CHAPTER III
THE PROCEDURE FOR RESEARCH

3.0 Introduction

The central problem to which this study addressed itself was the extent to which various class settings differ in terms of the opportunities for language learning which become available as a result of the kind of interaction generated in each of these classes. However, before we could start examining and analysing the interaction in different subject classes, we first had to get some insights into the nature of this interaction so that we could formulate our hypotheses regarding the availability of the language learning conditions in each type of class, select a suitable sample which would enable us to make some generalizations about the classroom situations and evolve a suitable procedure for data collection and research. To enable us to carry out these tasks, a preliminary investigation was conducted.

A preliminary study was necessary because without some insights into the nature of the interaction that tends to be generated in different types of subject classes, by different modes of teaching, in different classroom settings, we could not hypothesize about the availability of the language learning conditions in any of the classes. Nor could we
decide upon a reliable representative sample of classes which would form sufficiently discrete groups to enable us to make valid comparisons and generalizations and which we could therefore, subject to detailed analysis. Thus a preliminary study could help us decide which type of English classes, which type of Content subject classes and which type of Activity classes we could include in our study and also decide on a representative school situation. A preliminary investigation could also help us decide on a strategy for conducting our study - the nature of the data we would require, the mode of data collection which would be feasible in different types of classes, the period during the school year which would be most suitable for classroom observation and data collection etc.

3.1 The Procedure for the Preliminary Investigation

For the preliminary study, we decided to observe a variety of classes in four English-medium schools in New Delhi, over a period of about three weeks. In order to increase the reliability of our classroom observations, we also decided to conduct semi-structured interviews of teachers and pupils in each of the classes observed to enable us to get further information on the mode of teaching in each subject area as well as on teacher/pupil attitudes to each subject.
During the classroom observations, about 3-4 days were spent in each school. The first day was spent in going around the school, getting information about the various subjects in the school curriculum, spending a few minutes in classes at different levels to get an overall impression of the school, the facilities available, the general mode of teaching, the classroom atmosphere, the nature of the pupils etc., and also to familiarize teachers and pupils with our presence. The rest of the time was spent in observing one particular class from morning to afternoon to get an idea of the general nature of teaching in each particular subject area. Field notes of the observation were recorded during each class. An attempt was also made to audio-tape some of the classes observed. However, the quality of the recording obtained was not very good. Because of time-table constraints, it was not possible to observe more than 2 classes per subject in each school. The break-up of all the classes observed at different levels, in each subject area is as follows:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Classes</th>
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<tbody>
<tr>
<td>English</td>
<td>8</td>
</tr>
<tr>
<td>Maths</td>
<td>6</td>
</tr>
<tr>
<td>Social Studies</td>
<td>6</td>
</tr>
<tr>
<td>Science</td>
<td>7</td>
</tr>
</tbody>
</table>
SUPW*: 6 classes
(Activity Subjects)

After each class, an attempt was also made to interview the teacher and a few pupils. A total of 25 teachers from all subject areas and a total of 60 pupils were interviewed in all the four schools observed.

3.2 Classroom Observations

In this section, we report the classroom observations made during the preliminary study. As mentioned above, the observations of classes during the preliminary study were recorded in the form of field notes. In order to gain some insights into the nature of the language learning opportunities which seemed to be available in each of the classes observed, we decided to record our comments on the following aspects of each class:

- the "content" of the lesson, its focus of attention and the general sequence of teaching followed in the class.
- the mode of teaching, the style and manner of presentation, the nature of the questions asked, the nature of the language used and the nature of the language teaching activity, if any.

* The Activity subject in the Indian School curriculum is known as Socially Useful Productive Work (SUPW). The term SUPW is used to include the concepts of work experience as well as social usefulness. Basically, in SUPW, pupils are expected to participate in purposive, meaningful activities, to make things, to do things. SUPW is in fact used as a cover-term for a range of optional activities such as Electronics, Woodwork, Painting, Meal Planning, Commerical Art, Toy Making, Batik Printing, Craft, Photography etc.
the extent and kind of pupil participation in the class, the nature of pupil activity, the degree of pupil involvement and interest, the nature of pupil responses and pupil questions.

- the general atmosphere in the class, the degree of freedom and control, the classroom setting etc.

We also attempted to take down wherever possible, illustrative examples of classroom events and teacher-pupil talk.

During the observations, we found that we could discern three distinct types of classes - the English classes, the Content subject classes such as Science, Maths and Social Studies in which the focus of attention was on the teaching of subject matter content, and the Activity classes such as Meal Planning, Photography, Painting, Needle-work, Food Preservation, Craft, in which the main focus was on carrying out an activity. Therefore, we present below our report of the classes observed in terms of these three distinct groups.

3.2.1 English classes

As pointed out earlier, we observed 8 English classes in 4 English-medium schools. In all the English classes observed, the teachers were teaching the lessons from the prescribed textbooks - the main reader or the supplementary reader. There was no sustained teaching of language in most of these classes because, as we discovered, in English-medium
schools, explicit and sustained teaching of language occurs only at the primary level. By the middle school level, teaching of language, while never completely eliminated, becomes relatively incidental to the teaching of the "content" of the readers. However, in all the English classes observed, the teachers seemed to attach a great deal of importance to correct use of language - they corrected pupils' language errors as they occurred, discussed word meanings and points of grammar as they came up during the exposition of the text, and asked pupils to work through grammar exercises. One teacher asked pupils to underline new phrases and later construct sentences of their own using these phrases. Another teacher gave pupils practice in word-formation by making them form nouns from adjectives taken from the lesson.

During the classes observed, the teachers generally began the class with a brief introduction to the lesson in the reader. Where the lesson was being continued from the previous class, the teacher started by recapitulating the part of the lesson that had been dealt with. This recapitulation was conducted mostly by eliciting from the pupils, answers to questions on the previous lesson. Following this, the teacher either read out the lesson from the reader or got pupils to read it aloud, one by one. Then the teachers paraphrased the text, explaining parts of it in simpler
English and either giving or eliciting word meanings from the pupils. The teachers also made some comments and some interpretive remarks on the text. These activities seemed to take away half or more of the class time. Following the exposition of the text, most teachers asked oral comprehension questions and/or gave a written assignment in which pupils were required to write answers to questions on the text or work out language exercises from the textbook. Although we did not find any of the teachers using visual aids other than an occasional picture in the textbook, most of them did seem to make some effort to use simpler language to get their meaning across and in fact, much of the teaching of the text involved paraphrasing and explaining parts of the text.

In most of the English classes observed, teachers seemed to be placing a great deal of emphasis on the memorization of the factual content of the lessons in the text. All the teachers asked a number of questions related to the factual comprehension of the text. In fact, in two of the English classes observed, teachers explicitly told pupils not to turn back to the lesson while answering questions. We also found that even when teachers asked questions requiring a critical response or an interpretation of the text, the pupils' comments were not really accepted at face value and the teacher seemed to be imposing her own interpretation of the text, either by modifying and elaborating on the pupils'
responses at great length to suit the interpretation of the text which she wanted to impose on, as in the case of three of the eight English teachers observed, straightaway giving the answers to such questions themselves. One of the teachers actually asked pupils to jot down the main points of the answer given by her "as it would be useful for the exam". This happened during the teaching of a supplementary reader, Ruskin Bond's "A Face in the Dark". The teacher asked the question, "How does Ruskin Bond build up an atmosphere of fear and suspense in the story 'A Face in the Dark'?", proceeded to answer the question herself, and then asked the pupils to note the main points of the answer.

We also observed that the teacher rarely addressed individual pupils except when asking questions. Further, teachers hardly ever seemed to make any attempt to relate the lesson to the pupils' own life and experiences (although one of the teachers did relate the story in the lesson she was doing to a wall-chart in one of the school corridors, in which the story was depicted in pictures).

Pupils in most of these classes seemed rather bored and inattentive. Except for occasional word meanings and clarifications, pupils rarely asked questions. In fact, we felt that pupil activity in these classes seemed to be limited to listening to the teacher, making responses to the
teacher's questions, making notes when told to do so, writing
answers to questions, and working on language exercises when
required to do so. Rarely were pupils found to be offering
comments. In three of the classes when pupils did offer
comments, the teachers simply ignored these.

All the classes observed appeared to be strictly
controlled by the teacher. Answering out of turn, or even
without being formally allotted a turn, was generally not
permitted. Pupils were not permitted to speak to each other
and if they did talk, to keep them quiet, some of the teachers
threatened to deduct their 'marks' in the examination.

3.2.2 Content subject classes

In many of the Content classes observed, teachers started
the lesson with an introductory phase in which they presented
the main ideas of the lesson and/or related the lesson to
the previous lesson by making the pupils recapitulate these
main ideas. Following this introductory phase, the teachers
explained the lesson of the day through a lecture-type of
exposition or, as in the Maths classes, worked out examples
of sums/problems on the blackboard. Finally, the teachers
asked questions, mainly on the factual content of the lesson
and gave a written assignment - either an exercise to be
worked out (as in Maths) or questions to be answered in the
class or at home. Some of the classes observed (two Maths
classes, one Science class and one Social Studies class) were devoted entirely to the testing of the previous lesson/series of lessons, either orally or in writing.

One of the most striking aspects of all the Content subject classes observed was the degree of emphasis on, and the extent of the use of, subject-specific language. In almost every Content class observed, teachers seemed to attach a great deal of importance to the use of appropriate labels, terminology and definitions. Thus in most of the Content classes, teachers wrote commonly-used terms on the blackboard, dictated definitions, asked pupils to note down and learn definitions by heart or repeat these definitions in a chorus, drill-like activity. Teachers in Maths and Science classes also seemed to be devoting a great deal of time to ensuring correct use of symbols and formulae (e.g., "Remember, thrust upon area is the formula for finding out pressure ... pressure multiplied by area is equal to thrust" (Physics, Class VII) "Look at the darker print for the definitions ... learn the definitions from the book" (Maths, Class VII)).

It was observed that teachers, particularly in the Science and Maths classes, illustrated their explanation with diagrams on the blackboard. However, except in one
Science class (Class VI), in which the teacher tried to explain the differences between elements with the help of concrete objects present in the class, e.g., chairs, bags, water bottles, etc., there did not seem to be much attempt by the teachers to relate the concepts presented to objects or experiences familiar to the pupils. In fact, the emphasis always seemed to be on conveying facts and information. This also seemed to be indicated by the fact that in all the classes observed, the teachers seemed to be attaching a great deal of importance to testing, marks and examination preparation. In the classes we observed, teachers gave pupils grades for nearly all written assignments and scolded them for bad performance. For example,

*T: ... Sangeeta you have done very badly. See very badly done - Grade 'C'. Rakesh ... Look at your handwriting ... very bad ... Vikram Suri ... what kind of work is this ... Who is Bindu ... 'D' ... very bad.

(Social Studies, Class VIII)

In some of the classes observed, pupils were also scolded for not giving correct responses to oral questions asked in the class. In several classes, teachers were observed to be using the threat of deducting 'marks' ("I'm going to give you zero!") to keep pupils attentive and quiet.

* For transcript conventions, see Appendix II.
In none of the Content classes did we observe any sustained pupil-pupil discussion. Pupils were hardly ever observed to be speaking to each other except in whispers, when they apparently thought that the teacher's attention was elsewhere. In one of the classes observed, when a controversial point was raised by the teacher, some pupils started excitedly discussing it among themselves but the teacher immediately put an end to the discussion. We also found that teachers did not seem to permit any sharing of information while pupils were engaged in written work ("Do your own work"). However, in Science practical classes, where pupils worked in pairs or groups, there did seem to be more pupil-pupil talk as the pupils shared equipment or exchanged observations.

Teachers thus seemed to be exercising strict control over the class. In most of the classes, answering out of turn or even answering together, when the teacher called for an individual response, seemed to immediately provoke rebuke. Pupils in all the Content classes observed, appeared to be playing a largely passive role. They asked very few questions. Even the few questions they asked seemed to be only for further explanations and clarifications. In most of the classes, teachers seemed to be annoyed by pupil questions and seemed to brush them off without giving adequate answers. For example,
P: Ma'am, can you tell me what is the meaning of measurement.

T: Measurement means measurement, what else?

(Maths, Class VI)

or,

P: Ma'am, how many electrons are there in the inner orbit of chloride.

T: That's not important for you.

(Chemistry, Class IX)

3.2.3 Activity classes

The Activity classes we observed - needle-work, meal planning, photography, craft, food preservation, painting - appeared to be markedly different from the English as well as the Content classes. To begin with, the number of pupils in each Activity class was much smaller - generally about 15-20 since for these classes, pupils were divided into groups with different groups going for different activities. Also with the exception of one needlework class, none of the other Activity classes we observed were conducted in regular classrooms in which pupils sat in rows facing the teacher and the blackboard. All the other classes we observed were conducted in special "SUPW rooms" - generally bright, cheerful and well-equipped rooms with long work-tables and benches and display boards all around on which the pupils' own handiwork
was displayed. Various kinds of equipment such as sewing machines, kitchen equipment, electrical equipment was also placed on counters, shelves or cupboards along the walls.

In most of the classes observed, the teacher began the class with a brief explanation of what had to be done (e.g., the photography teacher explained what was meant by contact printing with the help of a contact printing box before the pupils went into the darkroom to make their first contact prints) or, in classes where the activity was being continued from the previous class, the teacher gave further instructions to enable pupils to continue their work. During most of the class-time, pupils worked on the activity either on their own or in small groups seated or standing around the work-tables, while teachers gave instructions, demonstrated something, made comments and suggestions about the pupils' work as they went around the groups. Sometimes pupils themselves called out to the teacher or went up to her to show individual pieces of work and ask for suggestions/comments, clarification about instructions given earlier etc. We even observed pupils occasionally commenting on each other's work, (P (to another P): You've taken so many photographs. You took them in school only?); asking each other for information, (P (to another P): My this recipe is incomplete. You have it?);
directing each other (P (to another P): Take out the mustard seeds. They are in that cupboard.) or even chatting freely among themselves as they worked on individual pieces of needlework, painting or other activities. In none of the classes did we find teachers asking pupils to stop talking among themselves although when the pupil talk seemed to get too loud, teachers did ask the pupils to stop shouting. Pupils also seemed to be relatively free to move around the class.

In fact, the atmosphere in all the Activity classes we observed appeared to be relatively informal, relaxed and carefree and pupils seemed to be generally cheerful, excited and actively occupied throughout the class. They also appeared to be involved and attentive and seemed to listen carefully to the teacher's instructions and to carry them out immediately. Very rarely did we see a pupil who remained idle or uninvolved in the activity.

3.3 **Teacher Interviews**

Our classroom observations indicated wide differences among the three types of class settings that we observed. Teachers differed significantly in their teaching style, the degree of importance they attached to pupil participation, the kind of questions they asked etc. We therefore, tried to
elicit through semi-structured interviews, the views of the English teachers, the Content subject teachers and the SUPW teachers on the following points:

- the attempts they made to ensure comprehensibility;
- the nature of the questions they asked;
- their views on the extent of pupil participation;
- the attempts they made to pay individual attention to pupils;
- the importance they attached to correct use of language.

Attempts made to ensure comprehensibility.

All the English teachers said that they tried to explain the lessons in the textbook in simpler language and also gave the meanings of difficult words. While one teacher said that she sometimes brought magazine cuttings to illustrate a lesson, most of the teachers said that except for pictures in textbooks they were not able to use any visual aids. On the other hand, Content subject teachers claimed that they made extensive use of diagrams in the textbooks or on the blackboard to explain basic concepts. In addition, Science teachers said that they sometimes brought laboratory equipment or models to class. SUPW teachers pointed out that because of the practical nature of the tasks involved, it was important for
them to ensure that the pupils had understood the instructions. Therefore, they demonstrated what had to be done if they felt that the pupils did not seem to have understood verbal instructions. They also said that they were sure that pupils understood their instructions because if they did not, they would not be able to carry out the practical activities.

The nature of questions asked

Most of the English and Content subject teachers claimed that the questions they asked pupils were aimed at testing their comprehension of what had been dealt with in the class. In addition, some English teachers said that they also asked pupils to comment on a text while the Maths teachers asked pupils to work out problems orally or on the blackboard. All these teachers said that they nearly always had a definite answer in mind when asking a question related to the lesson. However, the SUPW teachers said that they hardly ever asked questions related to the "theory" behind the SUPW activity. When they asked pupils questions, these were related to the ongoing activities in the class.

Teachers' views on the extent of pupil participation

Most English and Content subject class teachers said that although they encouraged questions, pupils rarely asked for more than occasional clarifications or explanations of the lessons. These teachers also said that most pupils
seldom made much effort to contribute to the class discussion. However, a few Content subject teachers did point out that some of the pupils took a lot of interest in the subject, worked very hard and always came prepared for the class. The SUPW teachers claimed however, that pupils were constantly asking them for instructions, suggestions and clarifications as they worked on the practical activities and that they encouraged such questions by the pupils as the practical work could be done properly only if the pupils themselves took a keen interest in it. The SUPW teachers also said that in fact, almost all the pupils did take a keen interest in the activities and seemed to enjoy the work.

** Attempts made to pay individual attention to pupils **

Most English and Content subject teachers said that they were not able to give much individual attention or use group work in their classes. Only when they asked oral questions were they able to address themselves to individual pupils. Some of the English and Content subject teachers said that they would like to include group work and discussion activities in the class but, because of the limitations of time, syllabus, examination needs etc., they could not find time to do so. However, Science teachers did say that pupils in their classes did work in groups or in pairs during the Science practicals. Most of the SUPW teachers pointed out that because of the nature of the practical tasks, they had
to give individual attention to pupils to ensure that all of them were able to complete the task successfully. They also said that while some of the SUPW activities were carried out mainly in groups or in pairs, e.g., cooking, photography, gardening etc., in other activities such as craft, painting and needlework, pupils worked on individual pieces of work although there was often co-operative work even during such activities.

**Importance attached to correct use of language**

English teachers seemed to attach a lot of importance to correct use of spoken and written language. However, Content subject teachers and SUPW teachers said that they corrected language errors in the pupils' written English but did not bother much about the pupils' spoken English as long as they made themselves understood.

3.4 **Pupil Interviews**

During our observations we found that pupils seemed to differ in their attitudes to the different classes, and teaching styles as also in their reactions to the various subjects. So we decided to interview pupils to obtain further information on the following points:
- attitudes towards teaching style;
- attitudes towards different classes in the school curriculum.

Attitudes towards teaching style

Most pupils generally preferred teachers who made an effort to make the lesson interesting, who discussed things with them and allowed them to express their own views in the class. However, several pupils pointed out that many of the English and Content subject teachers did not like them to ask questions in the class because they seemed to feel that their questions wasted time and were not relevant to the lesson. They also felt that many teachers did not like to be asked to repeat an explanation and they were scolded for not paying attention during the first explanation if they asked for clarifications etc. However, they felt that in the SUPW class, teachers did not seem to mind repeating instructions etc., if they found that the pupils had not understood the instructions given earlier.

Attitudes towards different classes in the school curriculum

Most pupils seemed to enjoy the SUPW classes best because they found them interesting and useful. They also "felt relaxed" in these classes because they did not have to worry about "learning things", "marks" etc., and they could
talk more freely and "move around" freely. In fact, except for two boys who said that by mistake they had taken the Meal Planning option and realized that it involved cooking, which they did not like, none of the other pupils said that they did not enjoy the SUPW classes. While some pupils found the English and Content classes quite dull as compared to the SUPW class, others did find them equally interesting because they liked the subject or because a particular teacher was good. However, all the pupils found the SUPW classes the most satisfying because in these classes, they were able to do things, to make things and thus immediately see the results of their endeavours.

3.5 The Main Findings of the Preliminary Investigation

The most important outcome of our attempt to explore the diverse teaching/learning situations in different class settings was the realization that there are indeed important differences in the manner in which different subjects are taught and hence, in the nature of the interaction generated in different subject classes. In this section, we shall attempt to discuss some of the important differences between classes which became obvious to us after conducting the preliminary study.

The preliminary study indicated that although there was a great deal of teacher talk in both the English and the
Content subject classes, it was seldom related to real-life situations. Further, subject teachers seemed to use a great deal of abstract and specialized language specific to the subject of study. That this language was often incomprehensible to the pupils seemed to be indicated by their general passivity in the class and also by the teachers' observations that most pupils seldom attempted to contribute to class discussions. In the English classes however, such specialized language was seldom used and our observations, as well as the interviews, indicated that the English teachers realized the need to use simpler language to make themselves understood and in fact, generally succeeded in doing so. In the Activity classes, on the other hand, pupils did not have any difficulty in understanding the teacher's instructions and explanations because these were generally accompanied by demonstrations, references to concrete objects etc.

In the English and Content classes, the main purpose of teaching seemed to be to transmit information to the pupils and to check whether or not this information had been received. Thus the questions generally asked by teachers were related to the factual content of the lessons and, as the teachers themselves admitted, they nearly always had a definite answer in mind when they asked a question. Even in the English classes in which the teachers were apparently
trying to elicit comments on the text, what they actually did was to modify pupils' comments according to their own interpretation of the text. In Activity classes however, the teacher's main purposes seemed to be instructing, directing etc., rather than giving information. Therefore, the questions asked by these teachers seemed to relate to the ongoing activities that the pupils were engaged in.

In neither the Content subject classes nor the Activity classes did we find any explicit teaching of language, and the teachers seemed to be concerned mainly with the pupils' ability to make themselves understood rather than with their ability to make correct use of spoken language. However, in the English classes, there was some emphasis on the teaching of language as such - although not as much as one would expect in an English class. Perhaps this was so because hardly any of the English classes we observed were devoted exclusively to language teaching. However, all the English teachers seemed to attach a great deal of importance to correct use of language and frequently corrected language errors in the pupils' speech. In neither the English classes nor the Content classes did pupils seem to be getting much individual attention and the teacher generally addressed the class as a whole. However, in the Activity class, the teacher
of necessity, went around the class to ensure that all the pupils had successfully followed the instructions and were able to manage the task.

In neither the English classes nor the Content subject classes did there seem to be many opportunities for pupils to make much use of language. As the teachers themselves pointed out, pupils seemed to be playing a passive role in most of the classes. Thus they seemed to be engaged in listening to the teacher or responding to the teacher's questions rather than asking questions, initiating discussions, offering comments etc. Many pupils claimed that this was so because teachers did not encourage them to ask questions. Teachers on the other hand, claimed that they wanted pupils to ask questions but they did not do so. However, teachers did admit that because of situational constraints, they were not able to find time for discussion activities, group work etc. in however, the Activity classes, pupils seemed to be more active because of the nature of the tasks they were engaged in. Again because cooperative work was required in order to deal with the practical activity, pupils seemed to feel less hesitant, not only to ask the teacher for comments and clarifications but also to talk to each other, exchange information, discuss ideas etc. In fact, pupils generally seemed to be far more relaxed in the Activity classes than in the other classes, because the atmosphere was relatively
informal and there seemed to be less emphasis on testing, examinations, marks etc. This was indicated by the pupils themselves during the pupil interviews. Most of the pupils also claimed that they found the Activity classes more interesting, relevant, enjoyable and satisfying than the other classes.

Our preliminary investigation of various subject classes thus revealed that there are wide differences between the classes in terms of the nature of teacher-pupil interaction in each class, the modes of teaching, the kind of language used and the questions asked, the nature of pupil activity, pupil participation and involvement, the nature of the classroom atmosphere etc., and further that it is Activity classes rather than Content classes or English classes which provide adequate language exposure, opportunities for participation and a learning environment which could be considered suitable for language learning. This study therefore, indicated to us the need to explore these differences in the language learning conditions in a detailed and systematic manner. The preliminary investigation also enabled us to formulate our hypotheses for the main study. In addition, our experience in conducting the preliminary study helped us to evolve a suitable strategy for research.
3.6 The Hypotheses of the Study

The main hypothesis of this study is that the conditions prevailing in the Activity class are more conducive to language learning than the conditions available in the Content subject class or the English class.

This hypothesis can be divided into three hypotheses on the basis of the three main conditions for language learning, which we had described in the last chapter (see Chapter II, section 2.6).

i. The Activity class provides greater exposure to language input which is more varied and comprehensible and has more communicative value, than does the Content subject class or the English class.

ii. The Activity class provides learners with more opportunities to use language which has real communicative value and relates to a variety of communicative functions, than does the Content subject class or the English class.

iii. The Activity class provides a learning environment which is more relaxed, anxiety-free, motivating and conducive to spontaneous interaction, than does the Content subject class or the English class.

In order to examine these hypotheses, we needed to be able to compare the nature of interaction in English, Content subject and Activity classes. This involved selecting a sample representative of the three types of classes, collecting classroom interaction data, and deciding on a procedure for
the analysis of this data which would enable us to compare the interaction in each of the classes in terms of the availability of opportunities for exposure to the target language, opportunities for learners to use the target language as well as the availability of an appropriate learning environment.

3.7 The Sample for the Study

The preliminary study had enabled us to identify the characteristic features of various types of classes in the school curriculum. On the basis of the insights gained, we were now able to select a representative sample for the main study.

First of all, we decided to select our sample across the three groups of classes we were interested in, namely, subject English classes, Content/classes and Activity classes. Within the group of English classes, we decided to include a class in which the focus was on the teaching of language structures as well as a class in which the focus was on the teaching of literary content. Within the group of Content classes, we decided to include a Maths class, a Social Studies class and a Science class. In this group, we decided to include two classes in which the emphasis was on 'teaching' or imparting new knowledge. In addition, we also decided to include a class in which the teacher's emphasis was on oral 'testing' or 'checking' of the knowledge the pupils were supposed to
have acquired in the previous lessons. We included such a class because as we had observed during the preliminary study, testing was given a great deal of importance in the school curriculum. Within the group of Activity classes, we decided to include one class in which pupils worked in groups and another class in which pupils were engaged in individual work.

We also decided to restrict the main study to one school setting and we chose one school out of the four schools in which the preliminary study had been conducted. The school chosen was the one which seemed to us to be the best one in terms of the quality of teaching and the facilities available - this was done so that we could get relatively 'neutral' data for which variables such as inadequately-trained teachers or lack of facilities could not be cited as the reason for unsuitable modes of teaching, but which could be regarded as representative of the most favourable teaching conditions for the various subjects.

On the basis of the extensive survey conducted in each school at various levels during the course of the preliminary study, we decided to confine the main study to the Middle School Level, i.e., Classes VI-IX. We felt that at this level, we would get a clearer picture of the verbal interaction characteristic of each type of class since, in the English-medium situation, by this stage, pupils generally do not grope
for language and this would be less likely to be an inhibitory factor as far as their language use and participation was concerned. Later levels were avoided because it was felt that the pressure of school final examinations at these levels may give us a distorted view of the teaching-learning situation. However, since in the English-medium situation, by the middle-school level, it would have been difficult for us to get an example of an English class devoted entirely to the teaching of language structures, we decided to take a sample of such a class from the primary section of the same school. For the remaining subjects, we decided to collect data from different classes at the middle school level rather than from the same class, because we wanted to ensure that the degree of learner participation in the interaction was not influenced by the age, personality factors etc., of any one particular set of pupils.

During our preliminary study which had been conducted during the middle of the school year, we had come across a number of classes devoted to 'testing'. We therefore, decided to collect the data for the main study at the beginning of the school year in the hope that during this period, there would be less emphasis on giving of written tests and therefore, we would be likely to find more of verbal interaction in all the classes.
3.8 The Search for a Procedure for the Analysis of Classroom Data

Having decided that we needed to compare the interaction in different kinds of classes in order to find out which class provides conditions most conducive to language learning, we needed to evolve a procedure for the analysis of classroom interaction which would enable us to make valid comparisons among the classes. As a first step in this search for a procedure for analysis, we tried to specify how classroom talk and activities could reflect the availability of the language learning conditions. Following this, we reviewed the available systems of classroom interaction analysis.

3.8.1 The Language Learning Conditions in terms of Classroom Talk and Activities

On the basis of the experience gained through observations of different classes during the preliminary study, we attempted to describe for ourselves how the language learning conditions would manifest themselves in terms of classroom talk and activities and how the differences in the availability of the language learning conditions could be observed.

Availability of adequate quantities of varied language input data has been found to be one of the conditions necessary for language learning to take place (see chapter II,
section 2.6 for a description of the language learning conditions). To see the extent to which this condition was available in each class, we needed information on the quantity of teacher talk as well as pupil talk (since as we have seen in chapter II, section 2.4.1, peers too can be sources of language input). We also needed information about the variety of language used. To get some information on this, we could look at the variety of purposes and the variety of topics to which the talk in each class is related.

Another language learning condition related to input is that language input should be comprehensible by virtue of being related to familiar contexts, to ongoing events and/or to a non-verbal, physical context. Therefore, we also needed to see the extent to which talk in a particular classroom was related to contexts with which pupils could be expected to be familiar, to ongoing events and activities or to a non-verbal context i.e., the extent to which use was made of objects, pictures, gestures etc., and the extent to which use is made of action directives and instructions which also add to the comprehensibility of language.

Language input must also have 'real' communicative value if it is to lead to language learning. An utterance has real communicative value when it entails a genuine exchange of information, when the speaker uses language to fulfil 'real'
communicative purposes, when language is focussed on message not form, and when language is 'personalized'. Also 'real' communication involves patterns of interaction which differ from those used in traditional classroom settings. Therefore, we needed to find out whether a genuine exchange of information was taking place and whether questions asked by teachers were 'genuine' requests for information or 'pseudo' questions aimed at getting the pupils to 'display' knowledge. We also needed to see the extent to which language was explicitly taught and the degree to which teachers overtly corrected language errors as opposed to errors related to non-linguistic information. The extent to which the teacher's talk was addressed to individual pupils and pupils in small groups could also give us information regarding the degree to which language input was 'personalized', while the nature of the interaction structures in each of the classes could enable us to find out whether the interaction in any of the classes was akin to 'real' communication.

For language learning to take place, learners should also have sufficient opportunities to use language for a variety of communicative functions in real-life communication. To find evidence for the existence of this condition in the classes being studied, we needed information on the amount of pupil talk in each class, on the topics to which pupil talk relates and on the functions for which pupils use language in each class.
We also required information on the communicative value of pupil talk—whether the pupils' focus of attention was towards language forms or whether they could concentrate on the message being conveyed, whether they got opportunities to engage in a two-way exchange of information, i.e., whether they were given opportunities to respond to genuine requests for information, to ask for information, to initiate talk, to make comments etc.

The availability of a supportive non-restrictive, anxiety-free atmosphere has also been seen as leading to active learner involvement and as being related to success in language learning. In order to find out whether the classroom atmosphere was non-restrictive and anxiety-free, we required information on the degree of rigid teacher control and teacher dominance in each class. We could get evidence of teacher control and dominance from the degree of emphasis on turn-allocation procedures, on classroom discipline and order and also from the extent to which the teacher evaluated pupils' responses. Evidence regarding pupils' motivation to use language and their lack of inhibition in doing so could be obtained by finding out the extent to which pupils interacted among themselves and addressed themselves to their peers rather than to the teacher, and the extent to which pupils participated in the interaction as individuals rather than as members of the whole class. We could also get information on the degree to which pupils were free to make use of 'real' language in the class by finding out the extent to which pupil talk was related to those topics
likely to be of more interest and relevance to them, i.e., topics related to their personal life and experience or to activities in which they showed a keen interest. In addition, we could get information about the extent to which the classroom atmosphere was non-restrictive, motivating and anxiety-free by observing the pupils' mood during the class, by seeing the extent to which pupils were free to talk, to move around, by seeing whether they seemed relaxed and seemed to be enjoying the class. The degree to which learners seemed to be actively engaged in a learning task could also provide us evidence regarding the extent of active learner involvement.

3.8.2 Review of Available Systems for Analysis of Classroom Data

In order to analyze interaction data obtained from various classes, we could decide to use a system of analysis which could give us quantified data and enable us to make comparisons about the frequencies of various patterns of interaction in the different classes in our sample. We could also carry out a qualitative analysis of the classroom data in the tradition of field studies, by analyzing data gathered through field notes and analyzing excerpts from transcripts to document conclusions drawn.

However, a review of the various 'schemes' for analysis of classroom interaction data seemed to indicate that both the
procedures had drawbacks. Thus field reports on which a qualitative analysis could be based, tend to have an anecdotal subjective quality (see Mehan, 1978:35; 1979:15, for a review). Further, since such reports have to be based on a few exemplary instances of classroom events or classroom behaviours, there is no way of ensuring that 'convenient' examples have not been either included or excluded. Nor is it possible to determine the representativeness of the instances and the generality of the findings derived from them. For our study however, it was not enough to point out the differences among various classes merely on the basis of a few conveniently-chosen examples - what we needed was to demonstrate that these differences actually existed, and to explain them in terms of the nature of the interaction, the teaching mode etc., in each representative class. We therefore, required retrievable data and we needed to ensure exhaustive coverage of data - in other words, we needed to analyze and compare the entire interaction data in the various classes in our sample to ensure that valuable confirmatory or contradictory examples were not being excluded.

Mehan's "constitutive ethnography" apparently overcomes some of the shortcomings of field studies. However, this approach is focussed on a study of the "social structuring activities that assemble social structures in educational settings" (Mehan, 1979:17). For our study, we were interested
to an extent, in the social structure of each class and in the
patterns of teacher dominance, pupil participation etc., but our
interest was not so much in how these are achieved. We needed
information on several other aspects of classroom interaction as
well - for example, on the nature of teacher-pupil, pupil-pupil
talk -- and the manner in which the interaction makes available
opportunities for language learning.

On the other hand, we found that 'quantification schemes'
in the tradition of systematic observation also have their
limitations. These instruments for systematic observation
generally consist of a pre-specified checklist of the behaviours
which the observer/researcher seeks in the chain of classroom
events and records with tallies at regular time intervals (e.g.,
every three seconds in Flanders' FIAC). The coding has to be
done by observers trained to instantaneously categorize
behaviours as they occur either during the class itself or
later, while playing back a recording of the class.

While we came across several instruments modified from
the original Flanders' scheme (1970), for the purpose of
analyzing language teaching situations (for example, Moskowitz,
cited by Grittner,
1971; Freudenstein, 1977; Nearhood, 1979), none of these seemed
suitable for our purpose either in terms of the categories
they employed or their methods of operation. For example,
categories such as "Teacher Repeats Student Responses,
Verbatim"; "Teacher Asks Questions"; "Silence"; "Silence-AV"; "Confusion; Work-oriented" (Moskowitz, 1971) or "Homework"; "Teacher Language (correct, faulty, wrong)"; "Skills Drilled"; "Student Participation" (Freudenstein, 1977), could not by themselves give us information about the presence or absence in the classroom of the conditions necessary for language learning. We also required some information about the qualitative aspects of the classroom interaction. For example, we needed to know something about the nature of the questions the teacher asks - whether these lead to genuine communication or not - the nature of learner participation, the extent to which classroom tasks are meaningful etc.

Also, as several researchers (for example, Coulthard et al., 1981:3; Mehan, 1979:10; Walker and Adelman, 1975; Edwards and Furlong, 1978:38-45) have pointed out, such systems of observation suffer from several inherent defects. For instance, the use of time as the basic unit of analysis results in utterances and behaviours in the class being interpreted in isolation from the before-and-after context; the sequential flow of interaction being obscured, learners' contributions being minimised, the interrelationship of verbal to non-verbal behaviour being neglected and the functions of language being ignored (Mehan, 1979:14; Walker and Adelman, 1975). Further, it has been pointed out that these systems are more suitable for a traditional
classroom structure in which the teacher's emphasis is on the transmission of knowledge to a group of relatively passive learners (the chief interest in the Flanders and Moskowitz schemes is only in the extent to which this transmission of knowledge is achieved by relatively direct or indirect means). For our purposes however, we could not ignore the interactive features of classroom discourse and we needed to get an understanding of the totality of classroom events rather than merely of isolated utterances. Also, we needed an instrument of analysis which could help us not only to understand the nature of interaction in the traditionally-organised Content Subject or English classes, but also enable us to capture the range of pupil contributions and pupil-pupil interaction - which the preliminary investigation had indicated we would be likely to encounter - in the relatively informal Activity classes.

On the other hand, the 'category systems' (for example, Bellack et al., 1966; Sinclair and Coulthard, 1975; Fanselow, 1977) which attempt to analyze classroom discourse by using a linguistic or discoursal unit seem to be able to capture more adequately the totality of classroom events. The use of a linguistic unit of analysis seems to allow for a much more comprehensive coverage of classroom language and behaviour and seems to make it possible to give equal attention to
pupil contributions. Since these systems of analysis require coding from a written transcript of a class instead of coding in 'real-time', hasty coding decisions and interpretations of isolated utterances are not required and the before-and-after context, which establishes the meaning of an utterance as well as its function in classroom discourse, is taken into account during coding. Use of such a unit of analysis also permits regularities in the patterns of classroom interaction to be examined and compared. Further, such systems enable comparisons to be made between frequencies of occurrence of various categories of language use in different settings.

For our own purpose, we found useful Bellack et.al's (1966) notion of the 'move' as a basic unit for the analysis of classroom discourse. According to Bellack et.al., classroom interaction can be described in terms of four moves. Each utterance or 'turn' is coded for one or more moves depending on the pedagogical purpose being served by each unit in the utterance. The moves thus give us information about the speaker's pedagogical purpose - whether he is structuring the class discussion by focussing attention on a topic or problem, soliciting a response from the addressee, responding to a solicit by a previous speaker or reacting to a previous utterance. Since any of these moves can be coded for teachers and pupils alike, we felt that the use of such a discoursal unit could
give us information about the nature of the teachers' as well as pupils' contributions to the discourse, the range of purposes for which teachers and pupils use language, as well as some information about teacher-pupil roles in each classroom—whether for instance, pupils in the class only make responding moves or also make structuring, soliciting and reacting moves.

However, since Bellack uses the framework of these four categories for a content analysis of the "dimensions of meanings" being communicated in the classes on 'International Trade' which form the data for his study, the rest of his categories did not seem to be relevant for our purposes.

Sinclair and Coulthard's system of analysis (1975) provides an even more detailed and comprehensive description of the structure of spoken discourse in the classroom, and attempts to analyze the hierarchical patterning of discoursal units from the highest unit, the lesson, through the transaction, the exchange and the move to the lowest unit, the act. However, since our purpose was not merely to analyze the structure of classroom interaction, we did not need as detailed an analysis of discourse as that provided by Sinclair and Coulthard's system. What we needed was a means of analyzing classroom data which would enable us to understood the interactive events in the classroom and the nature of the language learning opportunities made available through these events. For our purposes therefore,
it was sufficient for us to adopt the 'move' as a unit of analysis to ensure complete coverage of data and to enable us to understand the pedagogical function of both teacher and pupil talk.

The system which seemed to provide for our study, the most suitable kind of description of a classroom was Fanselow's (1977) "FOCUS" (Foci of Observing Communications Used in Settings). For, Fanselow, using Bellack et.al.'s 'move' as his basic unit of analysis, attempts to use precisely-defined terms to describe a classroom in terms of its chief characteristics of "communication". It seemed to us that the categories used by Fanselow to characterize the nature of communication in the classroom (i.e., the pedagogical purpose or move, the source of communication, the mediums used to communicate content, how the mediums are used to communicate areas of content, what content is communicated), could perhaps be modified and/or expanded for our purposes, since we too were interested in what kinds of purpose or functions were being fulfilled by each move, what kind of content the utterances related to, whether use was being made of non-linguistic mediums etc.

3.9 The Development of the System of Analysis

Our review of the available systems for analysis of classroom data seemed to indicate that no matter which coding system we used, the complexity of the classroom could not be fully
captured, or described by any quantitative system of analysis and a great deal of information potentially useful to us may be obscured by the use of such a system. Therefore, as long as we attempted to use any kind of discrete categories for data analysis, we would not be able to get an adequate account of such aspects of the classroom as the physical setting, the general atmosphere, the extent and nature of pupil involvement etc.

Since neither of the approaches available - the quantification schemes or the qualitative descriptions - seemed by themselves, adequate to capture the full flavour of classroom events, compare the quality of interaction in each class and to make meaningful and valid generalizations about the availability of language learning conditions in different classrooms, we decided to use a combination of quantitative and qualitative approaches for our study. We decided to use a system for classroom interaction analysis which would give us information about the frequency of occurrence of certain categories relevant to our study, and supplement and illustrate this information with excerpts from transcribed classroom data and a descriptive account of each class obtained through extensive field notes. In this regard, it seemed that the appropriate approach for our study could be that followed by Barnes (1971) in his study of language in secondary classrooms. Barnes provides a qualitative
analysis of classroom data as well as some quantitative information on the basis of certain categories which were revised during the actual analysis and thus emerged not merely from a pre-determined theoretical standpoint but from the data itself.

In order to develop a system for the quantitative analysis of the classroom data in our study, we then examined Fanselow's (1977) system of analysis carefully, to find out the extent to which we could use his categories of analysis to obtain the information we required about the presence of the language learning conditions in each of the classes being studied.

1. Who communicates?  
2. What is the pedagogical purpose of the communication?  
3. What mediums are used to communicate content?  
4. How are the mediums used to communicate content?  
5. What areas of content are communicated?

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Linguistic</th>
<th>Characterize</th>
<th>Life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual student</td>
<td>to solicit</td>
<td>non-linguistic</td>
<td>present</td>
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<tr>
<td>Group of students</td>
<td>to respond</td>
<td>para-linguistic</td>
<td>relate</td>
</tr>
<tr>
<td>Whole class</td>
<td>to react</td>
<td>re-present</td>
<td>Subject matter</td>
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Poci for Observing Communications Used in Settings (Fanselow, 1977)
We felt that we could use most of Fanselow's broad categories for analysis since we did need to get information about the source of each utterance, the pedagogical purpose of each utterance, the mediums used and the areas of content. Information about the source of the move could give us an idea regarding the amount of teacher talk versus pupil talk in each class. This category could also give us information regarding the extent to which pupils get opportunities to speak as individuals or as members of the whole class. However, we also needed to find out to whom each utterance was addressed so that we could know whether the teacher addressed herself to an individual pupil or the whole class, whether the pupils addressed the teacher or each other and so on. Therefore, we decided to add another broad category of analysis to obtain information about the addressee for each move. This category could give us information regarding the extent to which input in a class is directed at individuals rather than the whole class. It could also tell us whether pupils get opportunities to interact with each other or whether they only address the teacher.

As we had decided earlier, the move category could be used as the basic unit of analysis. The coding of each utterance into moves could enable us to talk about the quantity of verbal interaction available in a class in terms of the total number of moves. However, we had to decide on which move structure
to adopt - Bellack et.al.'s (1966) 4-part structure (STRUCTURE-SOLICIT-RESPOND-REACT), which Fanselow (1977) also uses, or Sinclair and Coulthard's (1975) 3-part structure (INITIATION-RESPONSE-FEEDBACK). We started by trying out Sinclair and Coulthard's 3-part structure on several extracts of classroom data which we had transcribed after the preliminary study. However, when we tried out this structure on the data, we encountered many utterances which seemed to be preparatory and which we felt could not really be termed 'Initiations'. For example, there seemed to be many instances in the data, when a teacher devoted some time to explain what he would do next, how he would structure the lesson, what the pupils were expected to do, or simply gave some information about the subject which did not call for any kind of response move and in that sense, did not seem to be initiating moves. Such utterances we felt, could be coded as 'Structuring' moves according to Bellack et.al.'s framework. We therefore decided to adopt Bellack et.al.'s 4-part move structure.

While the move category could tell us about the broad pedagogical function of each utterance, we also needed some additional information about the purpose being fulfilled by each move. Therefore, we decided to include sub-categories under each move. These sub-categories could give us an idea of the range and variety of purposes being employed in each class. Since we
were concerned with the functions of classroom talk which like all talk is multi-functional, the sub-categorization presented quite a problem. Our categorization could be very detailed - in which case an almost endless list of sub-categories could emerge - or we could use broader sub-categories and code only the most obvious (from the context) purposes of each utterance. After going through extracts of classroom data, we arrived at a list of classroom functions which we could use as sub-categories under the move category. We thus introduced the sub-categories of 'giving information' and 'giving instructions' under the Structure move, the sub-categories of seeking/providing a physical action, seeking/providing attention, seeking and giving turns, seeking/providing 'known' information, seeking/providing 'unknown' information, under the Solicit/Response Moves and the sub-categories of 'acknowledging', 'evaluating' and 'commenting' under the React move. (For definitions and examples of each category, see the System of Analysis presented below.) These categories would give us information regarding the use of action directives, the use of display questions versus genuine questions and thus enable us to see the extent to which language in the class is comprehensible, and has communicative value. These sub-categories could also tell us about the nature of the interaction patterns being used in each class - whether pupils only respond to teacher's Solicits or also initiate utterances, ask questions, comment on previous moves,
whether teachers only evaluate pupil responses or also acknowledge them and comment on them as may happen in real-life. Such information could also enable us to see whether the discourse patterns employed are akin to those of real-life or are similar to the patterns used in traditional classes.

Fanselow's medium category could help us obtain information regarding the use of non-linguistic or para-linguistic means to support language and make it comprehensible. However, for our purposes, we did not feel the need to distinguish between non-linguistic and para-linguistic mediums. On the other hand, we noted instances in the data used for the preliminary analysis, when only non-verbal means were used to convey a message. At the same time there were also instances when the verbal and non-verbal channels were used together. Such instances could help us to ascertain the extent to which the language to which the learners were exposed would be likely to be comprehensible. Therefore, we decided to use the categories verbal, non-verbal and 'verbal + non-verbal' (i.e., verbal accompanied by non-verbal).

Also useful for our purposes seemed to be Fanselow's category for areas of content. Content categories could give us an idea of the topical range of the input available as well as the degree of emphasis placed on a particular topic or content area in each class. However, this was again a category which could be sub-classified in various ways. Our purpose was
to see the extent to which the focus of attention in each class was on language, or on subject matter content, the extent to which language was used in relation to ongoing activity or routine classroom procedures and the extent to which opportunities were available for talk related to real-life situations. The extent to which the focus of attention in each class was on language rather than message could indicate to us whether or not the classroom talk had communicative value. The degree to which the focus was on ongoing activity or on topics related to life outside school could also provide information regarding the extent to which pupils were given opportunities to talk about topics likely to be of interest and relevance to them.

The System of Analysis as it finally emerged, is presented below together with operational definitions, examples for each category, and symbols used in coding.
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<tr>
<td>or the source of the move</td>
<td>or the person(s) at whom the move is directed</td>
<td>The channel of communication</td>
<td>The function served in the classroom by each move</td>
<td>The focus of attention for the move</td>
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**TEACHER (T)**

Moves for which the teacher is the speaker

---

**TEACHER (T)**

Moves directed at the teacher. Pupils' responses when solicited by the teacher are coded as being addressed to the teacher, even though the rest of the class may hear the response and react to it.

---

**TEACHER (T)**

Moves which serve to prepare for the setting of tasks and activities. Involves giving of information or giving of instructions.

---

**VERBAL (V)**

Use of language spoken or written. Includes use of the blackboard when it is used for writing of words, sentences etc.

---

**STRUCTURING MOVE (STR)**

Moves which serve to prepare for the setting of tasks and activities. Involves giving of information or giving of instructions.

---

**Giving information (Inf.)**

Giving information or giving an explanation related to the setting of the task or activity or to the subject matter under study. e.g.,

T: Today, I'm going to ask you questions on the previous lesson.

---

**Giving Instructions (Instr.)**

Giving instructions related to the setting of the task or activity. e.g.,

T: First you must finish the work you started yesterday - after that you can do the stitching.

---

**SOLICITING MOVE (SOL)**

Moves which set tasks or call for a verbal responses. May involve seeking physical action, seeking attention, seeking and giving turns, seeking 'known' information, or seeking 'unknown' information. Includes all questions, commands, imperatives and requests. Also includes bids and prompts in the case of resolicits.

---

**Seeking an Action (Act.)**

A request or a directive to perform a physical action. e.g.,

(a) T: Sit down.
(b) P: Take out the mustard seeds - they're in that cupboard.

---

**Seeking Attention (Attn.)**

Asking the addressee to attend to what the speaker is saying or to the task at hand. e.g.,

(a) P: What, will you see this?
(b) T: Quiet, listen.

---

**Seeking and giving turns (Turn)**

Moves related to turn-taking procedures. Includes bids for a turn when the addressee is being solicited to nominate the next speaker as well as invitations to bid for a turn. e.g.
|------------|-------------|------------|------------------------|---------|
| INDIVIDUAL PUPIL (p) | INDIVIDUAL PUPIL (p) | NON-VERBAL (NV) | (a) T: What are sedimentary rocks?  
P: (raising hands) Ma'am, ma'am.  
(b) T: Who can tell me the answer?  
Seeking 'known' information (kn).  
Relates to 'pseudo-questions' to which the speaker knows the answer and to which he expects a definite answer, i.e., questions, aimed at getting the addressee to 'display' his knowledge. Includes instances where the speaker calls for repetition of words, phrases, sentences etc., with the intention of drilling these.  
T: (Stands in front of the blackboard) Where am I standing?  
Seeking 'unknown' information (ukn.).  
Questions aimed at getting genuine information which the speaker does not possess. Includes instances where the speaker seeks an opinion or a comment from the addressee, seeks clarification about the previous utterance, seeks confirmation that the previous utterance has been understood etc.  
(a) T: Have you done your homework?  
(b) P: (to another P) Do you have black thread?  
(c) T: What do you think of this poem?  
RESPONDING MOVE (RES)  
Performing the task or giving the answer required by the speaker in the soliciting move. May involve performing of the action required, providing the required attention, giving and seeking turns, providing the 'known' information required, providing the 'unknown' information required.  
Performing the action required (Act.)  
Performing the physical action called for in the soliciting move.  
Providing the required attention (Attn.)  
Providing the attention called for in the soliciting move e.g., keeping quiet, attending to the task, etc.  
Giving and seeking turns (Turn)  
Refers to bids for a turn when these are in response to the teacher's invitation to bid, or to nominations to speak when these are in response to a pupil bid for a turn.  
P: (raising hands) Ma'am, ma'am.  
T: Yes, Suresh.  
PROCEDURE (Proc.) | All instances during which the focus is on the social organization of the classroom and/or on the management of routine classroom activities such as calling roll, maintaining discipline, giving or responding to routine classroom instructions etc.  
ACTIVITY (Activ.) | All instances during which the focus is on performing, either individually or in groups, a specific practical activity, doing something - e.g., making tea, making a toy, making photographic prints, trimming a plant etc. |
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<tbody>
<tr>
<td>GROUP OF PUPILS (PP)</td>
<td></td>
<td></td>
<td>Providing the required known information (kn.)</td>
<td>LIFE (Lif.)</td>
</tr>
<tr>
<td>Moves for which a group of pupils - i.e., more than one pupil but less than the whole class - is the speaker or source.</td>
<td></td>
<td></td>
<td>Providing the information called for in the soliciting move when this information is known to the speaker of the previous soliciting move. Refers to responses to pseudo-questions. Includes instances when words, phrases etc., are repeated in a 'drill' as required by the previous speaker. Also includes instances when the information provided is incorrect/incomplete. e.g.,</td>
<td>All instances during which the focus is on matters which concern the interests, opinions, feelings etc., of the speaker or addressee, and are related to their personal, familiar life and experiences rather than to the immediate teaching situation.</td>
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<td></td>
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<td>T: What is the spelling of 'ball'? P: B-O-L-L.</td>
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<tr>
<td>GROUP OF PUPILS (PP)</td>
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<td></td>
<td>Providing the required unknown information (ukn.)</td>
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<tr>
<td>Moves directed at a group i.e., more than one individual but less than the whole class. Includes moves addressed to a group where the rest of the class and/or the teacher are 'hearers'.</td>
<td></td>
<td></td>
<td>Providing the information called for in the previous soliciting move when this information is unknown to the speaker of the soliciting move. Refers to responses to genuine questions. Includes instances when the speaker provides a comment, a clarification or a confirmation as required by the previous speaker.</td>
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<td>REACTING MOVE (REA)</td>
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<td>Moves which are occasioned by previous moves but are not directly elicited by them. Serve to acknowledge a previous move, evaluate it or comment on it, when these acknowledgements, evaluations or comments are not directly called for by the previous speaker.</td>
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<td>Acknowledging (Ack.)</td>
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<td></td>
<td>Moves which serve to acknowledge an earlier action or the information given, sought or provided in any of the earlier moves. Does not involve evaluation or judgement of any kind. e.g.,</td>
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<td>T: Do you know where the chalk is? P: It's here. T: Thanks.</td>
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<tr>
<td>WHOLE CLASS (PPP)</td>
<td>WHOLE CLASS (PPP)</td>
<td>MOVESuttered in chorus i.e., moves in which the whole class participates.</td>
<td>Evaluation (Eval.)</td>
<td>OTHER (O)</td>
</tr>
<tr>
<td>WHOLE CLASS (PPP)</td>
<td>WHOLE CLASS (PPP)</td>
<td>MOVES addressed to the whole class. The whole class may include the teacher when a pupil is the speaker.</td>
<td>Moves which serve to evaluate an earlier action or the information given, sought or provided in any of the earlier moves. Includes both positive and negative judgements which may be explicit or implicit and may be expressed through repetition, expansion, modification etc., of the earlier speaker's utterance. e.g.,</td>
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<tr>
<td>WHOLE CLASS (PPP)</td>
<td>WHOLE CLASS (PPP)</td>
<td>[a] T: Yes, good. [b] T: Which is the capital of India? P: New Delhi. T: The capital of India is New Delhi.</td>
<td>Commenting (Com.)</td>
<td>All instances which do not fit into any of the other topic categories.</td>
</tr>
<tr>
<td>WHOLE CLASS (PPP)</td>
<td>WHOLE CLASS (PPP)</td>
<td>MOVES serve to provide information, regard ing an earlier utterance, an action or event and/or reflect the speaker's personal opinions, ideas, feelings, etc., about what is conveyed in the preceding move. e.g.,</td>
<td>T: What is the time? P: 1.30. T: 1.30! So that means we don't have much time.</td>
<td></td>
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</tbody>
</table>
For this system of analysis, the basic unit of analysis is the move. Move boundaries and move types are determined by the pedagogical function of each utterance or part of the utterance (since one utterance can be coded for more than one move). All the five columns in the System of Analysis are used for coding each move. (See Appendix I for details about the Rules for Coding which were evolved during the preliminary try-outs of this system and were adopted to ensure consistency in the coding of the entire classroom data.)

The categories in this final version of the System of Analysis emerged from actual classroom data and were not developed merely on the basis of our theoretical standpoint regarding the language learning conditions. During the development of this system, categories derived from our description of the language learning conditions were tried out on eight transcribed extracts of classes recorded during the preliminary study, and modified as necessary. Thus an effort was made to ensure that the data was not forced into pre-determined categories but that the categories were derived from actual classroom interaction data. To ensure that the categories used were meaningful, the final version of the System of Analysis with the operational definitions and illustrative examples was discussed with a group of researchers (who were also experienced teachers). These researchers felt that the
categories could be used to describe the classes which they had experience of, and for many of the categories, they themselves were able to supply examples from their own experience. This version of the system was also tried out on some more extracts of classroom data and at this stage, to ensure consistency of coding, Rules for Coding were developed and discussed with fellow researchers. We found that the final version of the system could account for all the data on which it was tried. Further, it could be used for different kinds of classes - the traditional classes such as English, Social Studies, Science, Maths as well as the relatively informal Activity classes (as long as a written transcript was available of these classes).

3.10 The Procedure for Data Collection and Classroom Observation

In deciding upon the procedure to be adopted for classroom observation and data collection, our experience during the preliminary study was very useful. The abortive attempt to record classes during the preliminary study had made it abundantly clear to us that in order to obtain a reasonably complete transcription of the classroom interaction, we would need to supplement the audio-recording with extensive field notes particularly because Activity classes in which there is a great deal of physical activity, formed part of our data.
(Unfortunately it was not possible for us to arrange for video recording of these classes.) We decided therefore, to seek the assistance of an additional observer to supplement the field notes we would be making on the following aspects of the classroom interaction:

- the pupils' contributions - since we knew from our earlier experience that these were often inaudible in the recording.

- the teacher's contributions where the observers felt the tape-recorder may not have captured an utterance either because her voice dropped too low or because she had moved away from the tape-recorder.

- information about the addressee for the teacher's and pupil's utterances.

- information about the subject being taught, the classroom events.

- significant actions, gestures and references to concrete objects and ongoing actions accompanying both teacher talk and pupil talk.

- writings and diagrams from the blackboard.

- accounts of any apparatus or other visual aids in use.

- descriptions of the classroom setting, seating arrangements, general atmosphere, pupil mood, the general mode of teaching etc.

These field notes could enable us to supplement the recording and prepare a transcript and also to get whatever additional information we required to enable us to use the System of Analysis (e.g., information about the addressee,
information about the context which would enable us to make inferences about the speaker's intentions before coding pedagogical function etc.). The field notes, particularly the description of classroom events, pupil mood, general atmosphere and so on, would also aid us in presenting a qualitative analysis of each class.

In the light of the problems faced in recording classroom data during the preliminary study, we also took certain decisions regarding the procedure for recording Activity classes. In these classes, we had observed that a great deal of private interaction tends to occur among pupils in smaller groups and even between the teacher and individual pupils. Since it was possible for us to record the interaction only in one group at a time, we decided that one of the two observers would sit with the group for which the interaction was not being recorded and make notes of as much of the interaction as possible. The transcripts were to be prepared mainly from the audio-recording of the interaction in the group where the tape-recorder had been placed, and the notes of the interaction in the other group, were to be incorporated into the transcript. We were aware that we may miss some of the interaction through such a procedure but with the unsophisticated recording equipment available to us, this appeared to be the best possible solution.
3.11 Conclusion

In this chapter, we reported the preliminary investigation that was carried out to explore the nature of interaction in various classes in the school curriculum, presented the hypotheses of the main study, described the procedure for conducting the study and presented the System of Analysis used for comparing classroom interaction in different classes in terms of the opportunities they make available for language learning. In the next chapter, we shall present the report of our empirical study and the quantitative and qualitative analysis of classroom data. We shall then compare the different classes in our sample in terms of the availability of the language learning conditions and present the main findings of the study.

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