend to all the non-verbal activity some actions must have been disregarded, others acknowledged. What did emerge from analyzing data in Section 6.3 in relation to hypothesis two and seven was that postural changes were particularly acknowledged by participants and similarly in relation to hypothesis five the hands were notably discerned. Also not given over to rigorous analysis was the variability in the number of non-verbal actions, although variability was a feature. For example, in many instances teachers under threat maximized their non-verbal activity whilst pupils deferring an attempt at a turn minimized their non-verbal activity. In addition, that qualitative nuance expresses the quality of a relationship was not dismissed. Unfortunately, only limited

analyses were collated, but on the basis of these, for teachers, space, body tension and sustained use of time were a feature, for pupils, space, some body tension and only minimal use of time were present.

In acceptance of these findings the final statement to be made then, is that participants can exercise choice, but still adhere to the turn taking system. Whilst the research has identified different non-verbal combinations and differences in repetitions and quality by which they do this, the real significance of the non-verbal has been seen to be its placing in the sequence of events. That many smooth and simultaneous exchange points are characterized by the presence of non-verbal activity and that such non-verbal activity appears to contribute to the maintaining of interactional order and the repair of disorder are the major findings of the work. Thus it would seem that the original premise on which the research was based that non-verbal codes provide some of the information to facilitate exchanges between teachers and pupils has been borne out.

That significance can be ascribed to the role played by non-verbal activity in the classroom and that there are practical implications for teachers has been carefully researched (Section 1.3.3). In this section the studies of particular relevance to the research findings are those by Fox and Poppleton (1983) and Walker and Adelman (1972). Both studies have made reference to the regulatory features of interaction and the need for teachers to perceive those non-verbal aspects which encourage feedback and smooth exchanges and those which may lead to interruption and overlap. Intrinsic to their work is an understanding that control of interaction in the classroom is a precondition for effective interaction.

What has specifically emerged from the present research is that some teachers demonstrate interactional competence even though it is not explicitly taught; their understanding of the communicative demands of the classroom appear implicit. Other teachers are only vaguely aware of non-verbal activity and need to be given support in becoming more adept at perceiving and responding. Studies by Neill, Fitzgerald and Jones (1983) and Moskowitz and Hayman (1976) indicate that in general teachers in training and in their probationary period were often uncertain about the non-verbal and were insufficiently informed of possible non-verbal strategies.

By focussing on the exchange of turns between teachers and pupils this piece of research has identified non-verbal actions which provide options that have significant effects on the sequence of events. Analyses have shown that both teachers and pupils may exercise options and that these may either contribute to the maintenance of interactional order or detect and resolve disorder. As with other aspects of non-verbal activity the key turn taking experiences can be pursued and practiced through modelling, role play, peer involvement and video self observation and appraisal. This should enable teachers to appreciate the significance of non-verbal activity at the relevant points of exchange. Some aspects of this awareness could usefully involve pupils.

In final comment, many of the studies included and the findings of the research itself, have demonstrated that during turn taking, interactional competence enables participants to command and receive more attention and consequently more feedback. In the classroom situation if this competency is to be taken seriously, then both teacher and pupil should be helped to develop sensitivity to and

proficiency in observing and responding to the phenomenon of non-verbal activity; for it is not that they do not already know something about non-verbal communication, but rather as Soucie (1979) so aptly states, "to build upon and to refine an extraordinarily complex repertoire already in place by virtue of countless hours of implicit learning and practical experience." (p.216).

7.3 A Summary of Suggestions for Further Research arising from the Review of the Literature and the Findings of this Study

The following suggestions are made,

1. To further consider the role of the non-verbal during rule violation with some concern for identifying specific gestures. As described many of the findings refer to sequences of action and response which teachers and pupils achieve during smooth exchanges. That this does not always occur is identified in Section 5.2 and the results point to teachers using non-verbal activity to maintain interactional order. That is they bring into play non-verbal gestural signals in order to establish a situation where teachers and pupils can, in some instances, avoid simultaneous contributions.
2. To focus on teacher-pupil exchanges, particularly in more disruptive classrooms. To search for other non-verbal patterns which may be related to the breakdown of interactional order and which may lead to establishing other links between the placing of non-verbal activity, the sustaining of interactional order and the consequent effectiveness of the teacher.

3. To extend selected aspects of the present work to different samples with different situational constraints. The restrictions in using a small sample have been recognised in Section 6.2. Whilst it would be difficult for individual researchers to use larger samples because of the time-consuming aspects of recording and notating non-verbal activity, there are other samples worth considering. These are,
 - a. the teacher with small groups of pupils. In these groups the non-verbal may well take on a different pattern of organization,
 - b. pupils working with other pupils on independent topic work. The different role expectations may well result in some adjustment of the non-verbal at points of exchange. Some evidence of this was found in Section 5.4,
 - c. groups of pupils unsupervised by a teacher,
 - d. teachers and pupils in a nursery. A study of how their patterns of exchange are learnt and occur. Reference has been made in Section 1.3.2 by Kumin and Lazar (1974) to the difficulty very young children have in accurately decoding non-verbal signals,
 - e. groups within primary, secondary and higher education. A comparative study of the patterns of non-verbal at exchange points.
4. More specific studies of the linguistic features of questioning, explanations and statements and in relation to these, the function of pre-closers. Analyses in Section 6.3 identified an apparent contradiction, in that the most readily interpreted linguistic form, the question and answer, showed the clearest non-verbal patterning.
5. More detailed accounts of how teachers sustain a turn. The data investigated by the writer suggests that the non-verbal contributes to this. Extensive information on this aspect is more likely to be acquired from teachers using a formal teaching style, where 'structuring,' (Bellack 1965) and initiating and

guiding the activities of pupils are more to the fore
(Flanders 1969).

6. A comparison of teachers exchanging turns with pupils of different ethnic backgrounds. The writer is in accord with the views of Galloway (1966) and Gumperz and Gumperz (1982) that some pupils may not understand the non-verbal signals they see and that this is likely to affect their interactional functioning. The importance to teachers of understanding these differences in pupils is emphasized by Wolfgang (1979).
7. A consideration of the extent to which English children who are linguistically disadvantaged rely on the non-verbal in order to obtain their interpretation of what is being communicated. This area could be investigated in conjunction with 6. McDermott and Gospodinoff (1979) suggest that minority groups have "different gestural systems and interactional rhythms," (p.175) and that these may lead to alienation and often failure.
8. A more thorough investigation into the teachers' intent non-verbally and the pupils' perception of this intent. Analyses of the interviews in Section 5.3 indicated that some non-verbal activities were discriminated by teachers and pupils. The interview technique, used to probe for detail and clarity, could provide more form and substance to this area.
9. An examination of the extent to which teachers are affected by pupils' non-verbal signalling. Existing work suggests that pupil comprehension (Breed and Coliuta 1976) and expectations (Feldman and Proshanska 1979) are non-verbally communicated to teachers.

10. A study of the effect of the sex of the teacher. Work by Bentley (1981) and Woolfolk, Woolfolk and Carlinsky (1977) referred to in Section 1.3.3 state that female teachers appear to encode more accurately than male teachers. One possible implication of this is, that if, at points of exchange, female teachers signal more accurately to pupils, they may be more interactionally effective.
11. A more searching investigation of the suggestion by Eugental, Kaswan, Love and Fox (1979), that female pupils are likely to be more accurate in their decoding of non-verbal signals. If there are such differences in decoding ability this may well result in more male pupils being involved in simultaneous turns.
12. To acquire a more informed account of how the qualitative content of the non-verbal affects the exchange of turns. Whilst research by Mehrabian (1968), Reece et al (1962) and Rosenfeld (1966) cited in Section 1.3.1 indicates that more positive non-verbal signals encourage more feedback, it is not known whether positive signals are more likely to result in smooth exchanges.
13. To investigate which materials and strategies will best facilitate the improvement of teacher-pupil turn taking. The researchers of some of the materials produced have been identified (Section 1.1). Some possible strategies have also been advanced (Section 7.2.1).

14. To develop an abstract non-verbal symbol system more widely useable by teachers. The difficulty of developing Laban notation skills has been recognised in Section 3.2.7. The system produced by Duthie (1979) for recording the process of change during a lesson, including changes in form of activity and communication is a useful initial guide. A very preliminary adaptation by the writer of this system is included in Appendix 29a.
15. To carry out extended analyses of turn taking using more than one notator. The risk of a single notator invoking his own assumptions about a particular non-verbal action or sequence has been identified in Section 6.2.
16. To consider the use of computers for observing and looking at very fine grained changes in non-verbal activity; for example, to trace in detail a gestural or postural sequence. Since such sequential analyses are beyond the capability of a human observer, a more macroscopic approach was used in the present work in order to provide a clearer relationship between the patterns of non-verbal organization. This avoided the danger of losing the flow of the non-verbal phenomenon and was therefore more appropriate.

REFERENCES

- ABERCROMBIE, D. (1968) Paralanguage pp.64-70 in LAVER, J. and HUTCHESON, S. Communication in face to face interaction. Penguin.
- ADAMS, R.S. (1971) A Sociological approach to classroom research pp. 101-117 in WESTBURY, I. and BELLACK, A. Research into classroom processes. Teachers College Press. New York.
- ADAMS, R. and BIDDLE, B.J. (1970) Realities of teaching, exploration with video-tape. Rinehart & Winston Inc.
- ALLEN, V.L. and ATKINSON, M.L. (1978) Encoding of non-verbal behaviour by high-achieving and low-achieving children. Journal of Educational Psychology 70 pp.298-305.
- AMIDON, P. (1970) Non-verbal interaction analysis. Washington, D.C. A. E. R. A.
- ARGYLE, M., SALTER, V., NICHOLSON, H., WILLIAMS, M. and BURGESS, P. (1970) The communication of inferior and superior attitudes by verbal and non-verbal signals. British Journal of Social and Clinical Psychology. pp. 222-231.
- ARGYLE, M., ALKEMA, F., and GILMOUR, R. (1972). The communication of friendly and hostile attitudes by verbal and non-verbal signals. European Journal of Social Psychology. 1. pp. 385-402.
- ARGYLE, M. (1975) Bodily Communication. Methuen Ltd.
- ARGYLE, M. and COOKE, M. (1976) Gaze and mutual gaze. Cambridge University Press.
- BAILEY, W.D. (1982) Methods of social research. The Free Press. New York.
- BEALING, D. (1973) Issues in classroom observational research. Research in Education. 9. pp. 71-82.
- BELLACK, A.A. (1965) The language of the classroom. Meanings communicated in high school teaching. pp.93-115 in NELSON, L. The nature of teaching.
- BELLACK, A., KLIEBARD, H.M. HYMAN, R.T., SMITH, F.L. (1966) The language of the classroom. Teachers College Press. New York.
- BENTLEY, D. (1981) An investigation into the relationship between non-verbal behaviour and pupil motivation in a comprehensive school. Unpublished M. Ed. Dissertation. University of Manchester.

- BERNSTEIN, B. (1961) Social structure language and learning.
Educational Research. 3. pp.163-176.
- BIRDWHISTELL, R.L. (1971) Kinesis and context. Allen Lane.
Penguin Press.
- BRANDT, R.M. (1972) Studying behaviour in natural settings.
Holt, Rinehart and Winston.
- BREED, G. and COLIUTA, V. (1976) Looking, blinking and sitting:
non-verbal dynamics in the classroom.
Journal of Communication. 24. pp.75-81.
- BROWN, G. (1975) Micro-teaching. Harper and Row.
- BRUNEAU, T.J. (1973) Communicative silences: forms and functions.
Journal of Communication. 23. pp.17-46.
- BUEHLER, R.E. and RICHMOND, J.F. (1963) Interpersonal communication.
A research method. Journal of Communication
13. pp.146-155.
- EUGENTAL, D.E., KASWAN, J.W. and LOVE, L.R. (1970) Perception of
contradictory meanings conveyed by verbal
and non-verbal channels. Journal of
Personality and Social Psychology. 16. pp.647-655.
- BULL, P.E. and BROWN, R. (1977) The role of postural change in dyadic
conversation. British Journal of Social and
Clinical Psychology. 16. pp.29-33.
- BULL, P. (1978a) The psychological significance of posture.
Unpublished Ph.D. Thesis. University of Exeter.
- BULL, P. (1978b) The interpretation of posture through an
alternative methodology role play.
British Journal of Social and Clinical Psychology
17. pp.1-6.
- BULL, P. (1983) Body movement and interpersonal communication.
John Wiley and Sons Ltd.
- CAUSLEY, M. (1967) Benesh movement notation. Purnell and Sons.
Bristol.
- CHAIKEN, A., SIGLER, E. and DARLEGA, V. (1974) Non-verbal mediators of
teacher expectancy effects. Journal of
Personality and Social Psychology. 30. pp.144-149.
- CHAMBERS, P. (1976) Observation of non-verbal aspects of teaching :
implications for teacher education curricula.
Research Intelligence. 2. pp.16-18.

- CHRONKITE, G. (1976) Communication and awareness. Cummings.
- COHEN, A. A. and HARRISON, R. P. (1973) Intentionality in the use of hand illustrators in face to face communication situations. Journal of Personality and Social Psychology. 28. pp.276-279.
- COHEN, L. and MANION, L. (1977) A guide to teaching practice. Methuen.
- CONDON, W. S. and OGSTON, W. D. (1966) Sound film analysis of normal and pathological behaviour patterns. Journal of Nervous and Mental Disease. 143. pp.338-347.
- CONTE, P. (1967) Systems of dance notation. Laban Art of Movement Guild Magazine. pp. 26-27.
- DANZIGER, K. (1976) Interpersonal communication. Pergamon Press.
- DAVIS, F. (1976) The way we speak, body language. pp.62-73 in KREB, D. Readings in social psychology: contemporary perspectives. Harper and Row.
- DAVIS, M. The state of the art : past and present in body movement research pp.51-66 in WOLFGANG, A. Non-verbal behaviour : applications and cultural implications. Academic Press, London.
- DAVITZ, J. R. (1964) The communication of emotional meaning. McGraw Hill. New York.
- DENZIN, N. K. (1971) Symbolic interactionism and ethnomethodology. pp.259-284. in DOUGHLAS, J. Understanding everyday life. Routledge and Kegan Paul.
- DEUTSCH, F. (1952) Analytic posturology. Psychoanalytic Quarterly. 21. pp. 196-214.
- DITTMAN, A. T. and LLEWELLYN, L. G. (1967) The phonemic clause as a unit of speech decoding. Journal of Personality and Social Psychology. 6. pp.341-349.
- DITTMAN, A. T. and LLEWELLYN, L. G. (1968) Relationship between vocalizations and head nods as linear responses. Journal of Personal and Social Psychology. 9. pp.79-84.
- DUNCAN, S. (1972) Some signals and rules for taking speaking turns in conversations. Journal of Personality and Social Psychology. 23 pp. 283-292.

- DUNCAN, S. and NEIDERSCHE, G. (1974) On signalling its your turn to speak. Journal of Experimental Social Psychology. 10. pp. 234-247.
- DUNCAN, S. and FISKE, D. (1977) Face to face interaction. John Wiley and Sons. New York.
- DUTHIE, J.H. (1979) The theoretical study : notes towards a conceptual framework for education. pp. 194-203. in BENNETT and McNAMARA, D. Focus on Teaching. Longman.
- EFRON, D. (1972) Gesture, race and culture. Mouton : The Hague.
- EIBL-EBESFELDT, I. (1972) Similarities and differences between cultures in expressive movements. pp. 297-312 HINDE, R. Non-verbal communication. University Press.
- EISNER, E. W. (1969) Instructional and expressive objectives : their formulation and use in curriculum. pp. 1-18 in POHMAN, W. J. American Educational Research Association. Monograph 3. Rand McNally and Company.
- EKMAN, P. (1965) Differential communication of affect by head and body cues. Journal of Personality and Social Psychology. 2. pp. 726-735.
- EKMAN, P. (1966) Communication through non-verbal behaviour : a source of information about interpersonal relationship. pp. 390-442. in TOMKINS, S. S. and IZARD, C. E. Affect, cognition and personality; empirical studies. Tavistock.
- EKMAN, P. and FRIESEN, W.V. (1967) Head and body cues in the judgement of emotion : a reformulation. Perceptual and Motor Skills. 24. pp. 711-724.
- EKMAN, P. and FRIESEN, W.V. (1969) Non-verbal leakage and cues to deception. Psychiatry. 32. pp. 88-106.
- EKMAN, P., FRIESEN, W. and ELLSWORTH, P.C. (1972) Emotion in the human face. Pergamon Press.
- EKMAN, P. and FRIESEN, W.V. (1975) Unmasking the face : a guide to recognizing emotions from facial clues. Prentice-Hall.
- EKMAN, P., OSTER, H. (1979) Facial expressions of emotion. Annual Review of Psychology. 30. pp. 527-555.

- ELLSWORTH, P.C., LUDWIG, L.M. (1972) Visual behaviour in social interaction. Journal of Communication 22. pp. 375-403.
- ESHKOL, N, and WACHMAN, A. (1967) Systems of dance notation. Laban Art of Movement Guild Magazine, pp.28-30.
- EVANS, K.M. (1968) Planning small scale research. N.F.E.R. Slough, Bucks.
- EXLINE, R.V. (1963) Explorations in process of person perception. Visual interaction in relationship to competition, sex and need affiliation. Journal of Personality. 31. pp.1-20.
- FELDMAN, R.S. and PROSHANSKA, T. (1979) Student as pygmalion : effect of student expectation on the teacher. Journal of Educational Psychology 71. pp.485-493.
- FLANDERS, N.A. (1969) Teacher influence in the classroom pp.13-28. NELSON, L. The nature of teaching. Ginn and Company.
- FLANDERS, N.A. (1970) Analysing teaching behaviour. Addison-Wesley.
- FOX, G. and POPPLETON, P. (1983) Verbal and non-verbal communication in teaching : a study of trainee P.E. teachers in the gymnasium. British Journal of Educational Psychology. 53. pp.107-120.
- FREEDMAN, N. and HOFFMAN, S.P. (1967) Kinetic behaviour in altered clinical states : approach to objective analysis of motor behaviour during clinical interviews. Perceptual and Motor Skills. 24. pp.527-539.
- FRIEDMAN, H.S. (1979) The interactive effects of facial expression of emotion and verbal messages on perception of affective meaning. Journal of Experimental Social Psychology. 15. pp.453-469.
- FRIEDRICH, J. and LUDTKE, H. (1975) Participant observation theory and practice. Saxon Hover, Hants.
- FROMME, D.K. and SCHMIDT, C.K. (1972) Affective role enactment and expressive behaviour. Journal of Personality and Social Psychology. 24. pp.413-419.
- FURLONG, V. (1976) Interaction sets in the classroom : towards a study of pupil knowledge pp.23-44 in STUBES, M. and DELAMONT, S. Explorations in classroom observation. John Wiley and Sons.

- GALLOWAY, C. A. (1968) Non-verbal communication. Theory into Practice. 7. pp.172-175.
- GARFINKEL, H. (1967) Studies in ethnomethodology. Prentice-Hall. London.
- GETZEL, J. W. and GUBA, E. G. (1957) Social behaviour and administrative process. School Review. 65. pp.423-441.
- GOFFMAN, E. (1955) On face work : an analysis of ritual elements pp.319-346 in LAVER, J. and HUTCHESON, S. Communication in face to face interaction.
- GOFFMAN, E. (1957) Alienation from interaction pp.347-363 in LAVER, J. and HUTCHESON, S. Communication in face to face interaction.
- GOFFMAN, E. (1961) Encounters. Bobles-Merril.
- GOFFMAN, E. (1969) The presentation of self in everyday life. Penguin.
- GOFFMAN, E. (1971) Relations in public. Basic Books. New York.
- GOLDMAN-EISLER, F. (1961) A comparative study of two hesitation phenomena. Language and Speech. 4. pp.18-36.
- GRAHAM, J.A. and ARGYLE, M. (1975a) A cross-cultural study of the communication of extra verbal meaning by gestures. International Journal of Psychology. 10. pp.57-69.
- GRAHAM, J.A. and ARGYLE, M. (1975b) The effects of different patterns of gaze combined with different facial expressions on impression formation. Journal of Human Movement Studies. 1. pp.178-182.
- GRANT, B.M. and HEMMINGS, D. (1971) The teacher : an analysis of non-verbal activity. Teachers College Press. New York.
- GREER, B. (1979) Teaching pp.188-193 in BENETT, N. and MCNAMARA, D. M. Focus on teaching. Longman, New York.
- GROSS, L. E. (1959) Effects of verbal and non-verbal reinforcement in the Rorschach. Journal of Consultant Psychology. 23. pp.66-68.
- GUMPERZ, J.C. and GUMPERZ, J. J. (1982) Communicative competence pp.14-23 in WILKINSON, L.C. Communicating in the classroom. Academic Press.

- GUMP, P.V. (1971) Whats happening in the elementary classroom. pp. 155-165 in WESTBURY, I. and BELLACK, A. Research into classroom processes. College Press. New York.
- HALL, E.T. (1974) Handbook for proxemic research. Society for the Anthropology of Visual Communication.
- HALL, J.A. (1979) Gender, gender roles and non-verbal communication skills. pp. 32-67. in ROSENTHAL, R. Skill in non-verbal communication : individual differences. Cambridge, Massachusetts.
- HAMILTON, D. (1976) At classroom level : studies in learning. milieu. Unpublished Ph.D. Thesis. University of Edinburgh.
- HAMMERSLEY, M. (1979) Analysing ethnographic data. Education and Social Sciences. DES04, Block 6, Part 1. Open University Press.
- HARNETT, J.J., BAILEY, K.G. and GIBSON, F.W. (1970) Personal space as influenced by sex and type of movement. Journal of Psychology 76. pp. 139-144.
- HARRISON, R.P. (1973) Non-verbal communication pp. 93-115 in POOL, I.S. Handbook of Communication. Rand McNally.
- HARRISON, R. (1974) Beyond words. An introduction to non-verbal communication. Prentice-Hall.
- HEATH, C. (1979) In breaking co-presence : some preliminary observation concerning the social organization of spoken and non-spoken action in closing sequences. Unpublished Paper.
- IZARD, C.E. and TOMKINS, S.S. (1966) Affect and behaviour : anxiety as a negative affect pp. 81-125 in SPIELBERGER, C.D. Anxiety and behaviour. Academic Press.
- JECKER, J., MACCOBY, N. and BREITROSE, H.S. (1965) Improving accuracy in interpreting non-verbal cues of comprehension. Psychology in the Schools. 2. pp. 239-244.
- KAHN, R., MANN, F. (1952) Developing research partnerships. Journal of Social Issues. 8. pp. 4-10.
- KENDON, A. (1972) Some relationships between body motion and speech. An analysis of an example pp. 172-210 in SIEGMAN, A.W. and POPE, B. Studies in dyadic communication. Pergamon Press.

- KENDON, A. and FERBER, A. (1973) A description of some human greetings pp.600-669 in MICHAEL, R.P. and CROOK, J.H. Comparative ecology and behaviour of primates. Academic Press.
- KLEIN, S. (1971) Student influence on teacher behaviour. American Educational Research Journal 8. pp. 403-421.
- KNAPP, M.L. (1971) The role of non-verbal communication in the classroom. Theory into Practice. 10. pp. 243-249.
- KNAPP, M.L., HART, R.P. and FRIEDRICH, G.W. and SHULMAN, G.M. (1973) The rhetoric of goodbye : verbal and non-verbal correlates of human leave-taking. Speech Monographs. 40. pp. 182-198.
- KNAPP, M.L. (1974) Non-verbal communication in human interaction. Holt, Rinehart and Winston.
- KROUT, M.H. (1954) An experimental attempt to determine the significance of unconscious manual symbolic movements. Journal of General Psychology. 51. pp. 121-152.
- KUMIN, L. and LAZAR, M. (1974) Gestural communication in pre-school children. Perceptual and Motor Skills. 38. pp. 708-710.
- LABAN, R. (1965) Modern educational dance. Macdonald and Evans.
- LACY, C. (1970) Hightown grammar. University of Manchester Press.
- LACY, C. (1976) Problems of sociological fieldwork : a review of the methodology of Hightwon grammar. pp.63-88 in SHIPMAN, M. Organisation and impact of social research. Routledge and Kegan Paul.
- LAMB, W. (1965) Posture and gesture : an introduction to the study of physical behaviour. Duckworth and Co.
- LEVENTHAL, H. and SHARP, F. (1966) Facial expressions as indicators of distress pp.296-318 in TOMKINS, S. and IZARD, C. Affect Cognition and Personality. Tavistock Ltd.
- LINDENFELD, J. (1971) Verbal and non-verbal elements in discourse. Semiotica 3. pp. 223-233.
- LIVANT, P.W. (1963) Antagonistic functions of verbal pauses : filled and unfilled pauses in the solution of additions. Language and Speech 6. pp.1-4.

- LOFLAND, J., LOFLAND, L.H. (1984) Analysing social settings.
Wadsworth Inc. California.
- LOTT, D.F., SOMMER, R. (1967) Seating arrangements and status.
Journal of Personal and Social Psychology.
7. pp.90-95.
- LORAC, C. and WEISS, M. (1981) Communication and social skills.
Schools Council.
- MALINOWSKI, B. (1963) The family among the Australian aborigines.
A sociological study. Schocken Books Inc.
- MATARAZZO, J.D., SASLOW, G., Interviewer head
WEINS, A.M., WEITMAN, M. and ALLEN, B.V. (1964) nodding and
interviewee speech duration. Psychotherapy,
Theory, Research and Practice. 1. pp. 54-63.
- MAXWELL, G.M., PRINGLE, J.K. (1983) The analysis of video records.
pp. 31-45 in DOWRICK, P. and BIGGS, S.J.
Using Video. John Wiley and Sons.
- McDERMOTT, R.P. and GOSPODINOFF, K. (1979) Social contexts for
ethnic borders and school failure pp.175-195.
in WOLFGANG, A. Non-verbal behaviour :
applications and cultural implications.
Academic Press, London.
- McGRAW, C. (1964) Scoreography. Dance Magazine. pp. 5-7.
- McHOU, A. (1979) The organization of turns at formal talk
in the classroom. Language Society.
7. pp.183-213.
- McALEESE, W.R. and UNWIN, D. J. (1973) Micro-teaching : a selected
survey. Programmed Learning and Educational
Technology. 8. pp.8-24.
- MEDLEY, D.M., MITZEL, H.E. (1963) Experiences with the Oscar technique.
The Journal of Teacher Education. 14.
pp.267-273.
- MEHRABIAN, A. (1968a) Inference of attitude from the posture,
orientations and distance of a communicator.
Journal of Consulting and Clinical Psychology.
32. pp.296-308.
- MEHRABIAN, A. (1968b) Relationship of attitude to seated posture,
orientation and distance. Journal of
Personality and Social Psychology. 10. pp.21-30.
- MEHRABIAN, A. (1969) Significance of posture and position in the
communication of attitude and status
relationships. Psychological Bulletin.
71. pp.359-372.

- MEHRABIAN, A. and WILLIAMS, N. (1969) Non-verbal concomitants of perceived and intended persuasiveness. Journal of Personality and Social Psychology. 13. pp.37-58.
- MEHRABIAN, A. and FRIAR, J.T. (1969) Encoding of attitude by a seated communicator via posture and position cues. Journal of Consulting and Clinical Psychology. 33. pp.330-336.
- MONTAGU, M.F.A. (1971) Touching : the human significance of the skin. Columbia Press. New York.
- MORRISON, A. and McINTYRE, D. (1969) Teachers and teaching. Penguin.
- MORRIS, D., COLLETT, P., MARSH, P. and OSHAUGHNESSY, M. (1979) Gestures : their origins and distribution. Jonathan Cape, London.
- MOSKOWITZ, G. and HAYMAN, J.L. (1976) Success strategies of inner city teachers : a year long study. Journal of Educational Research. 69. pp.283-289.
- NEILL, J., FITZGERALD, J.M. and JONES, B. (1983) The relationship between reported awareness of non-verbal communication and rated effectiveness in probationer and student teachers. Journal of Education for Teaching. 9. pp.16-29.
- NEILL, S.R. (1982-1984) A pilot study of initial encounters in the secondary school. University of Warwick.
- NIKOLAIS, A. (1959) Choroscript. Dance Perspectives. Spring, pp.33-38.
- OESER, O.A. (1960) Teacher, pupil task. Tavistock Publication.
- OSGOOD, E.E. and TANNENBAUM, P.H. (1955) The principle of congruity in the prediction of attitude change. Psychological Review. 62. pp. 42-55.
- PARKER, L.R. and FRENCH, R.L. (1971) A description of student behaviour : verbal and non-verbal. Theory into Practice. 10. pp.270-281.
- PRESTON-DUNLOP, V. (1969) Practical kinetography Laban. Macdonald and Evans Ltd.
- REECE, M.M., WHITMAN, R.N. (1962) Expressive movements, warmth and reinforcement. Journal of Abnormal and Social Psychology. 64. pp.234-236.

- RENNE, C.M., DOWRICK, P.W., WASELL, G. (1983) Considerations of the participant in video recording. pp.23-32 in DOWRICK, S., BIGGS, J. Using Video. John Wiley and Sons.
- ROGERS, W.T. (1978) The contribution of kinesic illustrators toward the comprehension of verbal behaviour within utterances. Human Communication Research. 5. pp.54-62.
- ROSE, C.R. (1978) Movement awareness for better management, Macdonald Evans.
- ROSENFELD, H.M. (1967) Non-verbal reciprocation of approval : an experimental analysis. Journal of Experimental Social Psychology. 3. pp.102-111.
- ROSENFELD, H.M. (1966) Instrumental affiliative functions of facial and gestural expressions. Journal of Personality and Social Psychology. 4. pp.65-72.
- ROSENTHAL, R. and JACOBSON, L. (1968) Pygmalion in the classroom. Holt, Rinehart and Winston.
- ROSENTHAL, R. (1968) Vocal emphasis in experimenters instructions reading unintended determinant of subjects responses. Language and Speech. II. part 1. pp. 20-26.
- SACKS, H., SCHEGLOFF, E., JEFFERSON, G. (1978) A simplest systematics for the organization of turn-taking for conversation pp. 7-55 in SCHENKEIN, J. Studies in the organization of conversational interaction. Academic Press Inc.
- SACKS, H. (1972) Unpublished Lecture Notes. April. pp. 1-26. University of California.
- SCATZMAN, L. and STRAUSS, A.L. (1973) Field research. Englewood Cliffs, Prentice-Hall.
- SCHENKEIN, J. (1978) Studies in the organization of conversational interaction. Academic Press.
- SCHEFLEN, A. (1964) The significance of posture in communication systems. Psychiatry. pp. 316-331.
- SCHEFLEN, A. (1972) Body language and social order. Prentice Hall.
- SCHEFLEN, A. E. (1973) Communicational structure : analysis of a psychotherapy transaction. Indiana University Press.
- SCHEGLOFF, E.A. and SACKS, H. (1973) Opening up closings. Semiotica. 8. pp.289-327.

- SCHWARTZ, M. S. , SCHWARTZ, C.G. (1955) Problems in participant observation. American Journal of Sociology. 60. pp.343-353.
- SHERIF, C. , SHERIF, M. , NEBERGALL, R. (1965) Attitude and attitude change. H.B. Saunders and Co.
- SMITH, H.A. (1979) Non-verbal communication in teaching. Review of Educational Research. 49. pp.631-672.
- SOMMER, R. (1969) Personal Space. Englewood Cliffs, Prentice-Hall, New Jersey.
- SOUCIE, R.M. (1979) Common misconceptions about non-verbal communication : implications for training. pp.209-218 in WOLFGANG, A. Non-verbal behaviour : applications and cultural implications. Academic Press, London.
- STEPHENS, L.S. (1974) The teachers guide to open education. New York, Holt, Rinehart and Winston.
- STEPANOV, V. (1967) Systems of dance notation. Laban Art of Movement Guild Magazine. pp.26-27.
- STUBBS, M. (1974) Keeping in touch. Some functions of teacher-talk. pp. 151-172. in STUBBS, M. and DELAMONT, S. Explorations in classroom observation.
- SUDNOW, D. (1972) Studies in social interaction. Collier Macmillan Ltd.
- TAGIURI, R. (1969) Person perception pp.395-449 in LINDZEY, G. and ARONSON, E. Handbook of social psychology Vol. III : The individual in a social context. Addison Wesley.
- THAYER, S. SCHIFF, W. (1969) Stimulus factors in observer judgement of social interaction. American Journal of Psychology. 82. pp.73-85.
- TOMKINS, S.S. (1981) The role of facial response in the experience of emotion : a reply to Tourangeau, R. and Ellsworth, P.C. Journal of Social Psychology. 40. pp.355-357.
- TORRANCE, P.E. (1960) Teacher attitude and pupil perception. Journal of Teacher Education. 11. pp.97-102.
- TOUGH, J. (1976) Listening to children talking. Schools Council.

- TOURANGEAU, R. and ELLSWORTH, P.C. (1979) The role of facial response in the experience of emotion. Journal of Personality and Social Psychology. 37. pp.1519-1531.
- TRAGER, G.L. (1958) Paralanguage : a first approximation. Studies in Linguistics. 13. pp.1-12.
- TROWER, P., BRYANT, B. and ARGYLE, M. (1978) Social skills and mental health. Methuen, London.
- VAN DE SANDE, J.P. (1980) Cue utilisation in the perception of dominance. British Journal of Social and Clinical Psychology. 19. pp.311-316.
- WALDRON, J. (1975) Judgement of like-dislike from facial expression of body posture. Perceptual and Motor Skills. 41. pp.799-804.
- WALKER, R. and ADELMAN, C. (1972) Towards a sociography of classrooms. Report to S.S.R.C. Chelsea College of Science and Technology.
- WALKER, R. and ADELMAN, C. (1975) A guide to classroom observation. Methuen and Co.
- WEITZ, S. (1972) Attitude voice and behaviour : a repressed affect model of inter-racial interaction. Journal of Personality and Social Psychology. 24. pp.14-21.
- WHELDALL, K. (1975) Social behaviour. Methuen.
- WHYTE, W.F. (1973) The social structure of the restaurant. pp. 244-256 in BIRENBAUM, A. and SAGARIN, E. People and Places : the sociology of the familiar. London, Nelson.
- WILLIS, P.E. (1975) The transition from school to work. Paper 38. Centre for Contemporary Cultural Studies, University of Birmingham.
- WOOLFOLK, A.E. and WOOLFOLK, R.L. (1975) Student self disclosure in response to non-verbal behaviour. Journal of Experimental Education. 44. pp.36-40.
- WOOLFOLK, R.L., WOOLFOLK, A.E. and GARLINSKY, S. (1977) Non-verbal behaviour of teachers : some empirical findings. Environmental Psychology and Non-Verbal Behaviour. 2. pp.45-61.
- WOLFGANG, A. (1979) The teacher and non-verbal behaviour in the multicultural classroom. pp.159-174. in WOLFGANG, A. Non-verbal behaviour : applications and cultural implications. Academic Press, London.

YERRELL, P.H., LOVELL, J.R., STOTE, W. AND ROSENTHAL, R. (1983-1986)
Pupil's sensitivity to teachers non-verbal
behaviour mediation in specific contexts.
Portsmouth Polytechnic.

ZIMMERMAN, D.H., POLLNER, M. (1970) The everyday world as a
phenomenon. pp.80-103 in DOUGHLAS, J.
Understanding everyday life.
Aldine, Chicago.

APPENDICES

Guidelines to Data

First and Second Sample

Data X = verbal and vocal cues.

Data Y = verbal, vocal cues
and non-verbal.

First Sample Teachers = T₁ T₂ T₃

Second Sample Teachers = S₁ S₂ S₃ and S₄

Second Sample

Data Z = verbal, vocal cues
non-verbal and qualitative
characteristics.

L = Line of transcript

Digits = Video digits. These can only be approximate
due to the changing tensions in the tape.

Turn Exchanges	S ₁	-	58
	S ₂	-	38
	S ₃	-	34
	S ₄	-	46

FIRST SAMPLE

DATA X and Y

TEACHERS T_1 T_2 and T_3

Initial Observations

- T. Think about rate payers. How is the thing financed?
How is it payed for? Michael?
- P. Out from the rates.
- T. Out of the rates. Yes. What effect did the Speedham system, for instance, have on the number of rural poor. What effect did it have on those who actually in a sense claimed off the Speedhamland system. On their sort of general attitude of, er, their sort of willingness to work. Andrew?
- P. Don't have incentives. (Muffled)
- T. Yeah, it took out incentives to work. And why did it take out the incentives to work? What effect did it have on wages? What in effect did the Speedhamland system create as far as wages were concerned. Michael?
- P. The minimum wage.
- T. The minimum wage. Right. So regardless of whether or not you claimed out your relief through the Speedhamland system or whether or not you were actually working you had very little incentive to work because if you worked, if you had a job, well then you were going to be paid the bare minimum wage that would just about keep you above subsistence level or starvation level. So obviously what was the reaction of the people if you were only going to be paid the sort of minimum wage that was there at what how did their attitude

T. (cont.) tend to develop. Yes.

P. Muffled.

T. Yeah - it took away the incentive. They didn't work, so in other words it was an attitude which er in a sense was in keeping with the ideas you hear about today. Now whether or not you believe that these stories are true, that people receive more money off social security than they can if they work, that's a matter of opinion. But it's the same idea, people because they work are going to be paid a quarterly wage, they preferred to in effect to claim outdoor relief under the Speedham land system. So you've got increasing numbers of people dependent on payment out of the rates. So what's that going to do to the amount to the er rates themselves. If you've got more people claiming. Sharon.

P. Er Increase.

T. Yeah - they increase. And who's going to react against that? Kevin.

P. The land owners.

T. The land owners and the other groups, well land owners, aristocracy, the same thing really. Er the people that paid rates, the rate payers. So they were opposed to the Speedhamland system. So we've said basically it demoralizes the poor and it encourages farmers to pay low wages and if it encouraged them to pay low wages it encouraged people not to work. Right, so in 1832, and this is a directly

- T. (cont.) relevant section, in 1832 a Commission was set up to investigate the whole problem of the poor law. Now, who's the most famous member of this poor law commission? Nicola.
- P. Edwin Chadwick.
- T. Now Chadwick is an important figure because he was influenced, motivated by the ideas that I was talking about yesterday afternoon. Those ideas of course were What? Adrian.
- P. Um Er, the Benthamites.
- T. Yes, the idea of Jeremy Bentham. So you say that Chadwick was a Benthamite or he believed in Benthamism and originally Graham as Andrew appears to be absent today. What was the message that Jeremy Bentham had got for the likes of Chadwick and anyone who cared to read his ideas at this time. What was contained in the idea of Benthamism?
- P. What's the use (Muffled)
- T. In other words Bentham's philosophy was based on the question what use is it. He was looking and people who believed in his ideas were looking for efficient, workable solutions to the problems of the day.

Data X T₂ Verbal Transcription with Characteristics
of Speech Delivery

Initial Observations

- T. Think about rate payers (2.0). How is the thing financed (1.5).
How is it payed for ((pause)) Michael?
- P. Out (Fr-) the rates.
- T. Out of the rates. Yes ((pause)). What effect-did the Speedham
system, for instance, have on the-number of rural poor.
What effect did it have on-those who actually in a sense
claimed off-the Speedhamland system (5.0). On their sort of
general attitude of-er (2.0) their sort of willingness to
work (3.0). Andrew?
- P. Don't have incentives (Sir).
- T. Yeah, - it took out incentives to work (1.0). And why did
it take out the incentives to work? What effect did it have
on wages? (2.5). What in effect did the Speedhamland system
create as far as wages were concerned. - Michael)
- P. The minimum wage.
- T. The minimum wage. Right. - So regardless of whether or not
you claimed - OUT your relief through the Speedhamland system
or whether or not you were actually wor:king you had very
little incentive - to w-work because if you worked, if you
had a job, well then you were going to be paid-the BARE
minimum wage that would just about keep you above-subsistence
level or starvation level. So obviously what was the reaction
of the-people-if they were only going to be paid the sort of

THE minimum wage what was their at-w-what how did their attitude tend er-to develop (2.0). Yes.

P. ().

T. Yeah - it-t took away the incentive. They didn't work, so in other words-it was an attitude which- er- in a se:nse was in keeping with the ideas that- you hear about today. Now whether or not you be:lieve that these stories are true - that people receive more money of social security than they can if they work, - that's a matter of opinion. But it's the same idea - people because they work are going to be paid a quarterly wage, - they preferred to in effect- to claim outdoor relief under the Speedhamland system (1.0). So you've got increasing numbers of people dependent on- payment out of the rates. So what's that going to do to the amount of the amount the the-er-rates themselves (2.0). If you've got mo:re people clai::ming (1.5). Sharon.

P. ().

T. Yeah - they increased. And who's going to react against that? (1.0). Kevin.

P. The land-owners.

T. The land-owners and-the other groups-well land-owners- aristocracy-the same thing really. - Er - the people that paid rates the rate payers. So they were opposed to the Speedhamland system. So we've said basically it demoralizes the poor-and it encourages farmers to pay low wages and if it encouraged them to pay low wages well then it encouraged people

not to work. RIGHT so in 1832- and this is a directly relevant section - in 1832 a Commission was set up-to investigate the whole-problem of the poor law. Now. Who's the most famous member of this poor law commission? Nicola.

P. Edwin Chadwick.

T. Now Chadwick is an important figure-because he was influenced, motivated by the ideas that I was talking about yesterday afternoon-, those ideas of course What? Adrian.

P. ((Um - Er)) (1.0) the Benthamites.

T. Yes the idea of Jeremy Bentham - So you say that Chadwick was a Benthamite or he believed in Benthamism-and originally Graham-as Andrew appears to be absent today (3.5) What was the-message that Jeremy Bentham had got for the likes of Chadwick and anyone who-cared to-read his ideas at this time. What was contained in the idea of Benthamism?




P. What's the use .. ()

T. In other words-Bentham's philosophy was based on the question what use is it. He was looking and people who believed in his ideas were looking for efficient-workable solutions to the problems of the day.

Data Y T₂ Non-Verbal Notation (Head)

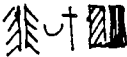
- T. C□ Think about rate payers. How is the thing financed?
How is it payed for? Michael? C▷
- P. Out from the rates.
- T. Out of the rates. Yes. What effect did the Speedham
system, for instance, have on the number of rural poor.
What effect did it have on those who actually in a sense
claimed off the Speedhamland system. C□ C□ — □
On their sort
of general attitude of, er, their sort of willingness
to work. Andrew? C□
- P. Don't have incentives. (Muffled)
- T. C▨ C◁ Yeah, it took out incentives to work. And why did it
take out the incentives to work? What effect did it
have on wages? C▮ What in effect did the Speedhamland
system create as far as wages were concerned. C◁ Michael?
- P. The minimum wage.

Data Y T₂ Non-Verbal Notation (Arm-hand)


T.  Think about rate payers.  How is the thing financed? 

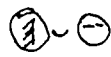

How is it payed for? Michael?


P. Out from the rates.

T.  Out of the rates. Yes. What effect did the Speedham

system, for instance, have on the number of rural poor.


What effect did it have on those who actually  in a sense

claimed off the Speedhamland system. On their sort of  



general attitude of, er, their sort of willingness to 




work. Andrew?

P. Don't have incentives. (Muffled)

T. Yeah, it took out incentives to work.  And why did it take

out the incentives to work? What effect did it have on








wages?  What in effect did the Speedhamland system 

create as far as wages were concerned.    Michael?

P. The minimum wage.

Data Y T₂ Non-Verbal Notation (Posture)

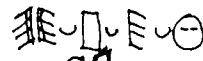
Initial Observations

- T.  Think about rate payers. How is the thing financed? 
- How is it payed for?  Michael?
- P. Out from the rates.
- T. Out of the rates. Yes.  What effect did the Speedham system, for instance, have on the number of rural poor. What effect did it have on those who actually in a sense claimed off the Speedhamland system. On their sort of general attitude of, er,  their sort of willingness to work. Andrew?
- P. Don't have incentives. (Muffled)
- T.   Yeah, it took out incentives to work. And why did it take out the incentives to work? What effect did it have on wages? What in effect did the Speedhamland system create as far as wages were concerned. Michael?
- P. The minimum wage.

Appendix 6a

Data Y T₁ Combined Verbal and

Non-Verbal Transcription



(6.0) Find

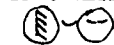


anything Murray? (3.0) Well (2.5) don't know why I

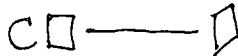


bothered buying -text books for you (1.0). There's

nothing in them on this - they're not very good are



they? Christopher.



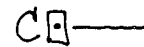
P₁. (-----major county).



T. Ri::ght - there was going t^o be a contr::ol board of
health. Where did you say it would be?



P₁. London.



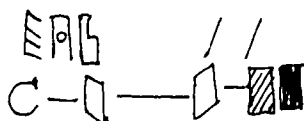
T. In London and who were the members of this board of



health the first one to be set up?



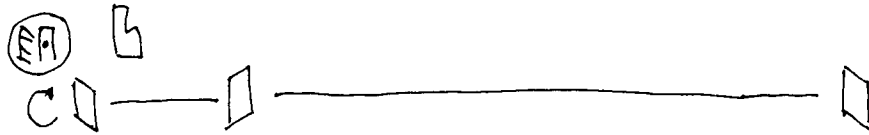
P₂. Chadwick.



Appendix 6b

T. Chadwick was on:ne

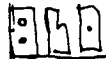
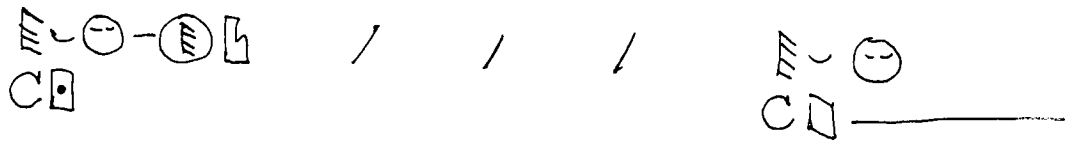
P. (Samson-----)



T. Come on - we're getting a babble of names here.



Pg. Lord Ashley. (Lord-----) ((shuffling))



T. (3.0) Lord Ashley - who became Lord Shaftesbury.



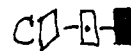
((pause)) Probably know him better as Lord Shaftesbury but -



in 1848 he was still Lord Ash::ley (2.0) er - his first



title and (2.0) the other name we have mentioned who



investigated (1.0) typhoid fever in Whitechapel in London -



in the 1830's.

Data Y T₂ Combined Verbal and Non-Verbal Transcriptions

Handwritten symbols: a vertical line with a dot, a box with a dot, a box with a dot and a horizontal line, and a circle with a cross.

Handwritten symbols: a vertical line with a dot, a box with a dot, and a box with a dot.

Handwritten symbols: a vertical line with a dot, a box with a dot, and a plus sign.

T. Think about rate payers (2.0). How is the thing

Handwritten symbols: a box with a dot and a horizontal line, and a box with a dot.

financed? (1.5). How is it payed for?

Handwritten symbols: a circle with a cross and a box with a dot.

Handwritten symbols: a box with a dot and a triangle.

(pause) Michael?

P. Out (fr) the rates.

Handwritten symbols: a vertical line with a dot, a plus sign, and a box with a dot.

Handwritten symbols: a box with a dot and a horizontal line, and a box with a dot.

T. Out of the rates. Yes. (pause) What effect did the

Speedham system for instance have on the - numbers -

of - rural poor. What effect did it have on - those

Handwritten symbols: a vertical line with a dot, a box with a dot, and a box with a dot.

people who actually - in a sense claimed off - the

Handwritten symbols: a box with a dot and a horizontal line, a box with a dot, a circle with a dot, and a circle with a dot.

Handwritten symbols: a box with a dot and a box with a dot.

Handwritten symbols: a vertical line with a dot, a box with a dot, and a box with a dot.

Handwritten symbols: a box with a dot and a box with a dot.

Handwritten symbols: a vertical line with a dot, a box with a dot, and a box with a dot.

Speedhamland system (5.0). On their sort of general

Handwritten symbols: a box with a dot, a box with a dot, a box with a dot, and a box with a dot.

attitude of - er (2.0) their sort of willingness to

work (3.0). Andrew?

P. Don't have incentives (Sir as).

Handwritten symbols: a vertical line with a dot, a box with a dot, and a box with a dot.

Handwritten symbols: a box with a dot and a box with a dot.

Handwritten symbols: a box with a dot and a box with a dot.

Handwritten symbols: a box with a dot and a box with a dot.

Handwritten symbols: a box with a dot and a box with a dot.

Appendix 7b

T. Yeah it - it took out incentive to work (1.0). And

why did it take out the incentive to work? What effect

①
C

did it have on wages? (2.5) What in effect did the

①
①

Speedhamland system create as far as wages were concerned? -

①
C

Michael?

①
C
①

①-□-①
C

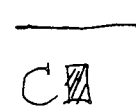
①
C

Data Y T₃ Combined Verbal and Non-Verbal Transcriptions

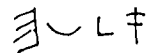
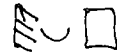
T. Right-cottages-poor construction-made of wood-don't imagine



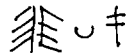
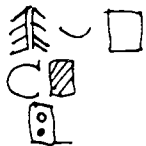
they will be very warm - Gra:ham don't imagine they will be



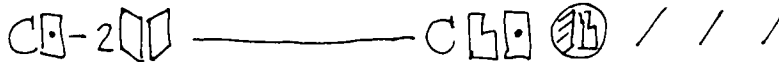
very warm in the winter - also they're inhabited BY the family -



not by strangers 20 or 30 living together - but the family.



Okay. ((pause)) Number Six What does the use of the stove



tell us about winter conditions? ((pause))



What did they do with the stove for a start?



P₁.



Appendix 8b

P. ((Noises))



P₂.



T. Well it heats the room and - what else did they do with



it? ((pause))

P₁. They slept on it.

P₂.



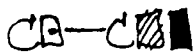
T. They slept on it.

P₁

Do you remember on Monday we did
laughter



about that? ((pause))



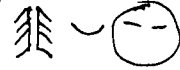
Appendix 8c

T. They actually slept on the stove to keep warm.



P₁.

Great it was. Yes ()



Teacher Schedule

A. Teachers as Senders

Non-verbal actions

Their Referential Use

1. Do you use different gestures when you are communicating with the class?
2. Do you use these gestures to illustrate what you are saying?
3. Do you use some gestures independently of speech?
4. Do you make contact with different parts of your body?
5. Do you intentionally lean towards a pupil or the class?
6. Do you intentionally use the space between you and the pupils?

Their Interactional Aspects

7. Do you capture the attention of your pupils in the opening stage of a lesson by using non-verbal actions?
8. Do you accompany explanations or descriptions with non-verbal activity?
9. Do you use particular postures and/or gestures to signal to the class that it is acceptable for a pupil to answer a question?
10. Do you use particular postures and/or gestures to signal to a pupil that it is acceptable to continue?
11. Do you use particular postures and/or gestures to indicate to a pupil that they must complete their contribution?
12. Do you use particular gestures and/or postures to signal that you are expecting a major change in activity?

13. Do you use non-verbal actions to signal the end of a lesson?
14. Do you intentionally use silence?
15. What are its functions?

Their Qualitative Aspects

Are you aware of,

16. The size of your gestures?
17. Their firmness?
18. The speed with which they are executed?

B. Teachers as Receivers

1. Do you notice which gestures and/or postures pupils use to signal?
2. Are you aware when these gestures or postural movements occur?
3. Do they overlap with your own gestures?
4. Can they distract you?
5. Are you aware of the individual non-verbal nuances of pupils?

Pupil Schedule

A. Pupils as Receivers

Non-verbal actions

Their Referential Use

1. Does the teacher use different body parts when he is talking to you?
2. Does he use these to accompany what he is saying?
Which can you remember?
3. Does he use movements without any words?
4. Does he scratch his head or touch parts of his body?
5. Does he often move towards you?
6. Do you find this threatening?

Their Interactional Aspects

When do you see these different movements. Is it when the teacher

7. Introduces the lesson?
8. Gives an explanation or description
9. Indicates when you can answer a question
10. Indicates it's your turn to talk?
11. Interrupts when you are talking?
12. Wants you to end what you are saying?
13. Indicates the end of a lesson?
14. Are you aware that the teacher uses silence?

Their Qualitative Aspects

Can you describe about your teachers' movements

15. Their size
16. Their firmness
17. Their speed

B. Pupils as Senders

1. Do you know that you use gestures when you are talking?
2. Which of these can you remember?
3. Do you know that you use your body?
4. Do you know when these gestures or body movements occur?
5. Do you know how you do these movements?

Cueing Symbols

Symbols for cueing towards and away from participants.

Activated towards single pupil	[p
Activated towards different single pupils	[px
Activated towards small groups of pupils	[px3
Activation ceases)
Activated towards whole class	[c
Activation ceases)

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
0								
10	X	X	0	0	0	0	0	0
20	X	X	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
40	0	0	0	0	0	x	0	0
50	0	X	0	0	0	X	0	0
	X	X	0	0	0	X	0	0
	X	X	0	0	0	0	0	0
	0	X	0	0	0	0	0	0
	X	0	0	0	0	X		0
100	0	0	X	0	0	0	0	0
	X	X	0	0	0	X	0	0
	0	X	0	0	X	0	0	0
	0	0	X	0	0	X	0	0
	X	X	0	0	0	0	0	0
150	X	X	0	0	0	X	0	0
	0	X	0	0	0	0	0	0
	X	0	X	0	0	X	0	0
	0	0	0	0	0	X	0	0
	0	0	0	0	0	0	0	0
200	X	0	0	0	0	X	0	0
	0	0	X	0	0	X	0	0
	X	0	0	0	X	0	0	0
	0	0	0	0	0	0	0	0

7 bleeps = 30 seconds = 8 - 10 digits

V = Verbal

G = Gesture

P = Posture including standing, walking, bends, leans, change in orientation.

T = Combinations of gestural and postural movements

Appendix 12b

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
250	X	0	0	0	X	0	0	0
	X	X	0	0	0	0	0	0
	0	X	0	0	X		X	0
	0	X	0	0	X	X	0	0
	X	0	X	0	0	0	0	0
300	0	X	0	0	0	0	0	0
	0	X	0	0	X	0	0	0
	0	0	X	0	0	0	X	0
	X	X	0	0	0	X	0	0
	0	0	0	0	X	0	0	0
350	0	X	0	0	0	0	0	0
	0	X	X	0	0	X	0	0
	0	X	0	0	0	0	X	0
	X	0	0	0	0	X	0	0
	X	X	0	0	0	0	0	0
400	X	X	0	0	0	X	0	0
	X	X	0	0	0	X	0	0
	X	X	0	0	0	0	X	0
	X	X	0	0	0	0	0	0
	X	0	0	0	0	0	0	0
450	0	0	0	0	0	0	0	0
	X	0	0	0	X	0	0	0
	0	0	0	0	0	0	0	0

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
	X	X	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	X	0	0	0	0	X	0	0
500	X	X	0	0	0	X	X	0
	0	0	0	0	X	X	X	0
	X	X	0	0	X	0	0	0
	0	X	0	0	X	0	X	0
	X	X	0	0	X	0	X	0
550	X	0	0	0	0	X	X	0
	0	X	0	0	0	0	X	0
	0	X	0	0	0	0	X	0
	X	X	0	0	0	0	0	0
	0	0	0	0	X	0	0	0
600	X	0	0	0	0	X	X	0
	0	0	0	0	X	X	0	0
	X	X	0	0	0	0	0	0
	0	X	0	0	0	0	X	0
	X	X	0	0	X	0	0	0
650	0	0	0	0	0	0	0	0
	0	X	0	0	X	0	X	0
	X	0	0	0	0	X	0	0
	0	X	0	0	0	0	0	0
	X	X	0	0	0	X	X	0

Appendix 12d

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
	X	0	0	0	0	0	0	0
700	X	0	0	0	0	X	X	0
	X	0	0	0	0	0	X	0
	0	0	0	0	0	0	0	0
	X	X	0	0	0	0	0	0
	X	X	0	0	0	0	0	X

Chairs moved, pupils began set work in groups.

SECOND SAMPLE

DATA X and Y

DATA Y FOR ANALYSIS BETWEEN

VIDEO TAPE DIGITS 0 - 31

125 - 155

510 - 572

Data X S₁ Verbal Transcription with characteristics of
speech delivery

1 T. We're going ner (1.0) we're going to have a
 2 look at some[•] - co-ordinates. Now you've done
 3 co-ordinates before (1.0)but perhaps not like
 4 this. Can I get round that side['] I'm going -
 5 to put some dots (1.0)on the board here (7.0)
 6 Now then[•] - if this one here (3.0)is 01['] can
 7 anyone tell me what that one is['] (7.0)who
 8 can tell me what that one is[•] (3.0)

9 P. One five =

10 T. = One five[•] - you reckon (2.0) but if

I tell you
TWO

 =

11 P.

12 T. = THAT one (2.0) is (3.0)three three[•] (5.0)does
 13 it put you off['] =

14 P. Yeah (1.0)

15 T. And if I tell you[•] THAT one THERE is (3.0)
 16 two one (2.0)whose the first person[•] - who
 17 can come up - and put another one up['] (12.0)
 18 Have a guess maybe (2.0)it doesn't matter
 19 whether you're right or wrong. (15.0)

20 P. ((cough)) (4.0)

- 1 T. Do you think its right - this one' (3.0) Susan (1.0)
- 2 P. ()
- 3 T. You don't know (1.0) does it look right (3.0) If
4 that's O1 - does that look right - O2 =
- 5 P₄ = Well the next one will be O3 three squares
6 along ' (()) (2.0).
- 7 T. Doesn't matter if you're right or wrong ' - we
8 can always rub it out if you're wrong '
- 9 P. (())
- 10 T. RIGHT ' O3 THERE '(2.0) All happy about that
11 one ? (2.0)
- 12 P₂ I'll try the ()again
- 13 T. [Um-m] You think
- 14 you've got another one ' (4.0)
- 15 P. ((cough))
- 16 T. O1 RIGHT.

Appendix 13c

1 T. We've already got a 01 down here haven't we? (2.0)

2 P. ((muffled sound))

3 T. That's my one - as well - so it can't be (1.0).

4 Thank you very much.?

5 P. [Sir can] I have a go.

6 T. = Yep (2.0)

7 P. Has it all got to be there ?

8 P's [chatter]

9 T. Well - lets have a look - lets see which

10 ones we're rubbing out (1.0) are we

11 all [agreed ?]

12 P. [I'd move] that one to there (2.0) Sir its sought

13 of on the same line as that.

14 T. = Well must put that one in.

.
. .
. .
. .

- 1 T. We've got 2 - 1' (1.0)
- 2 P. Yeah but that that 3 - 1 be outside see you'd
have to move along a dot - be going in a diagonal
line
Yeah
- 4 P's
- 5 P = Line
- 6 T. Where are we - two four two three two two
7 two one (2.0)
- 8 P. That'll have to go ((muffled))
- 9 P's There there
Yes
- 10
- 11 T. = Two 0 there(1.0)Go on now Mandy (1.0)tell
12 us-s yer problem - tell us yer problem (2.0)
- 13 P. 2 - 0 and 3 - 1 =
- 14 T. = The 2 - 0 and the 3 - 1 - whats the problem Alan ?
- 15 P. Next one will be four - two =
- 16 T. 2 - 0 3 - 1 there.
- 17 P. No the next one
- 18 T. = Four two
- 19 P's ((Muffled))
- 20 T. Whats the next one ? (1.0)
- 21 P. Three five
22 P. Figure of eight (2.0)
- 23 T. So - we are getting somewhere (1.0) I still th::ink
24 P. (())

Appendix 13d (continued)

25 T. We've got one or two on here which aren't right =

26 P's ((muffled))

27 P. Sir[?]

28 T. We've got MOST of them - which do SEEM to fit in[.]

29 P. But they're all ((muffled)) (2.0)

30 P. Why've you got - two 01's there[?] =

31 T. Where[?] (1.0)

32 P. At the bottom[.] =

33 T. Thats a 0 minus 1 - isn't it[?] [And thats a 0[.]
34 P. Thats a minus Sir] =

35 P. I think that other one should be rubbed out

36 T. Which - ones[?] =

37 P. ((muffled))

- .
- .
- .
- .

3,

L	Coding	Transcription
1	T Verbal	We're going ner (1.0) we're going to have to have a look at some - co-ordinates - Now you've
2	Cue	
3	N. V. C	
4		
5		
6		
7	T Verbal	done co-ordinates before (1.0)? but - perhaps not like this? Can I get round that side. I'm
8	Cue	
9	N. V. C	
10		
11		
12		
13	T Verbal	going - to put some dots • (1.0) on the board here° (7.0) now then° - if this one here
14	Cue	
15	N. V. C	
16		
17		
18		
19	T Verbal	(3.0) is 01° (1.0) can anyone tell me what that one is? (7.0). Who - can tell me what that
20	Cue	
21	N. V. C	
22		
23		
24		

S₁

L Coding Transcription

25 T Verbal one is (3.0)

26 Cue

27 N.V. C ▶

28 // ▯-▯ ▯-▯

29 ▯ ▯

30 †

31 P Verbal (0.2) one five =

32 Cue

33 N.V. C ▯

34 // ▯

35 ▯ ▯

36 †

37 T Verbal = one five . - you reckon (2.0) BUT if I tell you =

38 Cue p)

39 N.V. C ▯ ▯

40 // ~ ▯

41 ▯ ▯

42 †

43 P Verbal TWO

44 Cue

45 N.V. C

46 //

47 ▯

48 †

S _i	L	Coding	Transcription
49	T	Verbal	= THAT one (2.0) is (3.0) three three (5.0) does it put you off =
50		Cue	[C
51		N.V.	C [
52			[
53]
54]
55	P	Verbal	= Yeah (0.1)
56		Cue	
57		N.V.	C [
58] [
59]
60]
61	T	Verbal	And if I tell you *THAT-one THERE IS (3.0) two one (0.2) whose the first person* - who can come
62		Cue	
63		N.V.	C
64]
65]
66]
67	T	Verbal	up - and put another one up* (12.0) Have a guess maybe (2.0) it doesn't matter whether =
68		Cue	
69		N.V.	C
70]
71]
72]

S₁

L Coding Transcription

73 T Verbal = you're right or wrong ' (15.0)

74 Cue

75 N.V. C 

76 

77 

78  

79 P Verbal ((cough))

80 Cue

81 N.V. C

82 

83 

84 

S₁

L Coding Transcription

109 T Verbal (2.0) Doesn't matter if you're right or wrong we can always rub it out if you're wrong.

110 Cue

111 N. V. C b

112 ~~FF~~ l b — (b) ————— e b b

113 ~~FF~~ b

114 ~~FF~~

115 P Verbal

116 Cue (FF) ~ [] (FF) []

117 N. V. C

118 ~~FF~~

119 ~~FF~~

120 ~~FF~~

121 T Verbal RIGHT^o 03 THERE (0.2) all happy about that one? (2.0)

122 Cue p) []

123 N. V. C [] b

124 ~~FF~~ ~~FF~~ b ————— ~~FF~~ () — ~~FF~~ []

125 ~~FF~~ [] b

126 ~~FF~~

127 P Verbal - I'll try the () again

128 Cue [] [] (FF) ~ []

129 N. V. C

130 ~~FF~~ ~~FF~~ b

131 ~~FF~~

132 ~~FF~~

S₁

L Coding Transcription

133 T Verbal [Um-m] You think you've got another one ° (4.0)

134 Cue c) [P

135 N.V. C [B [A

136 [[[B [[[A

137 [[[A

138 [[[H

139 P Verbal ((cough))

140 Cue

141 N.V. C

142 [[[H

143 [[[A

144 [[[H

145 T Verbal - 10 - RIGHT (3.0)

146 Cue

147 N.V. C [[[A

148 [[[A — [[B



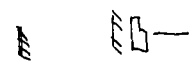
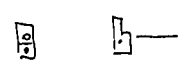

149 [[[A

150 [[[H

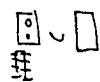




.
. .
. .
. .

S₁


L Coding Transcription
 151 T Verbal - We've already got 01 down here haven't we ? (2.0)


152 Cue 
 153 N.V. 
 154 
 155 
 156 





157 P Verbal

158 Cue 
 159 N.V. 
 160 
 161 
 162 

163 T Verbal That's my one - as well - so it can't be be (1.0) thank you very much ?
P)

164 Cue
 165 N.V. 
 166 
 167 
 168 

169 P Verbal  Sir can I have a go =

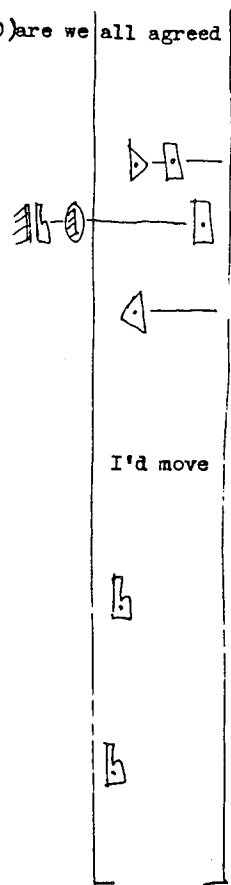
170 Cue
 171 N.V. 
 172 
 173 
 174 

S₁

L	Coding	Transcription
175	T Verbal	= Yep' (2.0)
176	Cue	[P]
177	N.V. C	
178		
179		
180		
181	P Verbal	Has it all got to be there ?
182	Cue	
183	N.V. C	
184		
185		
186		
187	P's Verbal	
188	Cue	
189	N.V. C	
190		
191		
192		

S₁

L	Coding	Transcription
193	T Verbal	Well - lets have a look - lets see which ones we're rubbing out (1.0) are we all agreed
194	Cue	
195	N. V. C	A
196		AB
197		B
198		I
199	P Verbal	I'd move that one =
200	Cue	
201	N. V. C	b
202		AB
203		B
204		I
205	P Verbal	= there (2.0) Sir its sought of on the same line as that =
206	Cue	
207	N. V. C	
208		AB
209		B
210		I
211	T Verbal	= well Mark put that one in
212	Cue	
213	N. V. C	
214		AB
215		B
216		I






S₁

L Coding Transcription

217 T Verbal We've got 2 - 1 (1.0)

218 Cue 

219 N.V. C 

220  

221  

222 

223 P Verbal Ye ah but that that 3-1 be outside see you'd have to move along a dot - be going in

224 Cue

225 N.V. C

226     

227 


228 

229 P Verbal a diagonal =

230 Cue

231 N.V. C

232 

233 

234 

235 P Verbal Yeah









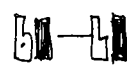


236 Cue

237 N.V. C

238 

239 

240 

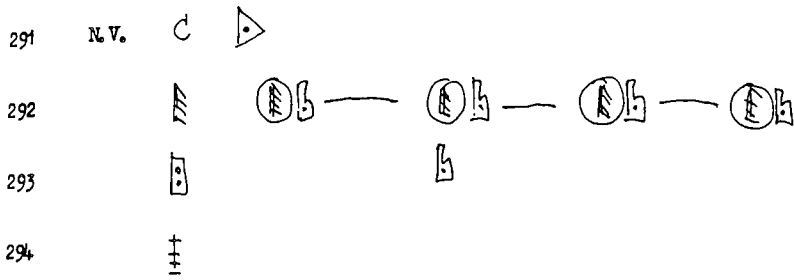
S _i	L	Coding	Transcription
	241	P Verbal	= line -
	242	Cue	
	243	N. V. C	
	244		
	245		
	246		
	247	T Verbal	Where are we two four two three two two two one (1.0)
	248	Cue	
	249	N. V. C	
	250		
	251		
	252		
	253	P Verbal	That'll have to go ()
	254	Cue	
	255	N. V. C	
	256		
	257		
	258		
	259	P's Verbal	There there yes =
	260	Cue	
	261	N. V. C	
	262		
	263		
	264		

S	L	Coding	Transcription
265	T	Verbal	= Two 0 there (1.0) go on now Mandy (1.0) tell us-s yer problem - tell us yer problem(2.0)
266		Cue	ⓐ []
267		N. V. C	[] [] [] []
268			[] []
269			[] [] []
270			[]
271	P	Verbal	2 - 0 and 3 - 1 =
272		Cue	
273		N. V. C	[]
274			[]
275			[] []
276			[]
277	T	Verbal	= the 2 - 0 and the 3 - 1 - Whats the problem Alan ?
278		Cue	ⓐ [] []
279		N. V. C	[]
280			[] [] []
281			[]
282			[]
283	P	Verbal	Next one will be four - two =
284		Cue	
285		N. V. C	[]
286			[] [] []
287			[]
288			[]

S₁

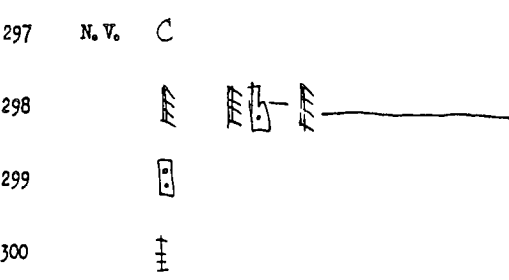
L Coding Transcription
 289 T Verbal = Four - two - two nought - three one - there

290 Cue



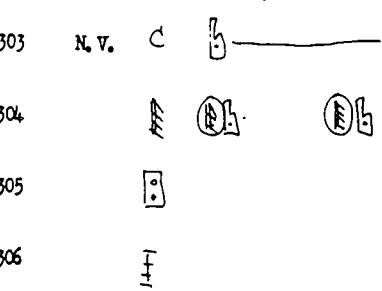
295 P Verbal No - the next one along

296 Cue



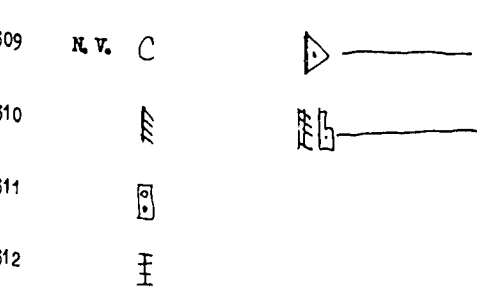
301 T Verbal Four - two

302 Cue



307 T Verbal (2.0) we've the next one (1.0)

308 Cue




S₁

<u>L</u>	<u>Coding</u>	<u>Transcription</u>	
313	P's Verbal	Three five Figure of eight	(2.0)

314 Cue

315 N. V. C

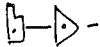
316 




317  b x 6

318 

319	T Verbal	So - we are getting somewhere *	(1.0)	I still th::ink - we've got one or two on here which =
-----	----------	---------------------------------	-------	--

320 Cue

321 N. V. C 

322   

323  b


324 

325 P's Verbal (())

326 Cue

327 N. V. C

328  x 2

329  b x 3

330 

331 T Verbal = aren't right

332 Cue


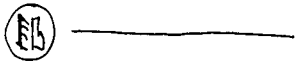


333 N. V. C 

334  

335 

336 

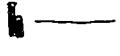
S₁

L	Coding	Transcription
337	T Verbal	
338	Cue	
339	N.V. C	
340	FF	
341	FF	
342	FF	
343	T Verbal	We've got MOST of them - which do SEEM to fit in (1.0)
344	Cue	
345	N.V. C	
346	FF	 
347	FF	
348	FF	
349	P Verbal	- But they're all ((muffled))
350	Cue	
351	N.V. C	
352	FF	
353	FF	
354	FF	
355	P Verbal	Why ave you got - two O1's there? Sir Sir =
356	Cue	
357	N.V. C	
358	FF	 
359	FF	
360	FF	


S
1

L Coding Transcription
361 T Verbal = Where? (1.0)

362 Cue 

363 N.V. C 


364 

365 

366 

367 T Verbal At the bottom -

368 Cue

369 N.V. C 

370 

371 

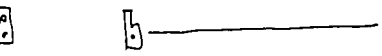
372 

373 T Verbal = That's a 0 minus 1 - isn't it? (1.0) and that's a 0

374 Cue

375 N.V. C

376 

377 


378 


379 P Verbal That's a minus Sir =

380 Cue

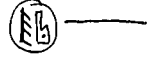
381 N.V. C

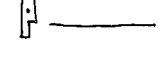
382 

383 


384 

and that's a 0





That's a minus Sir =



s₁


L Coding Transcription

385 Verbal

386 P Cue = I think that other one should be rubbed out

387 N.V. C

388 


389  

390 

391 T Verbal p) [px Which - ones

392 Cue

393 N.V. C  _____

394   _____

395 

396 

SECOND SAMPLE

DATA 2 (using extracts from data Y).

DATA FOR ANALYSIS BETWEEN VIDEO

TAPE DIGITS 0 - 31

125 - 155

















510 - 572

TEACHER S₁

Screening of Non-Verbal Actions

Data

0 - 31y

	<u>Single actions</u>	<u>Linked to other actions</u>
C	10	14
 or 	L6 R3	13
 or 	0	L2
 or 	0	1
 or 	5	4
L I	0	1
R I	0	1
I I	0	3
	<u>Single actions related to verbal</u>	<u>Singled actions not related to verbal</u>
C	2	8
 or 	L2 R4	L2 R1
 or 	0	0
 or 	0	0
 or 	2	3
L I	0	0
R I	0	0
I I	0	0

Appendix 15b

	<u>Linked actions related to verbal</u>	<u>Linked actions not related to verbal</u>
C	3	11
OR	L3 R3	L4 R3
OR	L1	R1
OR	0	1
□	2	2
L	L1	0
R	0	R1
	2	1

Data

510-572y

	<u>Single actions</u>	<u>Linked to other actions</u>
C	12	6
OR	L2 R24	L0 R11
OR	0 0	0 0
OR	0	0
□	4	12
L	0	0
R	0	0
	0	0

Appendix 15c

	<u>Single actions related to verbal</u>	<u>Single actions not related to verbal</u>
C	6	6
≡ OR ≡	L2 R18	L0 R6
≡ OR ≡	0 0	0 0
≡≡ OR ≡≡	0	0
□	3	1
L≡	0	0
R≡	0	0
≡≡	0	0

	<u>Linked actions related to verbal</u>	<u>Linked actions not related to verbal</u>
C	5	1
≡ OR ≡	L0 R7	L0 R4
≡ OR ≡	0 0	0 0
≡≡ OR ≡≡	0	0
□	6	6
L≡	0	0
R≡	0	0
≡≡	0	0

Appendix 15d

Data

125 - 155y

	<u>Single actions</u>		<u>Linked to other actions</u>	
C	9		16	
≡ OR ≡	L10	R3	L7	R7
≡ OR ≡	0	0	0	0
≡ OR ≡	0		1	
□	8		13	
L≡	0		0	
R≡	0		0	
≡≡	0		1	

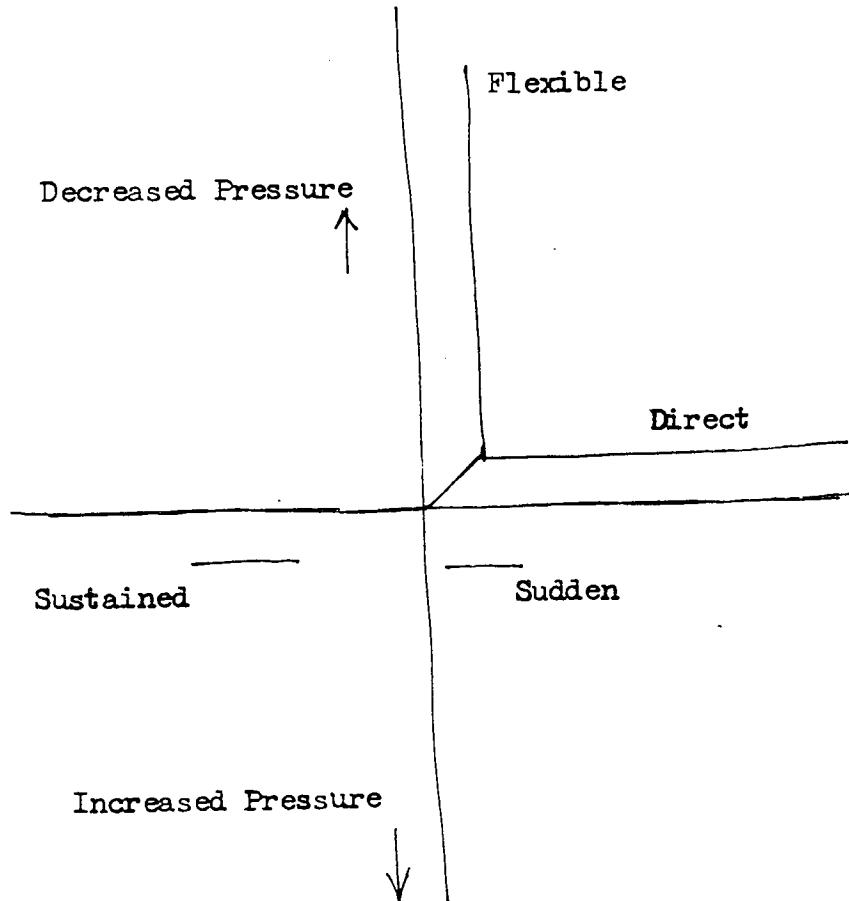
	<u>Single actions related to verbal</u>		<u>Single actions not related to verbal</u>	
C	5		4	
≡ OR ≡	L6	R2	L4	R1
≡ OR ≡	0		0	
≡ OR ≡	0		0	
□	6		2	
L≡	0		0	
R≡	0		0	
≡≡	0		0	

Appendix 15e

	<u>Linked actions related to verbal</u>		<u>Linked actions not related to verbal</u>	
C		7		9
≡ OR ≡	L1	R5	L5	R2
≡ OR ≡		0		1
≡ OR ≡		7		6
□		0		1
L≡		0		0
R≡		0		0
≡≡				

Qualitative Aspects of Movement as Symbolized

by Laban



S₁



L Coding Transcription

Extracted Data (v)

19 T Verbal (3.0) is 01 (1.0) can anyone tell me - ; ' what - ' what that one is(7.0) who-can tell me what

20 Cue

21 N.V. C 
22 


23 
24 

25 
26

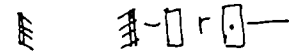
27 T


28 Verbal one is (3.0)

29 Cue

30 N.V. C 

31

32 

33 



34 

35 

36 P

37 Verbal (2.0) One five =

38 Cue

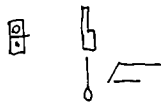
39 N.V. C 
40 

41 

42

Appendix 17b

Data L19-43 (continued)

43 

.
.
.

Extracted Data I

Data 20-31

73 T Intonation

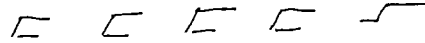
74 Verbal = You're right or wrong (15.0)

75 Cue

76 N.V. C



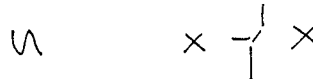
77



78 



79



80 



81

.
.
.

Extracted Data


Data 20-31

49 T Intonation

50 Verbal = THAT one (2.0) is (3.0) three three (5.0) does it put you off =

51 Cue



52 N.V. C 



53 




54 



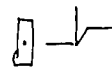


55 



56 





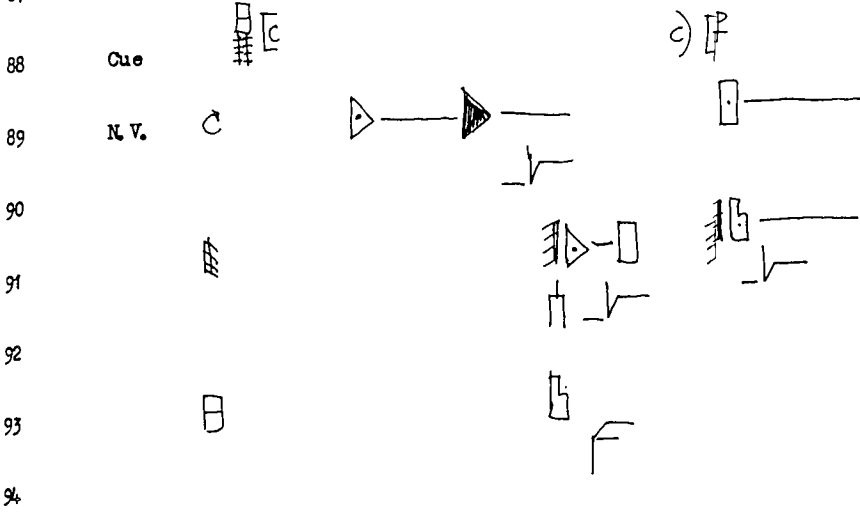
57

Extracted Data I

Data Z125-155

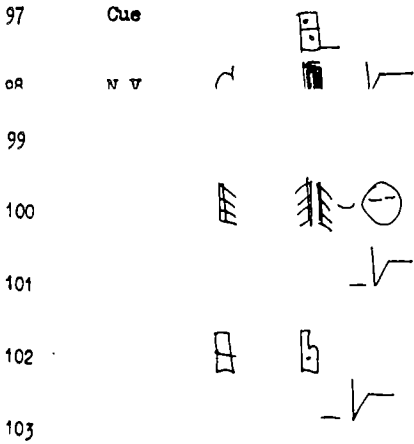
86 T Intonation

87 Verbal Do you think its right - this one (2.0) Susan '4.0)



95 P Intonation

96 Verbal



193	T	Intonation				
194		Verbal	Well - lets have a look - let's see	which one we're rubbing out (1.0) are we	all agreed	
195		Cue				
196		N.V.	C			
197						
198						
199						
200						
201						
202	P	Intonation				
203		Verbal			I'd move	that or
204		Cue				
205						
206						
207						
208						
209						
210						
.						
.						
.						
.						

Extracted Data I

Data Z510-572

247 T Intonation

248 Verbal = Where are we two four two three = two two two one (2.0)

249 Cue

250 N. V. C

251

252

253

254

255 P Intonation

256 Verbal

257 Cue

258 N. V. C

259

260

261

262

263

264 P3 Intonation

265 Verbal

266 Cue

267 N. V. C

268

269

270

271

272

.
. .
. .



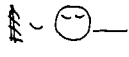















(2.0)

that 'll have to go (())

There there yes =

Extracted Data Y

Data 2570-572

319	T	Intonation	
320		Verbal	So = we are getting somewhere (1.0) I still th::ink - we've got one or two on here what
321		Cue	
322		N. V.	C 
323			
324			
325			
326			
327			
328	Px5	Intonation	
329		Verbal	((
330		Cue))
331		N. V.	C 
332			
333			
334			
335			
336			
337	T	Intonation	
338		Verbal	= aren't right
339		Cue	
340		N. V.	C 
341			
342			
343			
344			
345			

Extracted Data I

Data Z510-572

337 P Intonation

Verbal

Cue

N. V.

C

///

□

Sir

///-///
H K

T Intonation

Verbal

Cue

N. V.

C

///

□

= We've

got MOST of them - which do SEEM to fit in (1.0)

■-□

F

○-

□-

■

K

○

○

□- □-

▷-

///

x-

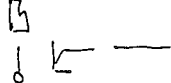
Extracted Data I

Data Z510-572


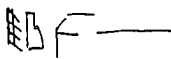

355 P Intonation

356 Verbal Why ave you got - two O1's there' Sir' =

357 Cue

358 N. V. C 

359

360   

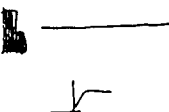
361

362  

363 T Intonation

364 Verbal = Where' (1.0)

365 Cue 

366 N. V. C 

367

368  

369

370  

371

Extracted Data I

Data 2510-572

373 T Intonation

374 Verbal = That's a 0 minus 1 - isn't it (1.0)

and that's a 01'

375 Cue

376 N. V. C

▷

377

378

FB

FB

379

FA ✓

380

□

B

□

381

382 P Intonation

383 Verbal

that's a minus Sir

384 Cue

385 N. V. C

▨

386

✓

387

FFF

388

389

□

□ ✓

390

391 P Intonation

392 Verbal = I think that other one should be rubbed out

393 Cue

394 N. V. C

▨

▨-▨

395

✓

396

FFF

397

398

□

PT,

399

Category	Teacher - Sender	S ₁	S ₂	S ₃	S ₄	S ₅	S ₆
Category 1	Head		/				
	Face		/	//	/	/	
	Arm		/	/			
	Hand	/ie	/i	/i	/i		/i
	Legs						
	Feet						
	Sitting						
	Standing	/			/		
	Walking (towards or away)	/	/		/		
	Postural shift						
	Postural bend			/			/
	Body parts in contact			/	/		
	Category 2	Silence	/		/	/	/
Introduction to lesson		/	/	/	/		/
Explanation/description				/			
Indication to answer question			/	/	/		/
Indication of turn to talk					/		
Interruption							
Continuation			/				
Cessation of talk				/	/		
Category 3	Changes in activity		/		/		/
	Size of gesture		/	/	/		/
	Speed of gesture		/	/	/		/
	Dynamics of gesture		/	/	/	/	/

i - illustrator
 e - emblem
 a - adaptor

Appendix 18b

TEACHER RESPONSES

Category

Teacher - Receiver						
Pupil gestural signals	/	/	/	/	/	/
Pupil body signals	/		/	/		/
Pupil movement through space				/		/

i = illustrator

e = emblem

a = adaptor

PUPIL RESPONSES

Category Pupils - Receivers	PUPIL RESPONSES					
	Group S ₁	Group S ₂	Group S ₃	Group S ₄	Group S ₇	Group S ₈
Head	/e/e	/e	/	/	/	/
Face	/	/		/	/	/
Arm	/	/			/	
Hand	/a/i	/i/i	/i/e	/i/a	/i/e	/i
Legs	/			/		
Feet						
Sitting		/		/		
Standing	/					/
Walking (towards or away)	/		/	/	/	
Postural shift						
Postural bend	/	/		/		/
Body parts in contact	/					/
Silence	/	/		/		/
Introduction to lesson	/	/		/	/	
Explanation/description					/	
Indication to answer question	/	/	/	/		
Indication of turn to talk	/	/			/	
Interruption		/				
Cessation of turn						
Changes in activity	/		/			
Size of gesture	/	/		/	/	
Speed of gesture		/		/	/	/
Dynamics of gesture	/			/		/

Appendix 19b

PUPIL RESPONSES

Pupils - Senders						
Gesturing		/	/	/		/
Occurrence of gestures + postures		/				
Movement through space						

i = illustrator

e = emblem

a = adaptor

S₂

Harrison's Technique for Presence-Absence
of Non-verbal Activity

Video digits	S ₂	<u>Teacher Responses</u>				<u>Pupil Responses</u>				
		V	G	P	T	V	G	P	T	
		X	X	O	O	O	O	O	O	
		X	O	O	O	O	X	X	O	15
		X	X	O	O	O	X	X	O	31
		O	X	X	O	X	X	O	O	
50		X	O	X	O	O	O	O	O	
		X	X	O	O	O	O	X	O	
		X	O			O		X	O	
		O	O	X	O	O	O	O	O	
		X	X	O	O	O	O	O	O	
100		X	O	O	O	O	X	O	O	
		O	O	O	O	O	X	O	O	101
		O	O	X	O	X	O	O	O	
		O	O	O	O	X	O	O	O	
150		X	O	X	O	O	X	O	O	
		O	O	X	O	X	O	O	O	151
		X	O	O	O	X	O	O	O	
		X	O	O	O	O	O	O	O	
		O	O	X	O	X	X	O	O	
200		O	O	O	O	X		X	O	
		X	X	O	O	O	X	O	O	
		O	X	O	O	O	X	O	O	
		O	O	X	O	O	O	O	O	225
										226

S₂ (continued)

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
	0	0	0	0	X	X	0	0
250	X	0	0	0	X	X	0	0
	0	X	0	0	0	X	0	0
	X	0	X	0	X	X	0	0
	X	X	X	0	0	X	0	0
	0	0	X	0	X	X	0	0
300	X	X	0	0	0	X	0	0
	X	0	0	0	X	X	X	0
	0	0	0	0	X	X	0	0
	0	0	X	0	X	X	0	0
	X	0	0	0	0	0	X	0
350	X	0	0	0	X	0	X	0
	0	0	0	0	X	X	X	0
	0	0	X	0	X	X	0	0
	X	0	X	0	X	X	0	0
	0	X	0	0	X	0	0	0
400	X	0	0	0	0	X	0	0
	X	0	X	0	0	0	X	0
	X	0	0	0	0	0	X	0
	0	0	0	0	X	X	X	0
	X	X	0	0	0	X	X	0
450	0	0	0	0	X	0	X	0
	X	0	0	0	X	X	0	0

315

S₂ (continued)

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
	X	0	X	0	0	X	0	0
	0	0	0	0	X	X	X	0
	X	X	0	0	0	0	0	0
500	0	0	0	0	X	X	0	0
	0	0	0	0	X	X	0	0
	0	0	0	0	0	0	X	0
	0	0	0	0	X	X	0	0
	X	0	X	0	X	0	0	0
550	X	X	0	0	0	0	X	0
	X	0	0	0	0	X	0	0
	X	X	0	0	0	0	X	0
	X	0	0	0	0	X	0	0
	X	X	0	0	0	X	0	0
600	X	0	0	0	0	X	0	0
	0	0	0	0	0	X	0	0
	X	0	0	0	0	X	0	0

650 Lesson deteriorated too much pupil chatter
and disorganization

SECOND SAMPLE

DATA X and Y

DATA Y FOR ANALYSIS BETWEEN

VIDEO DIGITS	15	-	31
	107	-	111
	204	-	210
	294	-	315

TEACHER S
2

Data X S₂ Verbal Transcription of Selected Exchanges

- 1 T. Um - La:st week - we were looking at the numbers of -
2 relatives that people have' - the number of
3 close relatives - the number of very close
4 relatives (1.0) and what we were talking about
5 THERE - was how often you see your relatives
6 and that's how we'd determined whether they
7 were close - or very close' - or not close at
8 all' - and - this was the figure of the
9 total number of relatives wasn't it - 564
10 Can anybody remember the number of close
11 relatives please ?
12 P. About 159 (4.0)
13 P. ((Muttering))
14 T. Can you put your hands up please (3.0) thank
15 you - approximately 250 - good an::d - THE
16 total number of - very close relatives in the
17 class (6.0)
18 P's ((chattering))
19 P. It was () and something (1.0)
20 T. I think it was about 120? - actually
21 P. Miss I thought it [went down]
22 T. [Just to recap] THEN - please -
23 can we um (1.0) can we have a think what
24 this - MEANS to us - as a group of people -
25 in relation to where we live - i.e. Telford why is
26 it - that we've got 564 relatives between us -

Appendix 21a (continued)

27 and only 120 of them are very close - what
28 did we - say - was - the - ma^aajor • reason
29 for this'

30 P.

31 T. Yes (Ja) (1.0)

32 P. The distance where they live •

33 T. The distance - they live a lo^ong way away •

Appendix 21b

Group Work T - F Dialogue

- 1 P. Miss - is that Shrewsbury (1.0)
2
3 T. Shrewsbury comes into that ' - I'll read you
4 a list - of the - possible WELLINGTON -
5 OKENGATES - Shrewsbury - er - WOLVERHAMPTON
6 Just about (2.0) Um, mm.
7 P. What about Walsall?
8 T. Walsall no
9 P. Willenhall?
10 T. Willenhall - no er

1 T. Was it a letter from the [? queen]
2 P. [No] the Princess of Wales.

3 P. = or thereabouts

4 Pxs [= Lady Diana]
[= Lady Diana]
[= Lady Diana]

5 P. Lady Di =

6 P. = Princess of Wales =

7 P. = I don't like Princess of Wales I prefer Lady Di =

8 P. = And me

9 T. WELL she's not allowed to be called Princess Diana

10 actually - she can be called Princess

11 of Wales - but she can not be called Diana -

12 [she's not a princess in her own right]
13 P. [Miss can't she (())her other name]

14 T. So she can still be called Lady Diana.

-
-
-
-

Appendix 21d

1 T. Okay then - look this way then (3.0)

2 P's ((chattering singing))

3 T. [Everybody] (1.0)

4 P. [chattering]

5 T. Can just shush now please - the person
whose singing - its beautiful

6 P. [but
((laughter))]

7 P. ((laughter)) What about me ?

8 P. You can me a () head now miss

9 T. Penny ? - Simon ? (5.0)

10 P. () Simon

11 T. Sush now - James RIGHT - if you look at
12 the blackboard now then Mark (3.0) would anybody

13 like to - try and draw conclusions from this table -

14 on the board somebody like to - make a comment

15 about it(2.0) Because its all very well doing

16 a chart like this - but we need to - have

17 a reason - for doing it - we need to be

18 able to prove something by doing it Simon ? =

19 P. = All your relations are close.

Appendix 22g

S₂

Data Y15-31

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
1	T Verbal	Can anybody remember the number of close relatives please'
2	Cue	
3	N. V.	
4		
5		
6	P Verbal	About 159' (4.0)
7	Cue	
8	N. V.	
9		
10		
11	P Verbal	((Muttering))
12	Cue	
13	N. V.	
14		
15		
16	T Verbal	c) Can you put your hands up please' (3.0) Thank you' - approximately 250 - =
17	Cue	
18	N. V.	
19		
20		
21	T Verbal	= good ans:d THE total number of - very close relatives in the class (6.0)
22	Cue	
23	N. V.	
24		
25		

S₂

L Coding Transcription

26 P's Verbal ((Chattering))

27 Cue

28 N.V. C <H>

29 FF

30 []

31 P Verbal

32 Cue It was () and something (1.0)

33 N.V. C

34 FF FF - ☹

35 [] []

36 T Verbal I think it was about 120' - actually

37 Cue

38 N.V. C

39 FF FF - []

40 [] []

41 P Verbal Miss I thought it went down

42 Cue

43 N.V. C

44 FF FF

45 []

46 T Verbal Just to recap THEN - please - can we um (1.0) can =

47 Cue

[C]

48 N.V. C

49 FF FF

50 [] []

S₂

Data Y15-31

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
51	T Verbal	= we - have a think what this - MEANS to us - as a group of people - in =
52	Cue	
53	N. V. C	
54		
55		
56	T Verbal	= relation to where we live - i.e. Telford why is it - that we've got 564 =
57	Cue	
58	N. V. C	
59		
60		
61	T Verbal	= relatives between us - and only 120 of them are very close - what did =
62	Cue	
63	N. V. C	
64		
65		
66	T Verbal	= - we say - was the - major reason for this' (3.0)
67	Cue	
68	N. V. C	
69		
70		
71	P Verbal	((Muffled))
72	Cue	
73	N. V. C	
74		
75		

Appendix 22d

Data Y15-31

S₂

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
76	T Verbal	Yes (Ja) (1.0)
77	Cue	
78	N.V. C	I
79		///
80		□
81	P Verbal	The distance where they live
82	Cue	
83	N.V. C	
84		///
85		□
86	T Verbal	The distance - They live a long way away
87	Cue	
88	N.V. C	⊕ ⊕
89		///
90		□ ⊕
91	Verbal	
92	Cue	
93	N.V. C	
94		///
95		□
96	Verbal	
97	Cue	
98	N.V. C	
99		///
100		□

S₂

Data 1107-111

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
101	P Verbal	Miss - is that Shrewsbury' (1. ⁰)
102	Cue	
103	N.V.	C
104		
105		
106	T Verbal	Shrewsbury comes into that' - I 'll read you a list - of the - possible' =
107	Cue	
108	N.V.	C
109		
110		
111	T Verbal	= WELLINGTON - Oakengates - Shrewsbury - er - WOLVERHAMPTON just about (2.0)Um. 002
112	Cue	
113	N.V.	C
114		
115		
116	P Verbal	What about Walsall' =
117	Cue	
118	N.V.	C
119		
120		
121	T Verbal	= Walsall, no'
122	Cue	
123	N.V.	C
124		
125		

Appendix 22f

Data Y107-111

S₂

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
126	P Verbal	Willenhall ?
127	Cue	
128	N.V.	C
129		///
130		□
131	T Verbal	
132	Cue	Willenhall - no er
133	N.V.	C □
134		///
135		□
136	Verbal	
137	Cue	
138	N.V.	C
139		///
140		□
141	Verbal	
142	Cue	
143	N.V.	C
144		///
145		□
146	Verbal	
147	Cue	
148	N.V.	C
149		///
150		□

Appendix 22g

S₂

Data Y204-210

L Coding Transcription

151	T	Verbal		Was it a letter from the queen	
152		Cue	[C]		
153		N.V.	C	[~] [~]	[]
154			[]	[~] [~]	
155			[]	[]	
156	P	Verbal			
157		Cue			[]
158		N.V.	C		
159			[]		[]
160			[]		[]

No the Princess of Wales =

161	P	Verbal	=	Or thereabouts
162		Cue		
163		N.V.	C	[]
164			[]	[]
165			[]	

166	Px4	Verbal		Lady Diana
167		Cue		
168		N.V.	C	[]
169			[]	
170			[]	[] (many of these)
171	P	Verbal		Lady Di =
172		Cue		
173		N.V.	C	
174			[]	[]
175			[]	[]

Appendix 22h

Data Y204-210

S₂

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
176	P Verbal	= Princess of Wales =
177	Cue	
178	N.V. C	
179		
180		
181	P Verbal	= I don't like Princess of Wales - I prefer Lady Di =
182	Cue	
183	N.V. C	
184		
185		
186	P Verbal	= And me
187	Cue	
188	N.V. C	
189		
190		
191	T Verbal	WELL she's not allowed to be called Princess Diana actually - she can be =
192	Cue	
193	N.V. C	
194		
195		
196	T Verbal	= called Princess of Wales - but she can not be called Diana
197	Cue	
198	N.V. C	
199		
200		

Appendix 22i

S
2









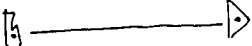


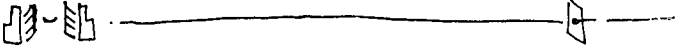

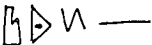







Data Y204-210

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
201	T Verbal	= she's not a princess in her own right
202	Cue	
203	N. V. C	△
204		///
205		□
206	P Verbal	Miss can't she (()) her other name
207	Cue	
208	N. V. C	
209		/// ⊕
210		□ P W ————— rocks back over this period
211	Verbal	
212	Cue	
213	N. V. C	
214		///
215		□
216	T Verbal	So she can still be called Lady Diana
217	Cue	
218	N. V. C	△ b
219		///
220		□
221	Verbal	
222	Cue	
223	N. V. C	
224		///
225		□

S ₂	L	Coding	Transcription	
	226	T Verbal	Okay - look this way then' '3.0)	
	227	Cue		
	228	N. V. C		
	229			
	230			
	231	P's Verbal	((Chattering, Singing))	
	232	Cue		
	233	N. V. C	(repeated by many pupils)	
	234			
	235		(repeated by many pupils)	
	236	T Verbal	Everybody ((Chattering)) (Pupil activity as before but reduced)	
	237	Cue		
	238	N. V. C		
	239			
	240			
	241	P's Verbal		
	242	Cue		
	243	N. V. C		
	244			
	245			
	246	T Verbal		
	247	Cue	Can just shush now please - the person whose singing - its beautiful	
	248	N. V. C		
	249			
	250			

S₂

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
251	T Verbal	
252	Cue	
253	N.V. C	
254	FFF	
255	□□	
256	P's Verbal	
257	Cue	
258	N.V. C	
259	FFF	
260	□□	
261	Px1 Verbal	
262	Cue	
263	N.V. C	
264	FFF	
265	□□	
266	P Verbal	((laughter)) What about me' =
267	Cue	
268	N.V. C	
269	FFF	
270	□□	
271	P Verbal	= you can me a () head now miss
272	Cue	
273	N.V. C	
274	FFF	
275	□□	

S ₂	L	Coding	Transcription
	276	T Verbal	Penny' - Simon' (5.0)
	277	Cue	
	278	N.V. C	
	279		
	280		
	281	P Verbal	() Simon
	282	Cue	
	283	N.V. C	
	284		
	285		
	286	T Verbal	Sush now - James RIGHT - if you look at the blackboard now then Mark (3.0) =
	287	Cue	
	288	N.V. C	(No movement) 
	289		
	290		
	291	T Verbal	= would anybody like to' - try and draw conclusions from this table' - on the =
	292	Cue	
	293	N.V. C	
	294		
	295		
	296	T Verbal	= board' somebody like to make a comment about it (2.0) because its all very
	297	Cue	
	298	N.V. C	
	299		 
	300		

Appendix 22m

S₂

Data Y294-315

E Coding Transcription

301 T Verbal well doing a chart like this - but we need to - have a reason - for

302 Cue

303 N. V. C (Unable to notate as teacher not fully in view)

304 ~~FF~~

305 []

306 T Verbal doing it - we need to be able to prove something by doing it Simon ? =

307 Cue

308 N. V. C B

309 ~~FF~~

310 [] B W

311 P Verbal = All your relations are close.

312 Cue

313 N. V. C B

314 ~~FF~~ (FF) —

315 [] B

Verbal

Cue

N. V. C

~~FF~~

[]

Verbal

Cue

N. V. C

~~FF~~

[]

Harrison's Technique for Presence-Absence
of Non-verbal actions

S₃

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
	X	X	0	0	0	0	0	0
	X	X	0	0	0	X	0	0
	X	X	0	0	0	0	X	0
	X	X	0	0	0	0	0	0
50	X	0	0	0	0	0	X	0
	X	X	0	0	0	0	0	0
	X	X	0	0	0	X	0	0
	X	X	0	0	0	0	0	0
	X	0	0	0	0	0	X	0
100	X	0	0	0	0	0	X	0
	0	X	0	0	X	X	0	0
	X	X	0	0	X	0	0	0
	X	X	0	0	0	0	X	0
	X	X	0	0	0	X	0	0
150	0	X	0	0	0	0	0	0
	X	X	0	0	X	X	0	0
	0	X	0	0	X	0	0	0
	0	0	0	0	X	X	0	0
	0	X	0	0	0	X	0	0
200	0	X	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	X	X	0	0
	0	0	X	0	X	0	0	0

S₃

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
250	X	O	X	T	X	O	O	O
	X	O	O	O	O	O	O	O
	X	X	X	O	O	O	O	O
	O	O	O	O	X	O	O	O
	X	X	O	O	O	O	O	O
300	O	O	X	O	O	O	O	O
	O	X	X	O	X	X	O	O
	X	O	O	O	O	O	O	O
	X	O	O	O	X	O	O	O
	O	O	O	O	O	X	O	O
350	O	O	X	O	O	X	O	O
	O	O	O	O	X	X	O	O
	O	O	O	O	X	O	O	O
	X	X	X	O	X	X	O	O
	X	O	O	O	O	X	O	O
400	O	O	O	O	X	X	O	O
	O		X	O	O	X	O	O
	O	X	O	O	X	X	O	O
	O	X	O	O	X	X	O	O
	X	O	O	O	X	O	O	O
450	O	X	O	O	X	X	O	O
	O	X	O	O	X	X	O	O
	O	O	O	O	X	X	O	O

S₃

	<u>Teacher Responses</u>				<u>Pupil Responses</u>			
	V	G	P	T	V	G	P	T
	X	O	O	O	X	X	O	O
500	O	X	O	O	O	O	O	O
	O	X	O	O	O	X	O	O
	O	X	O	O	X	X	O	O
	X	X	O	O	O	X	O	O
	O	X	O	O	O	O	X	O
550	O	X	O	O	O	O	O	O
	X	X	O	O	O	X	O	O
	X	X	O	O	O	O	O	O
	X	X	O	O	O	O	X	O
	O	O	O	O	X	X	O	O
600	O	X	X	O	X	O	O	O
	X	X	O	O	O	O	X	O
	X	X	O	O	O	X	O	O
	O	X	O	O	O	O	O	O
	X	O	O	O	O	O	X	O
650	O	X	X	O	O	O	X	O
	X	X	O	O	O	X	O	O
	X	X	O	O	X	O	X	O
	X	O	X	O	X	X	O	O
	X	O	X	O	X	O	O	O
700	X	X	O	O	O	O	O	O
	X	X	O	O	O	X	O	O

SECOND SAMPLE

DATA X and Y

DATA Y FOR ANALYSIS BETWEEN

VIDEO DIGITS 7 - 14

 145 - 159

 519 - 528

TEACHER S₃

Data X S₃ Verbal Transcription with characteristics
of speech delivery

- T. Now (1.0) can you remember one Pam (1.0) ?
- P. Television '
- T. Television Stephen (2.0) another type ' (1.0)
- P. Media '
- T. That make up the media Yeah .
- P. News '
- T. The news - Tim ,
- P. Advertising .
- T. Advertising good anyone else = ?
- = P ((New))
- T. Newspapers good we decided that there're were in effect five or six different types of things that provide information to lots of people and if you remember we broke down mass media to mean mass lots of people for example.

T. All you need do - on your rough paper that
you've got - put down the heading of the
programme you're looking for - and quite simply
just look down the evening broadcasts for
BBC 1 - and jot down - how many minutes -
that programme has that evening you may find
theres none ? - in which case you turn to the
next page - for the Sunday and keep going
through the rest of the week until you've done -
Saturday til Friday - and see how many then
add up your total at the end tell us how
many minutes or how many hours - broadcasting -
we have for that particular programme of
yours (1.0)

P.

alright
Exactly as ((to))
mention

T. = OKAY now has anyone any problems

- .
- .
- .
- .

Appendix 24c

- T. If you were given the charge put in charge
of the T.V. company and said right - you can
work out the hours spent on each type of
programme - What would you want to see
increased' (1.0) - you'd like to see more sport
What about Caroline? (2.0)
- P. More sport ' =
- P. = Films ' =
- T. = More films ' (1.0)
- P. Current affairs =
- T. = You reckon you'd like to see more current
affairs ' - Tim wants to see more sport ' (1.0)
Gareth?
- P. Sport and films ' =
- T. = You'd like more films ' ,
- P. Yeah
- P. (()) films.
- T. Alright better films - first and then war
films afterwards Yeah
- P. ((Chatter)) ?
- T. What about - either of you two lads films (3.0)
films - I'm nearly at Susan at the moment ' =
- P. = Want some more Crossroads. •

T. ?
WHAT - of these types of programmes - would
come out top

P. Sport

P. [Sport]
 [Sport]
T. [Sport] .

T. Which means' - whats going to happen people
like - Pam or Susan - or Caroline - or Gary' =

P. = They'll turn the telly off' =

T. = They're going to turn the telly [off'] =
P. [(())]

T = THEY::re not going to have their fair share of
other programmes cos there's going to be such

a dominance of [sport (1.0)]
P [((muttering))]

T. THATS one of the things that the programme
planners have to think about all the time' .

S₃

1 T Verbal Now (1.0) can you remember one Pam? (1.0)

2 Cue

3 N.V. C

4

5

6 P Verbal Television

7 Cue

8 N.V. C

9

10

11 T Verbal Television Stephen (2.0) another type (1.0)

12 Cue

13 N.V. C

14

15

16 P Verbal Media

17 Cue

18 N.V. C

19

20

21 T Verbal That make up the media Yeah

22 Cue

23 N.V. C

24

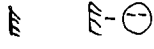
25

9₃

26 P Verbal News'

27 Cue

28 N.V. C

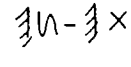
29 

30 

31 T Verbal The news - Tim ?

32 Cue 

33 N.V. C

34  

35 

36 P Verbal Advertising'

37 Cue

38 N.V. C

39 


40 

41 T Verbal Advertising good' anyone else' =

42 Cue  


43 N.V. C  

44 

45 

46 P Verbal = ((New))

47 Cue

48 N.V. C 

49 

50 

S
3

51 T Verbal Newspapers Good

52 Cue

53 N. V. C I

54 E E-V-X

55 E

Verbal

Cue

N. V.

Verbal

Cue

N. V.

Verbal

Cue

N. V.

Verbal

Cue

N. V.

S₃

L Coding

Transcription

56 T Verbal All you need do - on your rough paper that you've got - put down the

57 Cue [E]

58 N.V. C [E] [E] [E]-[E]

59 [E] [E] (E) — (E) —

60 [E] [E] —————

61 T Verbal heading of the programme you're looking for - and quite simply just look

62 Cue

63 N.V. C [E]-[E] [E]-[E]->

64 [E] ——— (E) ——— (E) —

65 [E]

66 T Verbal down the evening broadcasts for BBC 1 - and jot down - how many

67 Cue

68 N.V. C

69 [E] (E) — (E) —

70 [E]

71 T Verbal minutes - that programme has that evening you may find theres none - ?

72 Cue

73 N.V. C [E]-[E] [E]-[E] >

74 [E] (E) ——— (E) — (E) (E)

75 [E] >

76 T Verbal in which case you turn to the next page - for the Sunday - and - keep ?

77 Cue

78 N.V. C

79 [E] (E) ——— (E) (E) — (E) — (E)

80 [E] <-> ——— <-> ———

S₃

L Coding Transcription

81 T Verbal going through the rest of the week until you've done Saturday til Friday -

82 Cue

83 N.V. C [vertical bar] [triangle] [horizontal line] [vertical bar]-[square]

84 [diagonal lines] [circle with diagonal lines] [circle with diagonal lines] [horizontal line] [circle with diagonal lines] [circle with diagonal lines] [circle with diagonal lines]

85 [square]

86 T Verbal and see how many then add up your total at the end tell us how many

87 Cue

88 N.V. C [triangle] [square] [triangle] [triangle]

89 [diagonal lines]

90 [square]

91 T Verbal minutes or how many hours - broadcasting - we have for that particular

92 Cue

93 N.V. C [B]

94 [diagonal lines]

95 [square]

96 T Verbal programme of yours (1.0) alright

97 Cue

98 N.V. C

99 [diagonal lines]

100 [square]

101 P Verbal

102 Cue Exactly as

103 N.V. C [vertical bar]

104 [diagonal lines]

105 [square]

S₃

<u>L</u>	<u>Coding</u>	<u>Transcription</u>
106 T	Verbal	OKAY now - has anyone any problems'
107	Cue	
108	N. V. C	B
109	///	REM
110	A	
111	Verbal	.
112	Cue	.
113	N. V. C	.
114	///	
115	A	
116	Verbal	
117	Cue	
118	N. V. C	
119	///	
120	A	
121	Verbal	
122	Cue	
123	N. V. C	
124	///	
125	A	
126	Verbal	
127	Cue	
128	N. V. C	
129	///	
130	A	

S _j	Coding	Transcription
156	P Verbal	= Films' =
157	Cue	
158	N. V. C	◁
159		≡
160		□
161	T Verbal	more films [?] (1.0)
162	Cue	
163	N. V. C	◻-□-◻▷
164		≡
165		≡
166	P Verbal	current affairs =
167	Cue	
168	N. V. C	◁
169		≡
170		□
171	T Verbal	= You reckon - you'd like to see more current affairs' - Tim wants to see
172	Cue	
173	N. V. C	◻-□-◻
174		≡
175		□
176	T Verbal	= more Sport' (1.0) Gareth [?]
177	Cue	
178	N. V. C	◻-□
179		≡
180		□

≡BX

S₃

L	Coding	Transcription
181	P Verbal	Sport and films ' =
182	Cue	
183	N.V. C	
184		
185		
186	T Verbal	= You'd like more films '
187	Cue	
188	N.V. C	
189		
190		
191	P Verbal	Yeah
192	Cue	
193	N.V. C	
194		
195		
196	P Verbal	(()) films.
197	Cue	
198	N.V. C	
199		
200		
201	T Verbal	No verbal, just a non verbal signal.
202	Cue	
203	N.V. C	
204		
205		

S₃

L

Coding

Transcription

206 T Verbal

Alright - better films - first and then more films after Yes

207 Cue

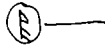
208 N. V.

C



209

///



210

[]

211 P Verbal

((Chatter))

212 Cue

213 N. V.

C

214

///

215

[]

216 T Verbal

What about - either of you two lads [?] films (3.0) films - I'm nearly at =

217 Cue

218 N. V.

C



219

///



220

[]



221 T Verbal

= Susan at the moment =

222 Cue

223 N. V.

C

224

///

225

[]

226 P Verbal

= Want some more Crossroads

227 Cue

228 N. V.

C



229

///

230

[]



S
3

L Coding Transcription

231 T Verbal WHAT - of these types of programmes - would come out top .

232 Cue

233 N. V. C ◁ □

234 ▯ ▯ (M) —————

235 ▯ ◁

236 P Verbal Sport

237 Cue

238 N. V. C ▷ — b

239 ▯

240 ▯

241 Px2 Verbal

Sport

Sport

Some postural
movements in
pupils

Sport

242 Cue

243 N. V. C

244 ▯

245 ▯

246 T Verbal

247 Cue

248 N. V. C

249 ▯

250 ▯

251 T Verbal

Which means . whats going to happen - people like - Pam or

252 Cue

253 N. V. C

254 ▯

255 ▯



S₃

L Coding Transcription

256 T Verbal Susan - or Caroline - or Gary' (1.0)

257 Cue

258 N. V. C ◀

259 ▨ (BM) (BM) (BM)

260 ▩

261 P Verbal = They'lll turn the telly off . =

262 Cue

263 N. V. C ▶

264 ▨ ▨ ▨

265 ▩ P

266 T Verbal = They're going to turn the telly off'

267 Cue

268 N. V. C [] —

269 ▨ (BM) (BM)

270 ▩

271 P Verbal (())

272 Cue

273 N. V. C

274 ▨ ▨ ▨

275 ▩

276 T Verbal = they:re not going to have their fair share of other programmes

277 Cue

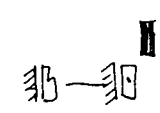




278 N. V. C █




279 ▨ ▨ ▨





280 ▩

S₃

L Coding Transcription

281	T	Verbal	cos there's going to be such a dominance of	sport' (1.0)  ((muttering))
282		Cue		
283		N. V.	C	
284				
285				
286	P	Verbal		
287		Cue		
288		N. V.	C	
289				
290				

291	T	Verbal	THATS one of the things that the programme planners have to think =
292		Cue	
293		N. V.	C 
294			
295			

296	T	Verbal	= about all the time'
297		Cue	
298		N. V.	C
299			
300			
301		Verbal	
302		Cue	
303		N. V.	C
304			
305			

S₄

	<u>Teacher Responses</u>				<u>Epil Responses</u>			
	V	G	P	T	V	G	P	T
	X	X	O	X	X	X	X	O
	O	X	O	O	X	O	X	X
	O	X	X	O	O	X	X	X
	X	X	X	O	X	X	X	O
50	O	X	X	O	X	X	X	O
	O	X	X	O	X	X	X	O
	X	X	O	O	O	X	O	O
	O	X	O	O	X	O	O	O
	X	X	O	O	X	O	X	O
100	O	O	X	O	X	O	X	O
	O	X	O	O	X	O	X	O
	O	O	X	O	O	O	X	O
	O	O	X	O	X	O	X	O
	O	O	O	O	X	O	O	O
150	X	O	X	O	O	O	X	O
	X	O	X	O	O	O	X	O
	X	X	X	O	O	X	O	O
	X	X	O	O	O	O	O	O
	X	X	O	O	O	X	O	O
200	X	O	X	O	X	X	O	O
	X	X	O	O	O	O	O	O
	O	X	O	O	O	O	O	O
	O	O	X	O	X	X	O	O

SECOND SAMPLE

DATA X and Y

DATA Y FOR ANALYSIS BETWEEN

VIDEO DIGITS	590	-	594
	607	-	613
	620	-	631
	655	-	657

Data X S₄ Verbal Transcription with characteristics of speech delivery

1 P. ((muffled)) an accident =

2 T. = An accident - [yeah] thats a good one' =

3 P. [yeah]

4 P. - Wouldn't you ?

5 P. ((muffled))

6 T. The ambulance going off into the distance' (1.0)

7 P. Hwew

8 T. [((muffled))]

9 P. [Try gravestones Sir ?] [Sir]

10 P. [Sir] a scrap Sir'

11 T. A scrap yeah =

12 P. [((pupil chatter))]

13 T. [Ye::s - its an old photograph]

14 P. ((chatter [? Um - any other ? ((so)) (3.0)])) =

16 P. = Trilogies

17 T. OKAY - yeah I know one five off

18 P. = ? ?

19 P. Sir. Sir

1 T. RIGHT (2.0) we've already got five different endings
2 to that story

3 P. I don't understand it

4 T. = AN:D from thi::s - you've got five different steps -
5 you do ONE then you do the next one -

6 P. the next one
7 P. the next one

8 T. NOW listen? have I got your attention?

9 P. ((chatter)) find out

10 T. = Okay(1.0) five steps to writing a story

11 P. =

12 Px2 It won't do ((muffled))

13 T. What I::M going to DO is I don't want all
14 five cards away - because then someone will
15 grab hold of card one (1.0) and start getting their ideas
16 from that - and someone else will start writing
17 card five (1.0) and we'll get it all mixed up

18 P. Sir I've got my ((muffled))

19 T. and it won't be any help
20 at ALL so

21 can we SORT out =

22 P. = Sir I've got my story ready

23 T. = That one (1.0) can I have all the card ones
24 please?

25 P. ((laughter))

1 T. RIGHT OKAY - [I'm going to start] off with card one ?

2 P. [((chatter))]

3 T. = and I'll come round [-] and try and help you

4 P. [Oh]

5 T. with it - so what I want you to do =

6 P. = writin in
7 our books ?

8 T. is to try and get half a page on this ,

9 P. = Sir ?
10 P. Sir ?
11 P. Sir can you lend me a [?]

12 T. [WOULD] you like

13 me to go and get the books and bring them
14 here [for me]

15 P. [((chatter))]

16 T. I::D LIKE YOU to (bo) - find yourself a
17 place at the table ?

S₄

L

Coding

Transcription

1 P Verbal ((muffled)) an accident =

2 Cue

3 N.V. C Tape damage

4 [scribble]

5 [scribble]

6 T Verbal = An accident - yeah thats a good one' =

7 Cue [scribble]

8 N.V. C [scribble]

9 [scribble]

10 [scribble]

11 P Verbal

[Handwritten box containing: yeah
BN
yeah]

12 Cue

13 N.V. C

14 [scribble]

15 [scribble]

16 P Verbal Wouldn't you[?]

17 Cue

18 N.V. C

19 [scribble] [scribble]

20 [scribble]

21 P Verbal ((muffled))

22 Cue

23 N.V. C

24 [scribble]

25 [scribble]

[Large handwritten box spanning lines 16-25]

S₄

26 T Verbal

The ambulance going off into the distance' (1.0)

27 Cue

28 N.V. C

29  

30 

31 P Verbal

Hew

32 Cue

33 N.V. C


34 

35 

36 T Verbal

37 Cue

38 N.V. C

39  


40 

41 P Verbal

Try gravestones Sir ?

42 Cue

43 N.V. C

44   

45 

46 P Verbal

47 Cue

48 N.V. C

49 

50 

Sir

Sir

a scrap Sir'



94

51 T Verbal

A scrap yeah =

52 Cue

53 N.V. C

54 —

55

56 Px5 Verbal

((pupil chatter))

57 Cue

58 N.V. C

59

60

61 T Verbal

Ye::s - its an old photograph

62 Cue

63 C

64

65

66 Px5 Verbal

((chatter chatter))

67 Cue

68 N.V. C Head Turning

69 One hand raised

70 Change in posture

71 T Verbal

Um[?] - any other' ((so)) (3.0)

72 Cue

73 N.V. C

74

75

84

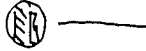
Trilogies

76 P Verbal

77 Cue

78 N.V. C

79 



80 



81 T Verbal

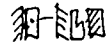
OKAY - yeah I know one five off

82 Cue

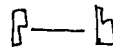
83 N.V. C



84 



85 



86 Ex2 Verbal

Sir ? Sir ?

87 Cue

88 N.V. C

89 



90 



91 Verbal

92 Cue

93 N.V. C

94 

95 

96 Verbal

97 Cue

98 N.V. C

99 

100 

S₄

Data Y620-631

101 T Verbal

RIGHT (2.0) we've already got five different endings to that story

102 Cue



103 N. V. C



104



105

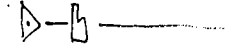


106 P Verbal

I don't understand it

107 Cue

108 N. V. C



109



110



111 T Verbal

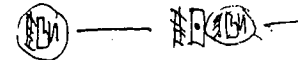
= AN:D from thi::s - you've got five different steps - you do one - next one -

112 Cue

113 N. V. C



114



115



116 P Verbal

the next one

117 Cue

118 N. V. C

Head nodding from different pupils

119



120



121 P Verbal

next one

122 Cue

123 N. V. C

Head nodding from many pupils

124



125



S₄

Data Y620-531

126	T Verbal	= NOW	listen ?	- have I got your attention'
127	Cue			
128	N. V. C	▷-B	▷	▨
129		⊗	⊗	⊗
130		□		
131	P Verbal		((Chatter)) find out'	
132	Cue			
133	N. V. C		▨-▨	
134				
135				
136	Verbal			
137	T Cue.	= Okay (1.0) five steps to writing a story'		
138	N. V. C	▨	—	
139		⊗	—	⊗
140		□		
141 Px2	Verbal	It won't do ? ((muffled))		
142	Cue			
143	N. V. C	No apparent signal		
144				
145				
146	T Verbal	= What I::M going to DO - is - I don't want all five cards away'		
147	Cue			
148	N. V. C	◁-□		
149		⊗	⊗	
150			⊗-⊗	

Appendix 28g

S₄

Data Y620-631

151 T Verbal = because then someone will grab hold of card one (1.0) and start getting their

152 Cue

153 N. V. C

154

155

156 T Verbal = ideas from that - and someone ELSE will start writing card five (1.0) and

157 Cue

158 N. V. C

159

160

161 T Verbal = we'll get it all mixed up (2.0)

162 Cue

163 N. V. C

164

165

166 P Verbal Sir I've got my ((muffled))

167 Cue

168 N. V. C

169

170

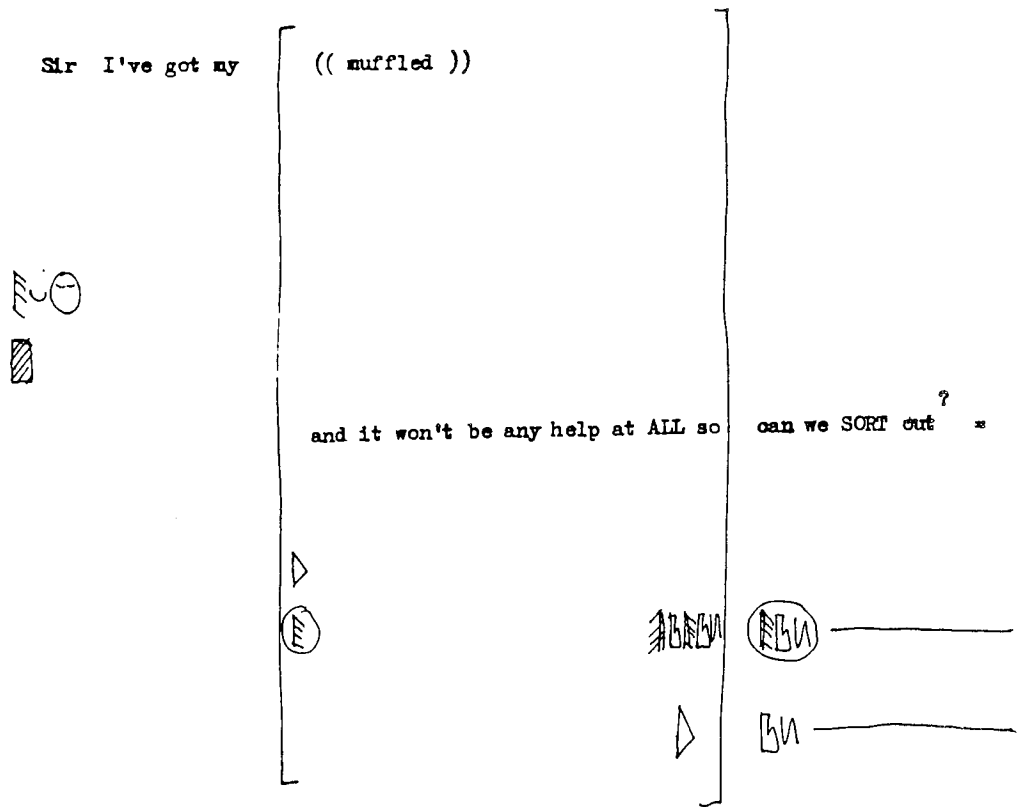
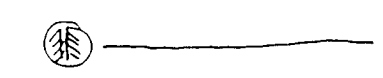
171 T Verbal and it won't be any help at ALL so can we SORT out ?

172 Cue

173 N. V. C

174

175



Appendix 28h

S₄


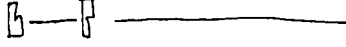
Data T620-631

176 P Verbal = Sir I've got my story ready

177 Cue

178 N. V. C

179 

180  

181 T Verbal = Thats one ' (1.0) can I have all the card ones please ?

182 Cue 

183 N. V. C  

184   

185  

186 Verbal

187 P's Cue ((Laughter - Laughter))

188 N. V. C

189 

190  Considerable postural movement

191 Verbal

192 Cue

193 N. V. C

194 

195 

196 Verbal

197 Cue

198 N. V. C

199 

200 

S₄






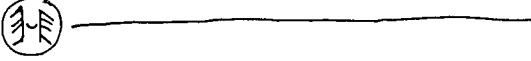



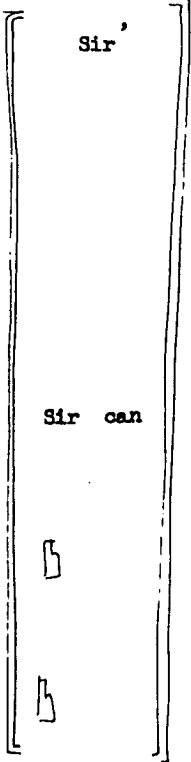








Data Y655-657

201	T	Verbal	RIGHT OKAY -	I'm going to start	off ? with card one and I'll come
202		Cue			
203	N.V.	C			
204					
205					
206	P	Verbal		((Chatter))	
207		Cue			
208	N.V.	C			
209					
210					
211	T	Verbal	round -	and try and help you with it - so what I want you to =	
212		Cue			
213	N.V.	C			
214					
215					
216P's		Verbal	Ch ?		
217		Cue			
218	N.V.	C			
219					
220			Continued restless- ness		
221	T	Verbal	= do =		
222		Cue			
223	N.V.	C			
224					
225					

Appendix 28j

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4

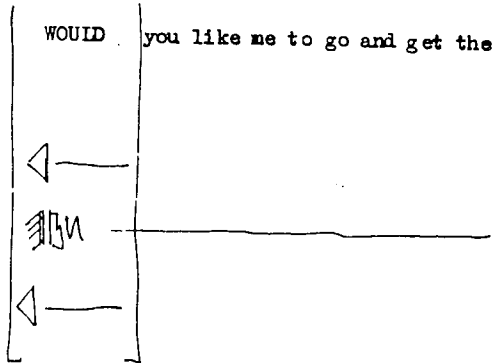
Data 1655-657

- 226 P Verbal = writin in our books ? =
- 227 Cue
- 228 N.V. C 
- 229 
- 230 
- 240 T Verbal = is to try and get half a page on this ' =
- 241 Cue
- 242 N.V. C 
- 243  
- 244 
- 245 P Verbal Sir ?
- 246 Cue
- 247 N.V. C
- 248 
- 249 
- 250 Px2 Verbal  Sir'
- 251 Cue
- 252 N.V. C
- 253 
- 254 
- 255 P Verbal Sir can you lend me a pen' 
- 256 Cue
- 257 N.V. C 
- 258  
- 259  
- 260

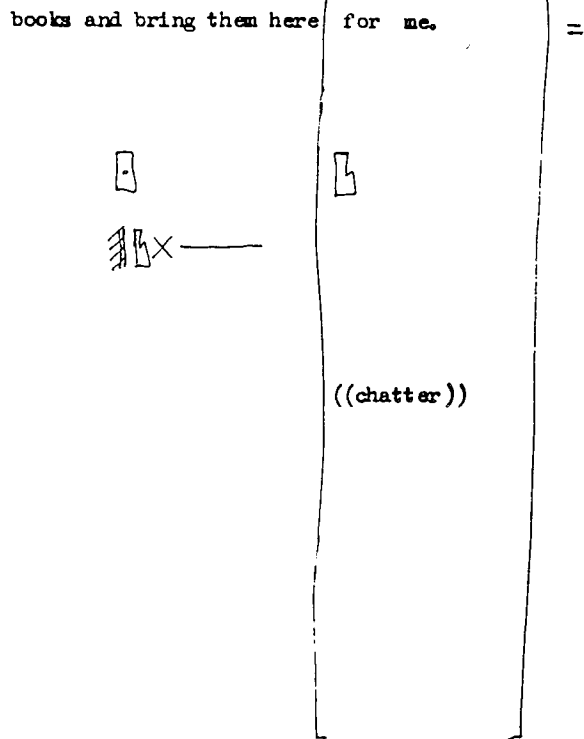
S₄

Data Y655-657

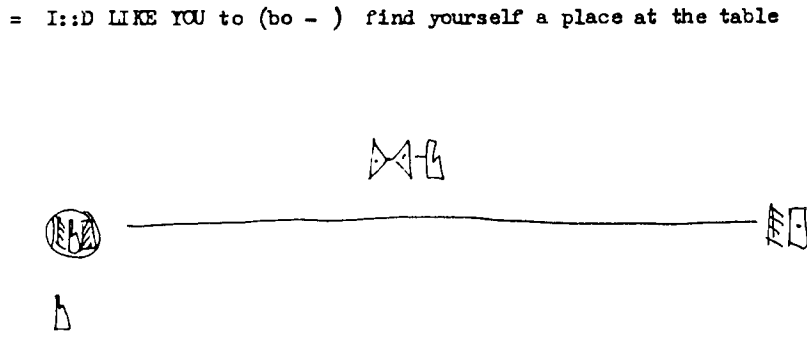
261 T Verbal
 262 Cue
 263 N.V. C
 264
 265



266 T Verbal
 267 Cue
 268 N.V. C
 269
 270
 271 P Verbal
 272 Cue
 273 N.V. C
 274
 275



276 T Verbal
 277 Cue
 278 N.V. C
 279
 280
 281 Verbal
 282 Cue
 283 N.V. C
 284
 285



A simplified symbol system for teacher-pupil exchanges

DATA	PARTICIPANTS	EXCHANGE	PEDAGOGICAL MOVE	VOCAL CUE	NON-VERBAL	
	T - P - C	Smooth or Simultaneous	Structuring Soliciting Responding Reacting		Gesture Posture	
S ₁ Y0-31 L73-79	T - C		So	Vc		
S ₁ Y510-572 L193-204	T - P		So R _s	Vc		
S ₃ Y204-210 L126-185	P - P		St			
S ₃ Y519-528 L161-170	T - P		St R _s	Vc		
S ₃ Y590-594 L241-250	P - T		Ra			
S ₁ Z125-155 L194-210	T - P		St R _e			

Note: Quality too difficult to record because of variability within non-verbal activity.

SYMBOLS

Teacher-pupil-class	T - P - C	Responding	R _s
Smooth		Reacting	R _a
Simultaneous		Vocal cue	V _c
Structuring	St	Gesture	
Soliciting	So	Posture	

BELLACK'S PEDAGOGICAL MOVES

- Structuring - focussing on subject matter
- Soliciting - seeking to elicit a verbal response
- Responding - reciprocal to soliciting
- Reacting - accepting, modifying or expanding what has been said previously