READING-RELATED ACTIVITIES OF SIX DOWN'S SYNDROME CHILDREN MAINSTREAMED IN NEW ZEALAND PRIMARY SCHOOLS

- An Observational Study

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Abstract

Six young children with Down's Syndrome, mainstreamed in state primary schools, were observed in three school reading-related settings. Videorecordings, running records, informal interviews and questionnaires were used to gather information about the quantity and type of teacher questions, interactions and reinforcement directed to subjects and other pupils. Data about the subjects' responses, participation patterns, and reading-related activities at home, were included. While not prescriptive, this information was intended to provide useful initial strategies for future teachers of such mainstreamed pupils.

More than twice as many questions and interactions were provided for Down's Syndrome children to respond to than their peers. The types of interactions and reinforcement were related to subject expectation level in small group settings, and to the self-motivation level of subjects in large group settings. Preferred reading-related activities under free choice conditions and at home, were also related to subject expectation level. Parents valued and encouraged reading skills, and reported that all subjects liked books and reading. Verbal responses were elicited more frequently through individual than general questions and interactions.

Teachers interacted more frequently with Down's Syndrome children than other pupils, to increase their active participation in the task, and thereby improve

their learning. In large group settings this sometimes included giving the subject a specific task to maintain motivation. Further investigation is required to assess whether increased active participation in reading lessons does, in fact, lead to improve reading ability.

Introduction

One of the 'hottest' topics of debate around New Zealand school staffrooms during recent years is that of 'Mainstreaming'. This term generally refers to the concept of integrating special needs pupils into regular classes rather than educating them in segregated facilities, away from their 'normal' peers.

A common misconception held by the public and by some teachers is that mainstreaming is, in effect, 'maindumping'; that every special needs child with any form of handicap will be placed in a regular class in the local state school, regardless of ability or individual need. There are in fact several forms of mainstreaming, as can be seen later in this introduction, so that placement of handicapped children in regular classes will not be the only option.

One particular fear expressed by many teachers and members of the public is that the mainstreaming of intellectually-handicapped pupils can in some way lessen the learning opportunities for their non-handicapped peers, who therefore 'suffer' from mainstreaming. This concern is expressed, for example, through public opinion polls. A recent Heylen poll (reported in The Press, 9th February 1988, p.2) of 1500 respondents indicated that 79% of those polled approved of the mainstreaming of physically handicapped children compared to only 32% who approved of the mainstreaming of intellectually handicapped children. In addition, 47% of respondents stated that they disagreed with mainstreaming this latter group.

It is apparent that mainstreaming is currently a controversial topic in New Zealand education. The study was designed to gather information about six mainstreamed intellectually handicapped (Down's Syndrome) children, who have been placed in normal classrooms, their non-handicapped peers and their teachers. There is a lack of research about the specific interactions that occur between the teacher and handicapped pupils, and the ways in which they differ from those between the teacher and non-handicapped pupils. To help prepare teachers who may teach such pupils at a later time, it would be useful to know whether teachers of currently-mainstreamed Down's Syndrome children are questioning and interacting with handicapped pupils more or less than with other children, and whether these questions and interactions are of a different type for the two groups. If so, the different treatment of handicapped and non-handicapped pupils may suggest differences that teachers in the study have found to work well, and which may help other teachers to find useful interaction patterns for other handicapped children, without too much trial and error.

Down's Syndrome children were chosen as subjects of this study for several reasons. The involvement of these children in early intervention programmes, set up to minimise the development delay of pre-school Down's Syndrome children (e.g. Champion, 1982), has led their parents to lobby strongly for their children to be educated in regular schools. As a result, several cohorts of children with Down's Syndrome are now enrolled in regular classes around New Zealand, taught alongside their non-handicapped peers by

teachers who have usually received minimal or no training to work with handicapped children. Perhaps some of the fears and concerns of these teachers could be at least partially allayed by knowledge about the ways in which the six teachers in this study question, interact with and reinforce the responses of mainstreamed Down's Syndrome children and their peers.

Various studies (see below) have shown that children with Down's Syndrome have the ability to acquire reading skills. Teachers of Down's Syndrome children are likely to endeavour to maximise their learning opportunities in reading-related settings, since observable progress may result. It was therefore decided to collect information about the interactions and activities of the teacher, the Down's Syndrome children and their non-handicapped peers in three classroom settings in which reading took place. This was also related to reading behaviour in home and community settings.

The remainder of this chapter will deal with the following:

- a definition and history of mainstreaming;
- research on academic and social differences between mainstreaming and segregated education;
- the reading acquisition of children with Down's Syndrome;
- the nature of the three reading-related settings used in this study (Group Instructional Reading, Shared Reading and Developmental Learning).

Definition and History of Mainstreaming

The literature uses two terms; 'mainstreaming'

and 'integration' to refer to the same educational procedure. In New Zealand the former term is used to avoid confusion with 'integration' which refers to the merging of certain private schools into the state system under the Private Schools' Conditional Integration Act, 1977.

Macmillan, Keogh and Jones (1985) state that:

> "the term 'Mainstreaming' is an educational corollary to the Scandinavian principle of 'normalisation'. Normalisation suggests that disabled people be exposed to, and placed in environments that approximate normal environments to the maximum extent possible in the light of their disability" (p.706).

Impetus for the move towards the integration of handicapped children into regular education systems grew from the civil rights movement in the United States, of the 1960s. This push led to the enactment of legislation (Public Law 94-142) in 1975 which made it mandatory for educational authorities to provide free appropriate education to all handicapped children between three and 17 years of age, in the 'least restrictive environment'. While this least restrictive environment might be for some a separate special education facility, the implication was that for many it would be some form of integration within a regular school.

In the United Kingdom statutes were also passed which support the concept and principles of integration, but in New Zealand there is presently no special provision in law for the education of special needs children. However, the Department of Education has put mainstreaming into practice for some years, and in 1987 circulated a draft review of special education which outlined possible future policies in this area. A major concept was the reallocation of resources on the basis of individual need, rather than by category of

handicap. This could lead to the provision of professional support for regular teachers of mainstreamed special needs pupils, funded through disestablishment of some segregated special educational facilities.

One of the important points to be raised in the Draft Review of Special Education (1987) is that the Department of Education operates three cumulative types of mainstreaming, the definitions of which are:

> "LOCATIONAL MAINSTREAMING, made possible when a special and regular educational programme share the same site offering at least some social contacts;
>
> SOCIAL MAINSTREAMING, allowing also planned interaction between special education and regular students;
>
> FUNCTIONAL MAINSTREAMING, educating students with handicaps in regular classes for part or all of their time" (p.19).

It is functional mainstreaming which most people tend to think of when they refer to the topic. The six children in this study are partially or fully functionally mainstreamed within the New Zealand state primary education system.

Why Mainstream, and What does the Research Say?

Two main benefits of mainstreaming are often claimed by those (e.g. parents and teachers) involved in the process. These are improved academic skills, and improved social skills. The former usually refers to the acquisition of concepts, knowledge and skills which will facilitate the

child's later ability to exercise control over the world around him/her. The latter refers to the experiences the child has through working and playing with non-handicapped children, rather than exclusively with other handicapped children. The 'normal' peers provide appropriate models for the mainstreamed child to learn from, and the non-handicapped children learn to accept individual differences.

Such is the theory. But does this actually happen? Research into academic differences between special and regular class education has obtained mixed results, with no clear indication that special education has advantages over mainstreaming in regular classes.

In reviewing the early (pre-1960's) studies on this topic, Macmillan et al (1986) pointed out the problems with sampling bias which existed in these studies. Handicapped children who were placed in regular classes tended to be more capable academically than their counterparts who were placed in special classes. This led to results which were unlikely to favour special class placement (e.g. Elenbogen (1957); Thurstone (1959).

More recent studies (e.g. Kaufman, Gottlieb, Agard and Kukic (1975); Budoff and Gottlieb (1976); Espiner et al (1984) have found no greater academic achievement of intellectually handicapped children in special classes than of those in regular classes. In their extensive Project PRIME, in which large samples were used, Kaufman et al (undated) also found that special class and mainstreamed educable mentally retarded (EMR) children performed similarly, but at a lower level than the regular class controls.

There have been two main types of research on social

adjustment of intellectually handicapped children in special and regular classes: research concerned with the self-concept and with sociometric status.

Budoff and Gottlieb (1976) found no difference in self-concept scores of EMR children in regular and special classes, and this was also the finding of Walker (1974). Carroll (1967) found that fully and partially-integrated EMR children score more highly on self-concept measures than those in special class settings. Macmillan et al (1985) speculated that this may be related in some way to the reference group with which the child is comparing him/herself, and that it is therefore dependent on the child's sociometric status within the class.

Mainstreaming per se does not appear to improve the social status of EMR children. Macmillan et al (1985) cite a number of studies (e.g. Gottlieb, 1981; Gottlieb and Davis 1973; Deschler et al (1980); Bryan (1982)) which show lower social status for mainstreamed EMR children than their 'normal' peers. The complex nature of social structures is further complicated by issues of stages of development, personality factors and gender.

Acquisition of Reading Skills by Down's Syndrome Children

The research has found: (a) no evidence of significant academic differences between handicapped children in special and regular classes, and (b) that academic achievement is below that of regular class control children. However, the current move towards teaching to children's individual needs implies that each child, handicapped or non-handicapped,

should be educated towards reaching his/her potential, regardless of the achievement of others.

One academic skill which has been included in some of the research (e.g. Rodee, 1971; Walker, 1974) is reading. While methodological problems in such research have led to doubts that mainstreamed children in these studies achieved better than special class children, there is a growing body of research to show that Down's Syndrome children have the ability to acquire reading skills.

Studies demonstrating their ability in word recognition have ranged from laboratory studies (Jackson, 1974; Sidman et al 1974) to a peer tutoring programme (Cooke et al, 1982). Brown et al (1972) demonstrated that two Down's Syndrome children aged 5.9 and 5.0 years could be taught to read six nouns and 12 adjective noun phrases according to a definition of 'observable motor responses to printed stimuli'. Folk and Campbell (1978) tested the generalisablity of Brown's sight word recognition skills on a further group of Down's Syndrome children (aged 6-7 years) and found that a simple class-based instructional programme led to gains of up to 132 sight words at 100% accuracy over three months.

Among studies which provide evidence that Down's Syndrome children can recognise words and can read for meaning at some level, are Sidman and Cresson (1973); Pieterse and Center (1984); Lorenz et al (1985) and Irwin (1987). The last of these studies was based on a population of 21 Down's Syndrome children aged 9.6 years to 11.6 years

who were mainstreamed in Auckland primary schools. Seven of these children could recognise their own name or a few words, five were reading early New Zealand reading books (5 years to 6 years reading level), and nine were at a reading level of 7.8 years to 10.0 years, as measured by the Neale Analysis test.

Rhodes et al (1969) found in a longitudinal study of ten hospital-raised Down's Syndrome children that their need for a structured reading programme grew from a language enrichment programme. The children were independently extracting meaning from print without needing to refer to accompanying pictures. Rhodes described reading as a vehicle through which receptive and oppressive language could be taught.

The idea that expressive language can be developed in Down's Syndrome children through reading is an exciting one, and one which Buckley (1985) has utilised in her Portsmouth project. Eleven children involved in this home-tutoring programme improved their reading both in terms of voluntary extension and in oral fluency. One case was documented in The Times Educational Supplement under the title 'The Fairy Tale that came True for Joanna' (Wood, 1984), thus bringing the programme to the attention of the British public.

Reading Settings in New Zealand Primary Classrooms

If children with Down's Syndrome have the potential to acquire reading skills, then it would seem valuable to examine what is occurring in reading settings in those

classes where Down's Syndrome children have been placed.

New Zealand primary teachers use a variety of different methods of teaching reading. Two types of reading lesson commonly used are Group Instructional Reading and Shared Reading. These are described below:

Group Instructional Reading

Pupils are grouped according to reading ability, with usually up to ten pupils per group. Each group meets daily with the teacher for approximately 15-30 minutes while other groups work on follow-up activities or reading games. Every child in the group is issued with a copy of the text.

Before reading the text the teacher may briefly outline the story with the children's help, using pictorial cues. She/he may introduce and discuss the topic by relating it to the children's own experiences. In this way, pupils are more likely to be able to make intelligent guesses about unknown words, using contextual cues together with their knowledge of the topic.

Children read and discuss the story together with the teacher, as requested. The teacher raises points about the grammar, vocabulary etc. throughout the story, and may elaborate teaching points through the use of a small blackboard. Questions and comments are directed to individual children and to the group throughout the exercise. At the conclusion of each session, children are assigned tasks relating to the story.

Shared Reading

All class members sit (often on the mat) where they can see a single book held by the leader (usually the teacher). This may be an enlarged book so that the text can be seen and read by all pupils. The leader reads the story aloud, stopping to elaborate on various teaching points, to ask questions, to make comments and give explanations, etc. Pupils are encouraged to join in, to read aloud when they feel comfortable to, and to listen at other times. These lessons are often taken daily in the junior school, and usually last for up to 25 minutes, depending on the length of the book.

Developmental Learning sessions are further school 'lessons' in which reading-related activities can take place. Teachers provide a range of activities and equipment and allow children to pursue activities of their own choice. These activities are often exploratory or experimental in nature, and may be individual or co-operative.

Reading-related developmental activities can include reading alone, reading to and/or with others, playing word games alone or co-operatively, following written instructions, etc.

The Purpose of this Study

The present study examined the interactions of six Down's Syndrome children with their teachers, compared to the teachers' interactions with other children in the Group

Instructional Reading and Shared Reading settings described above. It also described the preferred activities of each subject during Developmental Learning periods and at home.

Rietveld (1986) carried out a study of Down's Syndrome children in classroom settings. She analysed the number of questions and group, individual and total instructions directed to Down's Syndrome children compared to their peers, collected over a range of different classroom activities. She found that Down's Syndrome children were asked more questions and given more instructions than contrast peers. The present study made a similar comparison within reading settings to determine the level and type of teacher attention given to the subjects compared to their peers, since one of the concerns about mainstreaming policy is that the mainstreamed child receives a greater share of the teacher's time than other children.

Reading settings were chosen because, given the importance of reading skills to later life as perceived by teachers and parents of Downs' Syndrome children (Lorenz et al, 1985), and since it is known that these children can acquire such skills to some degree, there seemed to be a need for research which systematically analysed the interactions between teacher and children, which may or may not facilitate the learning of reading.

Over time, teachers develop methods of teaching which they perceive to optimise the learning opportunities for their pupils within the reasonable limitations of each learning environment. By observing the type and

amount of different interactions between the teachers in this study and their Down's Study pupils, it is possible to identify those which these teachers have come to use with these children, which may differ from those used with other pupils. The identification of any trends may enable future teachers of mainstreamed Down's Syndrome children to prepare themselves more thoroughly for the differential input which may be required for these children compared to their non-handicapped peers. Each instance of mainstreaming will require a different approach, based on the particular individuals' needs. But by knowing what has worked in similar situations, new teachers of Down's Syndrome children may feel more secure to experiment from a general starting point, rather than floundering without any guidance. It is likely that optimal interaction patterns will then be found more quickly, than if such guidelines had not been known. Such preparation should facilitate the teaching of reading to Down's Syndrome children, and allow teachers to refine their methods of working with such children to improve their reading skills, since these may differ from methods of working with non-handicapped pupils.

A further purpose of the study was to find out whether Down's Syndrome children made verbal or non-verbal responses, and to examine the verbal reinforcement that the teachers directed to Down's Syndrome children and their peers, since praising/thanking pupils for their responses has been found to correlate positively with achievement (Wright and Nuthall, 1970).

Specifically, the following research questions guided the study:

(a) Do any differences exist in the quantity and type of questions asked of the Down's Syndrome children and their peers during Group Instructional Reading and Shared Reading sessions?

(b) Do any differences exist in the quantity and type of interactions initiated by teachers to the Down's Syndrome children and their peers during Group Instructional Reading and Shared Reading sessions?

(c) Do any differences exist in the reinforcement given to the Down's Syndrome children and their peers by their teachers during Group Instructional Reading and Shared Reading sessions?

(d) Do the Down's Syndrome children tend to respond verbally or non-verbally to group and individual questions and interactions?

(e) What, if any, are the reading-related activities chosen by the Down's Syndrome children during Developmental Learning Sessions, and do these relate to their preferred activities at home?

(f) Are the factors above related to the level at which parents and teachers expect the Down's Syndrome children to perform?

Method

Subject and Settings

Six children with Down's Syndrome who were attending their local Canterbury primary school alongside non-handicapped peers were the subject of this study. They were representative of the 23 children with Down's Syndrome mainstreamed in Canterbury schools.

Five of these children (two girls and three boys) were functionally mainstreamed on a full-time basis, while the sixth child (a boy) attended his local school only on Fridays; for the rest of the week he attended a special school.

Class Composition

All six children were placed within the junior school area (N.E.-J.3) although the composition of classes varied from school to school. For instance, in one school the class was N.E.-J1, whilst in another the class was composed of J3 children in the mornings, and a family (or whanau) group of N.E.-J3 children in the afternoons. This mix of levels is representative of the move towards multi-level classes (prompted by logistics of roll numbers and an increasing awareness of individual needs and co-operative learning made possible in such settings) in New Zealand.

The six classes were run along similar lines, and were of a single cell nature, although variable wall dividers in the two rooms allowed for open-plan teaching should

the teacher so wish. This did not happen during the course of the study.

Type and Location of Schools

One child attended an integrated (Catholic state) school in the east of Christchurch, two attended primary schools in high socio-economic areas of Christchurch (one in the north-west, one in the hill-suburbs), one attended a middle-income school in the north-west, one a large school in a town north of Christchurch, and one a medium-sized rural school south of Christchurch.

Subject Characteristics

For purposes of confidentiality the subjects have been coded as Subjects One to Six and are referred to in this way throughout the study. The groups within the classes in which these children are mainstreamed are likewise referred to as Groups One to Six.

Table 1: Characteristics of Subjects, Classes and Schools

Subject	Age at 1/9/87 (yrs & mths)	Sex	Time at School (Terms)	Fully/ Partially Main-streamed	Class Level	Class Size	Type of School (Primary)	Level of Expectation
1	6.2	M	2	F	NE-J1	26	Rural state	High
2	6.9	F	5	F	NE-J1	19	City state	High
3	8.0	M	6	F	NE-J1	16	City integrated*	Medium
4	6.11	F	4	F	NE-J1	18	City state	Medium
5	6.5	M	1	F	NE-J1	22	Town state	Low
6	9.3	M	7	P	NE-J3	32	City state	Low

* 'integrated' refers to the merging of private (in this case Catholic) schools into the state system under the Private Schools Conditional Integration Act 1977.

Table 1 lists the characteristics of each subject which are relevant to the study. It should be noted that while all subjects were working in the junior department of the primary school, their ages and school experience varied considerably.

Subjects were also classified on the basis of the expectations for school progress held by the teachers and parents. Criteria included the teachers' and parents' perceptions and evidence of the extent to which each child was coping with the mainstreaming experience.

High-expectation level children were those perceived and expected to be functioning much as any other class member, within the limits of their disability, and who seemed to strive independently for normalisation. Medium-expectation level subjects were those perceived to be working towards the goal of normalisation, but they required a greater degree of teacher support and guidance than their high-expectation level counterparts. In addition, their expressive language was less well-developed than these counterparts, which could act as a limiting factor for communication. Low-expectation level subjects were those perceived to be operating at a level less advanced than that of their class peers, both academically and socially. Subject Five had undergone a number of major operations during his early life, and was therefore not as advanced in his group skill development as he might otherwise have been. Subject Six was mainstreamed only one day per week in his local school for social reasons, for the remaining four days he attended a special education facility.

It must be stressed that while subjects were categorised as high, medium and low expectation levels for the purpose of the study, they were not specifically labelled in this way by teachers or parents. Each teacher and parent involved in the mainstreaming programmes observed in this study was committed to assisting the Down's Syndrome child to approximate normalisation as closely as possible.

For Group Reading Instruction subjects were placed in reading groups which the teacher believed were closest in ability to them. Shared Reading sessions involved whole class groups, and were therefore heterogeneous in ability. Both types of reading lesson occurred on a daily basis.

Comparisons were made with all non-handicapped members of the groups within which subjects were working, rather than designating specific contrast pupils. These were made by averaging the frequency of relevant behaviours etc. for the group to produce a 'mean other child' contrast.

Procedure

Selecting Subjects

During the second school term of 1987, permission was obtained from the Canterbury Education Board to approach schools and parents of Canterbury primary children with Down's Syndrome, regarding this study. A list of the 23 Down's Syndrome children mainstreamed in Canterbury schools was obtained from the Department of Education Adviser to Handicapped Children. After eliminating children who were geographically too distant from Christchurch for

easy access, who were placed in middle or upper primary classes or who had been involved in an earlier observational study (Rietveld, 1986), a group of nine children in state or integrated primary schools remained.

Each school was written to (see Appendix A) and telephoned by the author and was asked to consider the possibility of allowing an observational study of interactions within the mainstream classroom to take place. It was emphasised that the study was to be as non-interventionist as possible, and that the data would mostly be collected by means of a video recording.

Emphasis was also laid on the point that the research would not judge teachers but would attempt to describe specifically and in general patterns, the interactions and behaviours of Down's Syndrome children who were currently mainstreamed.

Schools were not informed that reading-related activities were to be the focus of the study as it was felt that teachers would be more likely to run a typical programme if they were 'blind' to this information. They were informed that a range of class activities would be observed.

Having gained initial enthusiasm for the study from eight of the nine schools and teachers approached, six of these schools were selected on the basis of variety of type and location. Telephone contact was made with the parents of the mainstreamed Down's Syndrome children in these schools, requesting that they consider allowing the study to take place. It was emphasised that the study would not interfere with the general learning programme and

that parents had the right of withdrawal at any time.

In each case the parents supported the idea of such a study which could add to the understanding of the position of the mainstreamed child, and gave their permission and support willingly.

Having identified the six children and schools to be included, each school was visited by the researcher who spoke to the staff and pupils involved in each mainstream setting. Whilst teachers were aware that the study focussed on the Down's Syndrome child, the children were informed that the researcher was a lecturer from Teachers' College, who taught people to be teachers. They were told that she wanted to visit them to find out more about how children learn, so that she could help her group to become better teachers. This was accepted readily by these young children; they quickly established rapport and became accustomed to the researcher's presence in their classrooms.

A letter and permission slip was sent home to every child in each classroom visited (see Appendix B). Parents were invited to contact the researcher if they had any concerns or queries about the study, but none did so, and in no case was permission witheld. If it had been, teachers had indicated a willingness to provide alternative programmes for those children during periods of observation.

Forms of Data

Information about the children was collected in four forms: video-tape recordings, running records,

informal parent and teacher interviews, and parent and teacher questionnaires.

(a) Videotape recordings. Data collection in the form of audiotape is used in observation of naturalistic settings, providing a permanent record of an event. Technological advances have produced videotape recorders which provide additional important contextual information (visual).

The advantages of this method of recording and storing information are:

1) Equipment can record both sounds and actions of those observed.
2) A continuous sample of activity can be obtained.
3) A larger group of subjects within a given area can be recorded simultaneously.
4) Retrospective analysis is possible.
5) Inter-observer checks are possible away from the actual setting.
6) Clock functions allow easy analysis of time segments.

Evertson and Green (1986) and McDonald (1987) outline the use of videotape recordings as technological records, indicating that when analysed systematically they can provide useful detailed data.

Limitations of videotape recording for this study were anticipated and dealt with as follows:

1) Rapport was established early on between the researcher, teachers and pupils to minimise effects on normal classroom procedure caused by the intrusion of the researcher and video recording equipment. Later informal discussion with teachers and some pupils confirmed that

there were no undue levels of tension during observation.

2) The researcher had found through previous use of video equipment in classrooms that young children quickly settled down to the normal routine when their initial curiosity about the equipment was satisfied. In each classroom the children were given the opportunity to examine and ask questions about the equipment before recording took place.

3) General background noise gets recorded as well as what is being said by teachers and children, and can mask important data. To accurately fill in any such gaps from memory, the researcher observed each session carefully, made notes of any specific disturbances etc. soon after the recording was made, and transcribed videotapes without delay.

(b) Running records. As a further check that the presence of the video equipment was not inhibiting 'normal' activity, running record data was collected for one of the three settings in which observations of reading were made (Group Instructional Reading, Shared Reading and Developmental Learning), for each subject. The type of setting for each child was determined by the particular day and time which suited both the teacher and researcher. Three running records were of Group Instructional Reading, two of Shared Reading, and one of Developmental Learning (see Table 2).

Running records were made of the Down's Syndrome child's activities by writing down as full a description as possible

and were later divided into one minute segments. Comparisons with written descriptions of videotapes in the same settings for each child showed similar patterns of interactions and behaviour. For instance, the running record of Group Instructional for Subject One indicated that the target child was asked 48% of all questions (compared with 44.12% in the videorecord data) of which almost half were academic. Interactions initiated to the group were 57% of all teacher interactions (compared to 53.2%) and approximately a third (compared to 38.3%) were directed to the target child.

(c) Informal interviews.

On several occasions informal discussions took place after school between the researcher and parents and teachers of the Down's Syndrome children. Notes were made of these discussions and added to other information on the children.

(d) Teacher Questionnaires (see Appendix C).

In order to obtain information about each teacher's experience of having the Down's Syndrome child in their classroom, two methods of data collection were considered - formal interviews and questionnaires. This allowed the teachers to complete them at a time and place suitable to themselves. It was hoped that this would result in more thoughtful and considered responses than might result from a formal interview.

The Questionnaire sought information about pupils' reading-related activities as well as general social and academic long-term objectives. It contained questions dealing

with specific reading settings for the Down's Syndrome children and their peers.

(e) Parent Interviews and Questionnaires (see Appendix D)

A second questionnaire was constructed which included questions about the child's activities and interactions in the home, the parent's expectations and perceptions of mainstreaming, and whether the child had any pre-school course experience.

The researcher visited the parents and discussed the questionnaire in detail in order to obtain information about any number and word 'games' which occurred in a range of home-related settings such as car journeys, cooking etc. In some cases the questionnaires were left with the parents for several days so that they could add relevant information which came to mind after the interview.

The researcher also noted any other information obtained during the discussion which was not directly relevant to the questionnaire, but which added to the total description of the child.

A secondary but important function of the interview was for the researcher to listen sympathetically with empathy and understanding to parents' descriptions of their experiences with their Down's Syndrome child.

Data Collection

Each of the six classes included in the study was visited by the researcher early in the third school term of 1987. Two or three further visits were made to obtain video recordings, running records and anecdotal notes.

Table 2: Purpose and Timing of Visits

Subject	Visit 1	Visit 2	Visit 3	Visit 4
1	Establish rapport (a.m.)	Video - G.I.R. and D.L. (a.m.)	Running Record (G.I.R. (a.m.) Video - S.R. (p.m.)	-
2	Establish rapport (p.m.)	Video - S.R. (a.m.)	Running Record - S.R. (a.m.)	Video - G.I.R. (a.m.)
3	Establish rapport (a.m.)	Video - D.L. and G.I.R. (a.m.)	Video - S.R. (p.m.)	Running Record - G.I.R. (a.m.)
4	Establish rapport (p.m.)	Video - G.I.R. (a.m.) Running Record - S.R. (p.m.)	Video - D.L. and S.R. (a.m.)	-
5	Establish rapport (p.m.)	Video - S.R. Running (a.m.) Record - G.I.R.	Video - G.I.R. (a.m.) - D.L. (p.m.) (p.m.)	-
6	Establish rapport (a.m.)	Video - S.R. (a.m.) -D.L. (p.m.)	Video - G.I.R. (a.m.)	Running Record - D.L. (p.m.)

(Key: G.I.R. = Group Instructional Reading; S.R. = Shared Reading; D.L. = Developmental Learning.)

Analysis of Data

In order to obtain systematic information about the ways in which the six Down's Syndrome children were given the opportunity to participate actively in the settings observed (compared to other group members), several categories of behaviour were developed. These categories referred to:

(a) questions asked of the children by the teacher;

(b) interactions - verbal communications initiated by the teacher and directed to the children;

(c) pupil responses - to the teachers' questions and interactions, and

(d) teacher reinforcement - the ways in which teachers verbally encouraged pupils.

Descriptive data was also included to add information about children's participation patterns and preferred activities during Shared Reading and Developmental Learning sessions,

and out of school.

The above categories were used to establish the types and amounts of interactions that occurred during the observations. It was possible to describe different patterns of interaction between classes and between the Down's Syndrome children and their non-handicapped peers. If such differences were shown to exist between, for example, the amount of low-order questions asked of Down's Syndrome children and other group members, then it would be possible to consider the reason for such differential treatment. Perhaps an understanding of these underlying reasons might assist future teachers of Down's Syndrome pupils to teach to these children's special needs.

Operational Definitions

Questions.

Six categories of teacher questions were developed as follows:

(a) Academic Questions - those which required the child to demonstrate skills and/or knowledge relating to convention etc. in reading-related context. These included cloze exercises (the use of syntactic and semantic cues to reconstruct missing words) and concepts about punctuation and print.

(b) Confirmative Questions - those asked in order to confirm that the child was prepared to maintain a previous response or comment, or to establish whether the child had understood a given concept.

(c) Descriptive Questions - those which required the child to describe the actions and characteristics of objects and characters in the text and illustrations.

(d) Interpretative/Predictive Questions - those which required the child to process information beyond the level of the immediate text and/or illustrations; to interpret or make predictions.

(e) Motivational/Organisational Questions - those which established whether the child was motivated and ready to take part in the learning process - e.g. "Are you ready to read?"

(f) Schematic/Experiential Questions - those which directed the child to make overt reference to text-relevant personal knowledge and/or knowledge of the world about him/her (schematic knowledge).

Interactions

Three categories and eight sub-categories of teacher-initiated interactions were identified. Each interaction consisted of a phrase, sentence or group of sentences directed to the group or to individual pupils concerning one idea.

Instruction

(a) Task-related - those which directed the child to perform a specified task relating to the lesson.

(b) Organisational - those which directed the child to react in some way which would assist the logistical organisation of the lesson.

Feedback

(a) Behaviour/attention - those which provided the child with information about the appropriateness of his/her behaviour.

(b) Correction - those which provided the child with an accurate version of his/her response or comment.

(c) Affirmation - those which indicated that the child's response or comment was acceptable and valid, but which were not specific statements of reinforcement.

Assistance

(a) Explanation, etc. - those which conveyed information to the child in the form of explanations, examples and descriptions.

(b) Strategy - those which provided the child with the strategy to solve a problem independently.

(c) Model Provision - those which provided the child with the pattern or response required.

Pupil responses.

Responses were categorised as general or specific, and verbal or non-verbal.

General Responses - those which the child made to questions and interactions directed to the whole group;

Specific Responses - those which the child made to questions and interactions directed specifically to him/her.

Verbal Responses - those which the child made using utterances of one word or more.

Non-Verbal Responses - those which the child made using gestures, facial expression, posture etc. These included compliance actions in response to requests, instructions etc.

Note was also made of the number of times that subjects did not respond to interactions and questions directed specifically to them, and of the number of interactions and comments initiated by subjects.

Reinforcement.

Note was made of the quantity and type of comments made by teachers to praise and encourage the contributions of subjects and their peers.

(a) Low-level reinforcement - non-specific praise, e.g. "Good girl".

(b) High-level reinforcement - praise specific to actions, using powerful and meaningful vocabulary, e.g. "Fantastic! You read that sentence beautifully!"

Reliability

Inter-observer reliability checks were obtained on the frequency and type of questions and interactions for a randomly selected subject for Group Instructional Reading and Shared Reading observations. The following procedure was used:

Each of two Observers was given the operational definitions of question types to study and a tally sheet on

which to record instances of each question directed to the target child. Each observer viewed the videotape at her leisure, pausing and replaying it as necessary. This was then repeated for the individual other members of the child's group, and for the group as a whole. This procedure was also followed for teacher-initiated interactions.

These observer checks took place over several days, at the convenience of the observers. Both observers were familiar with using coding systems and had recently studied Education at Stage 3 University level.

The percentage of agreement between each observer and the researcher was calculated by dividing the number of agreements on all categories of questions, for example, by the total number of all agreements and disagreements about questions. Disagreements occurred when the observers recorded different numbers of questions in the same category. In each case, both observers and the researcher agreed on the total number of questions and interactions for each target group.

Table 20 (see Appendix E) shows the percentages of agreement between each observer and the researcher, averaged across Group Instructional Reading and Shared Reading. Agreement was very high, ranging from 79% to 100%. Because observers were able to re-run the videotapes to repeat and check their coding, they were able to reach a high level of accuracy in relation to the definitions given to them for each category of behaviour.

Results

In the following section, information is given about the different opportunities available to Down's Syndrome children and their peers to participate overtly in Group Reading Instruction (G.I.R.) and Shared Reading (S.R.) lessons. Data is included on the percentage of questions and interactions directed to the target child, to other children, and to the group as a whole, for each group. Because of the different group sizes, information is also given about the average percentage of questions and interactions directed to each member of the group as a whole. This allows a comparison to be made of the ratio of questions and interactions available to the target child and other individual children, across the six groups.

Further information about each child's preference for and attitude to reading-related activities during Developmental Learning (D.L.) periods, and at home, is also provided.

Group Instructional Reading

Questions

The frequency and percentages of questions asked by the teachers of all groups are reported in Table 3. Frequencies were calculated at a rate per hour to compensate for different lengths of observations in each class. The percentages of questions directed to the target child, to

Table 3: Percentages of Questions Directed to Target Children, their Peers and the Whole Group during Group Instructional Reading

	Target Child	Other Children Mean	Other Children Total	Group Mean	Group Total (n)	Total %	Total No./hr
Group One	44.1	16	16	19.9	39.9 (2)	100	238
Group Two	26.5	5.1	20.6	10.6	52.9 (5)	100	128
Group Three	42.6	0.9	5.7	7.4	51.7 (7)	100	176
Group Four	31.0	4.3	17.3	10.3	51.7 (5)	100	174
Group Five	0	4.8	28.9	10.1	71.1 (7)	100	180
Group Six	6.9	4.3	17.3	15.2	75.8 (5)	100	218
M	15.5	5.9	17.6	13.1	57.2	100	185.6

other children (individually and in total) and to the group as a whole (individually and in total) were also calculated.

More than half of all questions were asked of the whole group ($\overline{X}$ = 57.2%) and over 70% were directed this way in the groups containing low-expectation Down's Syndrome children (Groups Five and Six).

Higher percentages of questions were asked individually of target children than of other individual children (on average) for all groups except Group Five, where the target child was asked no individual questions. For the four groups containing high and medium expectation Down's Syndrome children, a greater proportion of questions were asked of the target child than of all other individuals together.

Table 4 reports the percentages of questions available to each target child and other group members on average, for each group. These were calculated by combining the percentage of individual questions with the percentage of questions directed to the whole group, divided by the number

of group members. The ratio of questions available to the target child compared to other individuals in each group was then able to be compared across groups, having taken group size into account.

Table 4: Percentages of Questions Available for Individuals to respond to during Group Instructional Reading

	Target Child	Individual Other Children (mean)	Ratio
Group One	64	35.9	1.8
Group Two	37	15.7	2.4
Group Three	50	8.3	6.0
Group Four	41.3	14.6	2.8
Group Five	10.1	14.9	0.7
Group Six	22.1	19.5	1.1
Mean			2.5

In five of the groups studied, between one and six times the number of questions were available to Down's Syndrome children than to each other group member. Across all six groups, target children had the opportunity to respond to two and a half times as many questions as each of their peers.

Subject Five was the exception to this pattern. He was seated in the group with a teacher aide alongside him to assist him to keep on-task and to join in appropriately with the other group members. The teacher did not direct any questions to him individually, but he was expected to respond appropriately to the lesson and had the opportunity to respond to questions which were directed to the whole group.

These results clearly indicate that on average, the Down's Syndrome children were given the opportunity to

participate overtly through teacher questioning more often than their non-handicapped peers.

Percentages of each of the six different question types (academic, confirmative, descriptive, interpretive/predictive, schematic/experiential, motivational/organisational) were calculated for each group (see Appendix F for individual tables).

Table 5 reports the distribution of each type of question to each group member for the six groups on average.

Table 5: Mean Percentages of the Distribution of Each Question Type to Individuals during Group Instructional Reading

	Target Child	Other Child (Mean)	Group (Mean)	*Ratio
Academic	8.5	1.8	4.2	2.1
Confirmative	6.2	0.4	0.2	10.7
Descriptive	2.7	1.0	3.2	1.4
Interpretitive/ Predictive	3.0	1.8	2.4	1.3
Schematic/ Experiential	2.9	0.8	1.0	2.2
Motivational/ Organisational	1.9	0.2	1.4	2.1

* Ratio = all questions available to each target child ÷ all questions available to each other group member on average.

For each type of question, the Down's Syndrome children had more opportunity to respond to the teachers' questions than each of their peers did, on average. This was particularly noticeable for confirmative questions. Target children had the opportunity to respond more than ten times as often to these questions as each of their peers.

Down's Syndrome children had more questions available to them individually than as group members for all types of questions except descriptive questions. This indicates that

descriptive questions were directed much more frequently to the groups than individuals. Only Subject Three was asked more individual descriptive questions than was his group as a whole. He was particularly responsive to this straightforward type of question and enjoyed the challenge of identifying illustrations and words.

Each group was asked at least four different types of questions.

Academic Questions.

Academic questions were the predominant question type across all groups. Down's Syndrome children had the opportunity to answer these questions twice as often as their non-handicapped peers, and 8.5% of all questions were academic ones asked of them individually.

Apart from Subject Five (who was asked no individual questions) the Down's Syndrome children were consistently asked more individual academic questions than their peers.

Confirmative Questions

As was mentioned earlier, target children had a considerably greater opportunity to respond to confirmative questions than their peers, overall. These were mainly directed individually to target children - specifically to the four children who were considered to be high and medium expectation level. Teachers of the two low-expectation subjects did not use this checking procedure to assess the progress and understanding of these target children or of the other children in their groups.

Descriptive Questions

Down's Syndrome pupils were asked more individual descriptive questions than their peers on average, but most of these questions were group-directed, as described above. The two low-expectation subjects and Subject Four (medium-expectation) were not directly asked any of these questions.

Interpretive/Predictive Questions

All high and medium expectation subjects were asked some of these questions, but this did not occur for Subjects Five and Six. Target children had slightly greater opportunity to answer these questions than their peers (ratio of 1.3).

Schematic/Experiential Questions

Overall, Down's Syndrome children were asked more of these questions than their peers, but there was some difference between classes. Two teachers did not ask any schematic/experiential questions, but the teacher of Group Six made frequent use of questions which related the story to the pupils' own experiences.

Motivational/Organisational Questions

These were the least common questions asked individually of any child, which suggests that pupils were individually motivated and familiar with the routines associated with group instructional reading. Most of these questions were asked of the group as a whole.

Summary of Questions (G.I.R.)

It is evident from the data that on average, the six Down's Syndrome children in this study had greater opportunity to participate overtly through teacher questions than the other members of their groups. The two low-expectation subjects experienced fewer individual questions than the other Down's Syndrome subjects; instead the majority of their questions were group-directed. All members of these groups, both handicapped and non-handicapped, were low-ability readers, therefore it seems possible that their teachers deliberately treated all group members similarly, giving them attention through group rather than individual questioning.

Two types of questions which were related to the running of the lesson rather than to the content of the task were confirmative and motivational/organisational questions. These were used by teachers of high and medium expectation subjects, but low-expectation target children did not experience them. It appears that teachers perceived these checking and organisation cues as worthwhile for high and medium expectation children, perhaps enabling them to keep pace with other children in the group, but that this was not seen as necessary for groups of low-ability children.

High-order academic questions were the prevalent type for all groups, with most individual questions directed to target children. Down's Syndrome children and their peers had more opportunity to answer these questions than any other type of question, but target children had more than twice the chance of their peers.

The other high-order type of questions (interpretive/ predictive) were also frequently asked of target children and

their peers. However, this was confined to the four high and medium-expectation Down's Syndrome pupils.

Lower-order schematic/experiential questions in which teachers led the children to bring their own experiences to the story rather than the chidren doing so for themselves were most frequently used by teachers of low-expectation pupils. Straightforward descriptive questions were not asked individually of these subjects at all, however, and most were group-directed.

Taken as a group then, these Down's Syndrome children were encouraged to participate overtly in Group Instructional Reading through the questions asked of them more often than their peers. However, those target children perceived as high and medium-expectation level were asked more individual questions of a higher order, and their progress and understanding was checked more often by the teacher than the two low-expectation Down's Syndrome children who were grouped with low-ability peers. It is likely that teachers believed that high and medium expectation subjects would benefit from this greater level of input, while teachers of low-expectation subjects were concerned with establishing more basic skill levels in their groups which consisted of other low-ability pupils as well as the target child.

Interactions

The frequencies of interactions initiated by the teacher ranged from 70 per hour to 264 per hour, with a mean of 176 per hour (see Table 6). This indicates a considerable variation in the actual number of interactions

Table 6: Percentages of Interactions Directed to Target Children, their Peers, and the Whole Group during Group Instructional Reading

	Target Child	Other Children Mean	Other Children Total	Group Mean	Group Total	(n)	Total %	Total No./hr
Group One	38.3	8.5	8.5	26.6	53.2	(2)	100	235
Group Two	20.5	6.7	26.6	10.6	52.9	(5)	100	128
Group Three	13.9	0	0	12.3	86.1	(7)	100	70
Group Four	40.9	4.6	18.2	8.2	40.9	(5)	100	264
Group Five	9.3	0.8	4.6	12.3	86.1	(7)	100	185
Group Six	21.7	6.5	26.1	10.4	52.2	(5)	100	173
M	24.1	4.5	14.0	13.4	61.9		100	176

for each group. Since the relative proportion of interactions directed to the Down's Syndrome children and their peers are of prime interest in this study, data have been reported in percentage form.

As with questions, more than half of the teacher interactions were directed to the group as a whole for most groups. In two groups (Groups Three and Five) very high percentages of all questions were group directed.

All target children received considerably greater percentages of individual interactions than other children did on average.

Table 7 shows the ratio of interactions which the Down's Syndrome children had the opportunity to respond to in relation to those which other children had the opportunity to respond to. Overall, target children had more than twice the opportunity of other children to participate overtly in this way.

Table 7: Percentages of Interactions Directed to Each Child; Individually and as a Group Member (G.I.R.)

	Target Child	Other Children	Ratio
Group One	64.9	35.1	1.8
Group Two	31.1	17.3	1.8
Group Three	26.2	12.3	2.1
Group Four	49.1	12.8	3.8
Group Five	21.6	13.1	1.6
Group Six	32.1	16.9	1.9
M			2.2

One target child, Subject Four, had nearly four times as many opportunities to respond as her peers. She had as many teacher interactions directed to her individually as were directed to the whole group in total; these were largely related to organising and commenting on her behaviour within the group.

As with questions, the Down's Syndrome children clearly had a greater opportunity provided for them to respond to teacher-initiated interactions than their peers did. Table 8 reports the distribution of interaction types to each group member for the six groups on average (see Appendix F for individual tables).

Apart from teacher assistance in the form of providing strategies to deal with problems, target children had the opportunity to respond more often to teacher interactions than each of their peers did. This was particularly so for feedback about behaviour and attention, where target children received almost seven and a half times as much as other individual pupils.

Table 8: Mean Percentages of the Distribution of Each Interaction Type to Individuals during Group Instructional Reading

	Target Child	Other Child (Mean)	Group (Mean)	Ratio
INSTRUCTION				
Task	4.7	0.9	2.9	2.0
Organisation	6.1	0.8	4.3	2.0
FEEDBACK				
Behaviour/ Attention	4.9	0.4	0.3	7.4
Corrective	1.7	0.9	0.1	1.8
Affirmative	2.0	0.7	1.0	1.8
ASSISTANCE				
Explanation etc.	2.3	0.2	3.5	1.6
Strategy	0.3	0.5	0	0.6
Model Provision	2.2	0.3	5.0	1.4

Over the six groups, teacher instructions were mainly issued to target children and then to the group, feedback was directed mainly to target children, and assistance tended to be given to the group and then to target children. As well as having greater opportunity to respond to individual and group interactions, target children also specifically received a higher number of teacher initiations than their individual peers. No interactions were initiated to individual peers of Subject Three.

For Groups One to Five, more than half of all instructions were instructional. Group Six had a considerably higher percentage of feedback (45.4%) compared to the other groups (see Appendix F for individual tables). The teacher of Group Six made constant use of affirmative feedback with this low ability group.

Instructions.

Organisational instructions were more common overall than task-related instructions, and both types were directed more to the Down's Syndrome children than their peers. They were mainly group-directed, across all six classes, and included such instructions as turning pages, reminders to raise hands, instructions to sit in a certain formation, etc. None were initiated individually to Subjects Three and Five, few (if any) were directed to individual other children but 15.1% were initiated to Subject Four. An example of the reason for this higher percentage is shown by a length interaction between the teacher and Subject Four based on a misunderstanding (by the teacher) about the location of Subject Four's reading folder.

Teacher: "And X" (subject) "you go and see Y again when you've got your folder."

Subject: (Starts to sort through folder in box on floor, then stands.)

T: "You find your folder, X!"

S: (Returns to look, thumbs through box, unable to locate)

T: "X! Find your folder please!" (Tips pile of folders from box onto floor).

"Now you put them in please, X, and look after your folder.

Put them in the box."

S: (Looks at the pile, then stands up and moves away)

T: "No! You look for your folder....Oh. Is your folder in your bag?"

S: "Yes."

T: "Oh. You go and get it please. Mm - you go and get it for me please."

Task-related instructions were also mainly group-directed, and on average the Down's Syndrome subjects had twice as many opportunities to respond to them as their peers. This type of instruction was not given individually to either of the two low-expectation subjects.

Feedback.

All target children except Subject Two received individual feedback related to behaviour and attention. Medium and low-expectation subjects received higher percentages of this type of feedback, suggesting that their behaviour or attention required more teacher comment than their high-expectation counterparts. Most of this comment was negative, informing pupils that their behaviour was inappropriate, or reminding them to behave and attend appropriately. However, there were several instances of teachers commenting positively on the ways in which children were co-operating.

The amount of behaviour or attention-related feedback was much greater for target children than for their peers or for the group.

Corrective feedback was rarely used, and the only target children to receive this were the two high-expectation subjects. Subject Two in particular received greater amounts

of corrective feedback than her non-handicapped peers.

Down's Syndrome pupils generally received more affirmative feedback than their peers, both individually and overall. The teacher of Group Six frequently used affirmative feedback (20.9%), but this was all group-directed so that every group member including the target child had equal access.

Assistance.

Most teacher-explanations etc., and model provision were group-directed, and target children received more individual assistance than their peers. Strategy-provision was rarely used as a form of assistance.

Summary of Interactions (G.I.R.)

These results suggest that differences do exist in the quantity of interactions initiated to Down's Syndrome and non-handicapped children in the six classes studied. On average these Down's Syndrome children were recipients of 2.2 times as many teacher interactions as their peers. One target child (Subject Four) had the opportunity to respond to almost four times as many interactions as other group members, and this was the group with the highest rate of teacher interactions in this sample (264 per hour). This high level of interaction with the target child suggests that she was receiving plenty of encouragement to participate actively, and that this was more than other group members received on average.

The results also point to differences in the quality, or type of interactions directed by the teachers to the Down's

Syndrome and other children. Whereas instructions and feedback about behaviour and attention were mainly given to non-target children in the form of interactions directed to the whole group, teachers gave individual instructions and feedback to the Down's Syndrome children. The percentages of these types of interactions were higher than for other children through individual or group interaction.

Teachers also gave much more individual assistance to Down's Syndrome children in the form of giving explanations or descriptions, and in providing model answers for them to imitate, than they did to other children. They did not however provide Down's Syndrome children with strategies to solve problems as often as they did to other pupils.

Several trends emerged amongst the six Down's Syndrome children studied. Low-expectation subjects received organisational instructions and negative behaviour and attention-related feedback, but no task-related instructions, and few (if any) individual interactions related to their performance. High expectation target children were the only Down's Syndrome children to individually receive corrective feedback, along with other interactions which related to the task and their academic performance (e.g. explanation, affirmative feedback, task-related feedback), rather than to the organisation aspects of the lesson or their behaviour. This suggests that they were more easily motivated to become actively involved in the lesson than their less able Down's Syndrome counterparts. The use of corrective feedback may have been made because their teachers believed that they had the potential to profit from early identification of correct information, whereas teachers of less able Down's

Syndrome pupils may possibly have laid greater importance on the eliciting of any kind of response from the children. Both teachers of low-expectation target children (Subjects Five and Six) stated that their objectives for the Down's Syndrome pupils during Group Instructional Reading were more closely tied to appropriate group membership skills than to academic development.

Teacher interactions,like questions, favoured the Down's Syndrome children during Group Instructional Reading in that they offered greater opportunity for active participation through overt responses than their peers. By examining the responses of each target child, it is possible to discover whether or not advantage was taken of this opportunity.

Responses

Table 9: Number, Percentage and Type of Responses made by Target Children during Group Instructional Reading

Type of Response		51 (H)*		52 (H)		53 (M)		54 (M)		55 (L)		56 (L)		Mean
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
GENERAL	Verbal	60	16.0	7.5	5.9	50	22.7	6	3.2	0	0	0	0	8.0
	Non-verbal	45	12.0	48.75	38.2	55	25.0	24	52.9	77.4	82.16	75	58.8	38.2
SPECIFIC	Verbal	105	28.0	37.5	29.4	45	20.5	66	35.5	0	0	7.5	5.9	19.9
	Non-verbal	65	17.3	33.75	26.5	40	18.2	84	45.2	8.4	8.92	37.5	29.4	24.2
No Specific Response		0	0	0	0	0	0	6	3.2	0	0	7.5	5.9	
Child-Initiated Interactions		100	26.7	0	0	30	13.6	0	0	8.4	8.92	0	0	
TOTAL		375	100	127.5	100	220	100	186	100	94.2	100	127.5	100	

* H, M, L = High, Medium, Low Expectation Level.

All but two of the Down's Syndrome children responded to all specific questions and interactions (those directed individually to each target child). The other two subjects

failed to respond on only a few occasions each. This information supports the contention that teacher encouragement (through questioning and interacting) can lead to increased overt participation.

Responses made to general (group-directed) questions and interactions were made non-verbally rather than verbally for the Down's Syndrome children on average ($\overline{X}$ = 38.2% vs. 8%). Only Subject One responded verbally more often than non-verbally to general questions and interactions. He was a high-expectation pupil with the best verbal ability of all six target children, and was in a group of only two pupils. This meant that there was more time available to him individually, and that he faced a less threatening situation than other target children. He also initiated the highest percentage of interactions of the three subjects who did so.

Non-verbal responses were slightly more common on average for specific questions and interactions than verbal responses ($\overline{X}$ = 24.2% vs. 19.9%). The two high-expectation subjects and Subject Three (medium-expectation) responded more often verbally than non-verbally, but the two low-expectation target children and Subject Four (medium-expectation) made more non-verbal responses. One child (Subject Five) used non-verbal responses exclusively, and yet initiated verbal interactions at the rate of 8.4 per hour.

Together these data suggest that suggest that Down's Syndrome children were responsive to individual and group attention, and that verbal responses are more likely to be elicited through specific (individual) teacher attention.

Higher percentages of verbal response were made by high-expectation subjects, for specific responses in particular. This is not surprising, since the verbal ability of these children contributed to their categorisation. It is possible that low-expectation subjects, on the other hand, made few verbal requests because they found that their limited oral ability prevented them from responding orally as quickly and as well as their non-handicapped peers. Their non-verbal responses were effective in allowing them to participate actively in the learning process.

Teacher Reinforcement

Table 10: Frequency and Percentages of Teacher Reinforcement of Individuals During Group Instructional Reading

	Group 1		Group 2		Group 3		Group 4		Group 5		Group 6		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
Target Child	150	76.9	30	57.1	60	62.6	18	33.3	0	0	15	11.1	40.2
All Other Children	45	23.1	22.5	42.8	35.8	37.4	36	66.7	94.2	100	120	88.9	59.8
Individual Others (Mean)	45	23.1	5.6	10.7	5.97	6.2	9	16.7	15.7	16.7	30	22.2	15.9

During Group Instructional Reading, teachers reinforced the overt participation of high and medium-expectation Down's Syndrome children more often than that of other pupils, on average. In Groups One, Two and Three target children's participation was reinforced more often than all other group members in total. Such encouragement of active participation was therefore selectively given to target children in these groups. The two low-expectation subjects however, received less individual reinforcement than their peers.

Types of reinforcement used with the different groups varied.

In all groups except Group Two, reinforcement through repetition of children's answers was used exclusively with non-target children. Phrases of reinforcement directed to all children in groups containing high and medium-expectation pupils included more specific and powerful vocabulary, (e.g. 'You were first - well done!' 'Fantastic!' 'What a clever reader to spot that!') than phrases directed to groups containing low-expectation pupils (e.g. 'Good'. 'Good girl').

In groups containing medium and low-expectation subjects, reinforcement of non-target children tended to be more powerful and specific than that of target children. In Group One (high) the subject received a far greater variety of powerful reinforcement (e.g. 'Super!' 'Good on you!' 'What wonderful work!' 'You did it!') than his peer. Reinforcement of the other high-expectation subject (Two) was very similar to that of her peers - it was powerful and specific (e.g. 'Helped. That's right - well done!').

To summarise, there were marked differences in the quantity of reinforcement given to target children and their peers; higher-expectation subjects were reinforced more often than their peers, while lower-expectation subjects were reinforced less often. More powerful and specific types of reinforcement were used for high-expectation subjects and the peers of lower-expectation subjects than for target children.

These differences in reinforcement were likely to contribute to greater and deeper participation patterns by

high and medium-expectation subjects in future lessons of this nature. However, the low-expectation Down's Syndrome pupils did not receive the same level of encouragement.

Shared Reading

Participation Patterns

Target children participated in Shared Reading sessions in a variety of ways. This reflected the variation between teachers of this flexible approach to reading.

Subjects One, Four, Five and Six sat on the mat with other class members, listening to and responding to their teachers.

In Group Two the session was led by two class members. This practice occurred regularly and was monitored by the teacher who remained at the back of the classroom for most of the session. Subject Two sat on the mat with the rest of her peers.

Subject Three 'assisted' the teacher throughout the lesson by pointing to appropriate sections of the enlarged text and by turning pages. He did this regularly during Shared Reading sessions.

Teachers located Subjects One, Three and Five close to them at the front of the group. Subjects Two, Four and Six sat with the main group in a location of their own choice.

On-Task Attention

Time 'on-task' was calculated by subtracting obvious 'off-task' behaviour time (e.g. turning around to poke neighbours, playing intently with shoes, etc.,) from the total time.

Table 11 (see below) presents the percentage of time on-task along with the frequency of reading aloud by the

Table 11 Participation Patterns of Subjects (Shared Reading)

Subject	% 'on-task'	Units* Read Aloud (per hour) by: Target Child	Teacher	Peers	Brief description of subjection participation
1	72.69	10	350	30	Facial expression and posture suggested alert interest and high level of enjoyment. Much 'off-task' time was spent with face buried against teacher's knee.
2	94.34	420	0	440	Full participation in group reading of enlarged poems. Facial expression and posture suggested interest and enjoyment. Carefully enunciated reading of familiar material.
3	95.73	0	210	20	Took role of teacher's assistant which required him to give a high level of attention to the material, teacher and peers. Facial expression and posture suggested initial keen interest which decreased a little during session. Accuracy of painting also declined.
4	68.2	0	90	0	Facial expression indicated passive interest in story (new material). Attention span for looking at teacher-held text shorter than that of peers - attention easily distracted by others moving within the classroom.
5	86.86	15	135	45	Facial expression indicated high level of interest and enjoyment in material which was familiar and which was accompanied by pupil actions. Full participation in such actions. Excitement evident when certain favourite texts were read.
6	53.27	0	377	385	Facial expression and posture suggested low level of interest in text - extremely passive and unmoved, while peers exhibited great excitement and enthusiasm. No effort made to participate actively.

* A unit is defined as a phrase or sentence which expresses a complete idea.

teacher, target child and peers, and a description of each subject's behaviour during the 'Shared Reading' time.

Time 'on-task' ranged from 53.27% (Subject Six) to 95.73% (Subject Three). Subject Three was actively kept on-task for a high percentage of the time by the demands of the active role that his teacher had set him.

Time on-task was not related to expectancy level of the target children. Two of the three children who were permitted to sit in a place of their own choice had the lowest percentages of time on-task (Subject Four 68.2% and Subject Six 53.27%). Perhaps these children would have attended to more of the lessons if their teachers had placed them in positions where they could more easily be encouraged to attend.

Reading Aloud

Three of the Down's Syndrome children in the study did not read aloud at all, while one target child (Subject Two) read aloud at a very high rate (420 units per hour). This was very similar to the rate of her peers (440 units per hour), indicating that she was participating actively in the session in the same way as her 'normal' peers. In her class, Shared Reading took the form of mainly reading together familiar stories and poems from enlarged texts.

Most subjects read aloud at a similar rate to their peers except for Subject Six, who did not read aloud at all (compared to 385 units per hour read aloud by his peers).

Overall the information in Table 11 suggests that Subjects One, Two, Three and Five participated more actively in Shared Reading sessions than the other two Down's Syndrome pupils in the study. Subject Four appeared to have a shorter span of interest than these children, and Subject Six was passive throughout. Both of these children may have benefitted from deliberate placement by their teachers in positions where they could easily be appealed to or encouraged to attend and participate more actively.

High-expectation level subjects appeared to have higher levels of sustained interest and enjoyment than the other Down's Syndrome children. Subjects Three and Five were both highly motivated during parts of Shared Reading sessions, but this was dependent on the type of active participation promoted by teachers rather than on self-motivation.

Questions

Table 12: Percentages of Questions directed to Target Children, their Peers and to the Group as a Whole during Shared Reading

	Target Child	Other Children Mean (per child)	Other Children Total	Group Mean (per child)	Group Total	No. Children in Group	No. Questions per hour
Group One	0	1.2	30.0	2.7	70.0	26	100
Group Two	0	0	0	0	0	19	0
Group Three	15.7	0.4	5.3	4.9	79.0	16	143
Group Four	5.6	3.6	61.1	1.9	33.3	18	135
Group Five	20.8	1.4	29.2	2.3	50.0	22	30
Group Six	0	1.6	50.0	1.6	50.0	32	68
Average for all classes except Group Two	8.4	1.6	35.1	2.7	56.1		95

Table 12 reports the frequency and percentage of questions asked by teachers of the groups involved in the observation during Shared Reading sessions. Percentages of questions directed to the target child, to other children (average per child and total) and to the group as a whole

(average per child and total) are included.

Group Two was asked no questions by the teacher during Shared Reading. The session was different from that of other groups in that it was child-led, and neither the pupil leaders nor the teacher asked questions of the class in this setting. Because of this, Group Two was excluded from the calculation of mean percentages presented at the bottom of the table.

Rates of questions per hour for the remaining five groups varied considerably, from 30 per hour (Group Five) to 143 per hour (Group Three). Group size, particularly in the case of Group Six (n = 32) may be a factor affecting the rate of questions (68 per hour), although Group One was also large (n=26) and the rate of questioning was much higher (100 questions per hour).

More than half of all questions were directed to the group as a whole in most cases. Three of the Down's Syndrome children were asked questions individually and Subjects Three and Five received many more individual questions than their peers. There was a smaller difference between the number of individual questions asked of Subject Four and her peers. In this class, more questions were directed to individuals than to the group. This may have been because new books wre being introduced to this group during the observed sessions while other groups revised familiar stories and poems. Most of the questions were about the pupils' prior knoweldge related to the topic of the story.

Table 13 reports the percentages of all questions directed to individuals or the group as a whole which

Table 13: Percentages of Questions available for Individuals to Respond to during Shared Reading

	Target Child	Other Children	Ratio
Group One	2.7	3.9	0.7
Group Three	20.6	5.3	3.9
Group Four	7.5	5.5	1.4
Group Five	23.1	3.7	6.2
Group Six	1.6	3.2	0.5
Mean			2.5

could have been answered by each target and other child (on average). The ratio of questions that could have been answered by the target children compared with their peers are also presented.

Although two subjects had less opportunity to particpate overtly through teacher questioning than their peers, overall this group of Down's Syndrome children had two and a half times the number of questions available for them to respond to than other children. This is the same mean ratio as for Group Instruction Reading (see Table 5).

If this general pattern is similar for the two reading settings, what about the distribution of question types? Table 14 reports this information, once again excluding Group Two.

No Down's Syndrome child was asked individually any confirmative, descriptive or interpretive/predictive questions but they had the opportunity to respond to these questions when they were directed to the group.

Table 14: Mean Percentages of the Distribution of each Question-Type during Shared Reading

	Average per child directed to:			
	Target Child	Other Child	Group	Ratio
Academic	5.2	0.2	1.6	3.8
Confirmative	0	0.1	0.3	0.75
Descriptive	0	0.7	0.4	0.4
Interpretitive/ Predictive	0	0.1	0.3	0.75
Motivational/ Organisational	2.2	0.5	0.2	3.4
Schematic/ Experiential	1.1	0.1	0	11.0

Academic, motivational/organisational and schematic/experiential questions were asked more often of target children than of individual others, or than of each group member with group-directed questions. These ratios show that eleven times as many questions related to motivating and organising pupils were made available to Down's Syndrome children than to other children.

Academic questions were the most common type, as for Group Instructional Reading. Down's Syndrome children had the opportunity to respond to almost four times as many of these as other children.

Schematic/Experiential questions were directed to Down's Syndrome children more than three times as often as they were to their peers. These were most frequently asked of Subjects Three and Four (see Appendix F for individual tables).

Descriptive questions were the type most often asked individually of non-target children and of the whole groups. No target children were asked these questions.

Summary of Questions asked during Shared Reading

The information above shows that there were different

patterns of questioning of Down's Syndrome children than of their peers in Shared Reading sessions.

Although there were differences between the groups studied, on average the target children had the opportunity to answer two and a half times as many questions as their peers. These questions were motivational/organisational, academic and schematic/experiential. Therefore, these Down's Syndrome pupils experienced high-order (academic), loworder (schematic/experiential) and organisational questions, even though they were asked no interpretive/predictive (high-order) descriptive (low-order) or confirmative (organisational) questions.

It is possible that with large groups, the teachers felt the need to distribute questions evenly amongst all pupils rather than directing too many to the Down's Syndrome children. After assessing their background knowledge and academic understanding through academic and schematic/experiential questions, they may have deliberately turned their attention to other pupils for the remaining question categories, apart from motivational/organisational questions necessary to the smooth-running of the lessons.

Interactions

Frequencies and percentages of interactions directed by the teacher to the target child, other individual children and to the group are reported in Table 15.

Because Shared Reading was child-led for Group Two, the rate of interactions per hour initiated by the teacher was much lower than for teacher-led groups. For other groups, rates of interaction ranged from 88 to 240 per hour.

Table 15: Percentages of Interactions directed to Target Children, their Peers and the Whole Group during Shared Reading

	Target Child	Other Children Mean (per child)	Other Children Total	Group Mean (per child)	Group Total	No. of Children in Group	No. of Inter-actions per hour
Group One	0	1.3	33.3	2.6	66.7	26	240
Group Two	0	5.6	100	0	0	19	40
Group Three	30.8	1.5	23.1	2.9	46.1	16	195
Group Four	12.5	2.0	33.3	3.0	54.2	18	180
Group Five	0	0.8	16.7	3.8	83.3	22	90
Group Six	0	1.6	50	1.6	50	32	88
Average for all Classes	7.2	2.1	37.3	2.3	50.1		139

Like questioning, this seemed to be related to individual teaching style rather than to the presence of particular expectation-level Down's Syndrome children or to group size.

Only two Down's Syndrome children received individual interaction initiations - these were Subjects Three and Four, the two medium-expectation subjects. All of Subject Four's interactions were feedback related to her behaviour and attention. However, Subject Three individually received 30.8% of all interactions for his group, and these were a mixture of instructions (task and organisational) and feedback (behaviour/attention, corrective and affirmative), often related to his role as helper. (Tables of interactions for each group can be seen in Appendix F).

Means indicate that in general, half of all interactions were group-directed, and that more individual interactions were directed to target children than other individuals. Table 16 shows the percentages of interactions available to each child, and the ratio of those available to target children compared to other individuals.

Table 16: Percentage of Interactions directed to each Child, Individually and as a Group Member during Shared Reading

	Target Child	Other Children	Ratio
Group One	2.6	3.9	0.7
Group Two	0	5.6	0
Group Three	33.7	4.4	7.7
Group Four	15.5	5.0	3.1
Group Five	3.8	4.6	0.8
Group Six	1.6	3.2	0.5
Mean			2.1

The mean ratio of interactions to which Down's Syndrome children could respond to that of their peers was 2.1:1. This is very similar to the ratio of interactions observed in Group Instructional Reading. However, there is a great deal of individual variability in this setting, with four of the six Down's Syndrome subjects receiving fewer opportunities to respond than their peers. These results suggest than when interacted with individually, the Down's Syndrome children were given far more opportunities to participate than their peers, but that this did not occur for more than half of the subjects.

Table 17: Mean Percentages of the Individual Distribution of each Interaction Type during Shared Reading

	Target Child	Other Child (Mean)	Group (Mean)	Ratio
INSTRUCTION				
Task	0.6	0.3	0.6	1.3
Organisation	1.3	0.2	0.3	3.2
FEEDBACK				
Behaviour/Attention	3.4	0.3	0.5	4.9
Corrective	0.6	0.1	0.1	3.5
Affirmative	1.3	1.2	0.2	1.1
ASSISTANCE				
Explanation etc.	0	0.2	0.6	0.8
Strategy	0	0	0	0
Model Provision	0	0	0	0

On average, Down's Syndrome children had the opportunity to respond to more instruction and feedback-related interactions than their peers. Non-target children had slightly greater opportunity to respond to teacher explanations, examples and illustrations, and no assistance was given to any group in the form of strategy or model provision.

The three highest ratios were for behaviour/attention related feedback, corrective feedback and organisational instructions. These target children needed more reminders about attending to the lesson and instructions than other pupils, on average, and their contributions were corrected when inaccurate. This may have been in order to avoid mislearning by a large group of pupils, which may have occurred if it had gone unchecked.

Summary of Interactions Initiated during Shared Reading

Two main conclusions emerged from these results. Firstly, more than half of the Down's Syndrome pupils did not receive individual interactions in this large group situation, although they were free to respond to any group-directed interaction, as was any other child. Secondly, the two target children who were interacted with individually, received a large percentage of all interactions within these groups. A considerable proportion of these were based on the child's attention or behaviour, and on organisational instructions.

These results suggest that in a large group setting such as Shared Reading, teachers did not interact individually with the Down's Syndrome child unless that child needed some

form of prompting about attention, behaviour, or what to do next.

Responses

One Down's Syndrome child (Subject Six) did not make any overt response to general or specific interactions during Shared Reading. He remained passive throughout, and appeared to be on-task for approximately half the session, as described earlier.

Although only two target children were interacted with on an individual basis, all other Down's Syndrome children in the study (except Subject Six) responded to general (group-directed) interactions. These responses were more often non-verbal than verbal, except for Subject One, the most able child (orally) in the sample.

When Subjects Three and Four were interacted with individually, their responses were also more often non-verbal than verbal. Since many of these interactions were related to their behaviour and attention, their responses usually took the form of compliance behaviours.

Table 18: Number, Percentage and Type of Responses made by Target Children during Shared Reading

		51		52		53		54		55		56		
Type of Response		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	Mean %
GENERAL	Verbal	50	62.5	0	0	45	17.1	0	0	15	4.7	0	0	14.1
	Non-verbal	20	25	20	100	105	39.9	30	40	240	76.2	0	0	46.9
SPECIFIC	Verbal	0	0	0	0	15	5.7	8	10.7	0	0	0	0	2.7
	Non-verbal	0	0	0	0	60	22.8	37	49.3	0	0	0	0	12.0
No Specific Response		0	0	0	0	0	0	0	0	0	0	0	0	0
Child Initiated Interactions		10	12.5	0	0	38	14.5	0	0	60	19.1	0	0	7.7
TOTAL		80	100	20	100	263	100	75	100	315	100	0	0	

In no case did any of these children fail to respond to specific interactions.

These results suggest that all Down's Syndrome children except for Subject Six, responded to group-directed interactions, and that these interactions were therefore successful in eliciting active participation by these children. When reminders about behaviour etc. were necessary, the appropriate responses were made by the children involved, in each case observed.

Pupil-Initiated Interactions

Pupil-initiated interactions were not common except for Groups One, Three and Five. In Group One, several children made comments about the vocabulary used or related the concepts introduced to previous knowledge and experience. For instance, when a character in the story shared some chocolate, a child commented, 'He wasn't being a piglet!' which led to a brief group discussion on sharing and co-operation. During this time, the target child followed the discussion, looking at each speaker and nodding in agreement, but without joining in.

Subject One's contributions were linked to number concepts - for example, he counted the characters in the picture and then announced, "there's six.' This happened only once or twice in each session.

In Group Three, the target child initiated comments at a rate of 37 per hour. These were related to his role as teacher's assistant (e.g. "Last one!") or more frequently, were comments describing what was happening in the story (e.g. "Bite it off!" "He's starving.") and were accompanied

by appropriate actions such as pretending to eat the illustrated food, or rubbing his stomach to indicate hunger. The teacher encouraged such activity from the target child, but the other children were encouraged to respond to questions and teacher comments rather than to initiate their own interactions.

Subject Five repeatedly called out the name of favourite characters from the book being shared. As pages were turned he pointed to the appropriate parts of a wall-display of the same book which the class had constructed earlier.

Pupil-initiated interactions, in Groups Two, Four and Six, were almost exclusively made by children other than the target child, and tended to be of an organisational nature (e.g. "I can't see properly.")

These Down's Syndrome children then, differed in the amount and type of interactions generated, from their peers. The three subjects (One, Three and Five) who made comments linked these to familiar concepts with which they felt comfortable (e.g. number and favourite characters). Since the sharing of ideas in a large-group situation such as Shared Reading is risk-taking for any child, their willingness to offer contributions can be seen as a considerable step towards normalisation.

The Down's Sydrome children who did not initiate interactions in this setting were Subject Six (whose major objective for this setting was acceptable social and non-disruptive behaviour) and the two female subjects (Two and Four). It is worth mentioning briefly here that in every group observed, any pupil-interactions were generally

initiated by boys rather than girls, although girls appeared to be equally as responsive to teacher-initiated questions and interactions.

Teacher Reinforcement

Table 19: Frequency and Percentages of Teacher Reinforcement of Individuals during Shared Reading

	Group 1		Group 2		Group 3		Group 4		Group 5		Group 6		Mean
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
Target Child	0	0	0	0	17	100	0	0	30	66.7	0	0	27.8
All Other Children	50	100	0	0	0	0	0	0	15	33.3[7]	8.6	100	38.9
Individual Others (Mean)	2	4	0	0	0	0	0	0	0.7	1.6	0.3	3.2	1.5

Groups Two and Four did not receive any verbal teacher reinforcement during Shared Reading. Mixed results were obtained for other groups, although on average, Down's Syndrome children received far more teacher reinforcement than other individuals; (this was affected by the high percentages of reinforcement given to Subjects Three and Five). When individual other children were reinforced, it was at a much lower percentage than those individual target children. Relating this reinforcement of Subjects Three and Five to response data in Table 18, it can be seen that these two target children had the highest rates of responding to general (group-directed) interactions of the six subjects. It is likely that by praising these children's responses, the teachers increased their desire to respond, and so the high rate of participation may be in part due to the teachers' reinforcement of the children's contributions.

It is interesting that Subject Five received no reinforcement in the Group Instructional Reading setting,

but that in Shared Reading, a large group setting in which he enjoyed joining in with actions and catch-phrases, he was reinforced at a higher rate than any other pupil.

Developmental Learning and Home Activities

High-Expectation Subjects

Both high-expectation subjects gave high priority to reading-related activities when given free choice - in both cases more than half of the developmental learning time observed was of this type. Teacher observations support this.

Subject One typically spent the initial part of free choice sessions in the classroom reading corner where he tended to select familiar high-interest level texts and 're-read' them to himself using a combination of his own 'language' and various gestures, mainly with the hands and face. This 'language' was also reported by his parents in home situations in which he became highly excited. This suggests that he found reading to himself a motivating and exciting activity.

When approached by other children, Subject One 'read' to them for a short period, but when their inability to comprehend his 'language' led to their attempts to 'help', he became annoyed and turned away. When approached by adults, he used conventional language in sentences of up to six or seven utterances to describe the book, and to attempt to persuade them to read it to him. These utterances typically included vocabulary introduced in the story, providing some evidence that this reading was contributing to the extension and development of his oral language.

The other preferred choice of activity was to create a picture, dictate a story about it to the teacher,

and then to read it aloud to himself or anyone who was prepared to listen. Because the child selected the vocabulary himself, he was able to read aloud quite accurately. However, occasional miscues (substitutions which occurred were semantically and syntactically correct, indicating that Subject One was using meaning as a basis for reading, at a level appropriate to himself.

Interview data indicated that books and reading were important factors of Subject One's home activities. He had passed through stages of playing word and letter games, and was capable of matching simple labels of up to three words with appropriate illustrations. Preferred activities included listening to and reading along with taped stories, reading to his parents, and listening to them read to him. In the latter case, he requested new material each night, which he would subsequently read to others. He was reported to be reluctant to read aloud along with his parents.

Subject One's attitude to and enthusiasm for books and reading was high, as evidenced by researcher, teacher and parent observations. He comprehended that print is meaningful and that it holds relevance to everyday life. He had developed a range of necessary skills to extract messages from print, with the support of pictorial cues. At home, he was the first to 'read' the Listener magazine each week to find out about his favourite television programmes, and was familiar with its layout.

Subject Two was more likely to play reading-related word games with two or three of her peers, than to

read in isolation. Most of these games consisted of matching words in some way - for instance - a favourite consisted of a variation of 'Bingo'. One child acted as the 'teacher' and pulled a card at random from a bag, reading the word on it and then showing it to the players, who searched their card for it and then placed a button on the appropriate square if they found the word. During the observation period, Subject Two took the role of player on each occasion. However her teacher has observed her taking the leadership role at other times.

When choosing to read aloud as part of the developmental learning period, Subject Two selected large poetry charts and blown-up books which she read along with peers. Interactions centred around unfamiliar vocabulary or comments about content. Other activities included block construction or playing with a model farmyard.

The teacher's major objective for Subject Two during these sessions was to reach a level of independence to choose an activity and see it through to its conclusion. Subject Two usually met this objective by choosing to join in co-operative activities with her peers rather than by working alone.

At home, emphasis was placed on reading and language activities; Subject Two read daily to and with her parents and siblings, regularly visited the local library where she chose her own material, and played many word and language games. Her mother observed that

the new vocabulary that she used tended to link in with material that she had recently read and discussed. This observation was also made by the teacher who stated that the speech therapist was basing her programme for Subject Two of the production of oral sounds and vocabulary on words and concepts which had been introduced to her through reading.

Subject Two's enjoyment of reading-related activites was evidenced by her preferred choice of free activities, both at school and home. She developed and used independently, skills of word recognition and use of context, and was able to link the concepts involved in a study to real-life situations which affected her and others.

The two high-expectation level subjects shared a high degree of interest and enthusiasm for reading and related activities, both at home and school. At home, they were encouraged by parents who valued the importance of reading.

Subject One preferred to select activities in which he worked alone, while Subject Two selected co-operative activities. This may be related to the fact that Subject One was the only child at home while Subject Two had other siblings with whom she interacted often.

Both these children were reported to have developed their oral language ability through reading activities.

Medium-Expectation Subjects

The two medium-expectation level subjects did not give as high priority to reading-related activities during

free choice time as Subjects One and Two. They both engaged in a variety of activities including construction, painting and reading, and had spontaneously developed to this stage after initial tendencies to select only one activity continuously (e.g. dressing up).

Subject Three was observed playing word games with two peers and a parent helper. His choice of game was one in which a dial was spun to point to one of a group of words related to a familiar story. Each child in turn was given the opportunity to identify the word, and to gain a counter for their points board. The objective of this game was to build up a sight vocabulary relevant to the book language already experienced by the children. Subject Three appeared to be equally as successful as his peers, which served to reinforce his enjoyment of the game and to strengthen the likelihood that he would recognise the vocabulary when next he came across it.

Other reading-related activities selected less commonly were reading aloud of blown-up books, and cooking activities in which parent-helpers assisted the children to follow simple recipes.

At home, Subject Three preferred to engage in individual physical activities such as swimming and trampolining rather than activities directly related to reading. His parents had developed a policy of giving him plenty of positive attention when he read, and they observed that his enjoyment and perseverance

had increased. They reported that he had particularly liked books as objects since an early age, and that he used basic skills (top-down, left-right etc.,) when reading independently. However he did not like to read along with his parents, and only read books to them which he had mastered at school. When reading independently (preferably to his teddy bear), he was reported to use fewer gestures to interpret the text, than he had done previously, placing stronger importance on oral interpretation.

A further development attributed to his improvement in reading skills by both teacher and parents, was the use of longer sentences. Previously he had used two or three word utterances, but when observed for this study he used four or five word utterances on several occasions. These were closer to syntactic accuracy than the telegraphic shorter sentences which he also used at times.

Subject Four was reported by her teacher to enjoy new and exciting developmental learning activities which her classmates were enthusiastic about, but she habitually participated in construction, painting and reading enlarged books, in approximately equal proportions. During the observation for this study, this pattern was confirmed.

Subject Four was very definite in her approach to reading the enlarged text. She allowed one peer (another girl) to read with her, but the subject took the initiative

in selection of books; which parts were attended to more closely, when the pages should be turned, etc. She tended to attend only to the words, using a pointer. When she encountered an unfamiliar word, she requested assistance from her friend, by engaging eye contact, and at other times the peer said the word indicated by the subject and the subject repeated and pointed to it. The peer was able to supply one-to-one attention which the subject wanted in this situation.

When a third child attempted to join the group, the peer explained her 'teaching' role and the boy was willing to assist. However, Subject Four took exception to this, and by physically placing herself between the boy and the enlarged text, virtually forced him out of the group. This suggested that her chosen developmental activities were not co-operative on her part, and that her inclusion of a peer in this activity simply fulfilled a desire for personal attention and assistance.

Subject Four's parents reported that she had enjoyed looking at books from an early age, but exclusively at pictures. Since starting school she had developed an interest in words, as was seen during the developmental learning session. She had developed basic book-handling skills, and enjoyed reading with her parents and independently. Many of her preferred games at home were word jigsaw games, for which correct matching of words was immediately reinforced by the snug fit of the jigsaw pieces.

Subjects Three and Five engaged in a variety of developmental learning activities when given free choice.

These included reading-related activities, generally of a non-cooperative nature although they worked alongside others (parent-helper and peer) who could assist them on an individual basis as they desired. Both children had liked books as objects to manipulate since an early age, but were developing greater interest in the messages contained in them since starting school.

As with Subjects One and Two, the oral language ability of both medium-expectation children was reported as improving in a way related to the reading development of each child.

Low-Expectation Subjects

Subject Five did not engage in direct reading activities during the developmental lessons observed, but it is interesting that in his cardboard construction work he selected materials on which print was visible in preference to plain materials. His teacher reported that chosen activities included blockwork, modelling, sand play and handling classroom pets as well as looking at books from the class browsing box.

At home this child chose to play with dough, trampoline or colour in pictures when given free choice. He enjoyed books with his parents, preferring those with repetitive text, but was reluctant to 'read' alone for any period of time. When he did read by himself, he did not do so systematically, but flicked backwards and forwards between pages, text and illustrations. If an item caught his attention and he wished to share it with his mother, he called 'Mummy' and then pointed to the item

of interest, rather than communicating orally.

Other reading-related activities at home included card-matching games and recognition of several signs such as 'Dairy', which he knew to mean a source of ice-cream and other good things! This understanding that print has meaning was a real breakthrough for him, and he had recently learnt to identify other signs, such as the teletext symbol for rugby, his favourite sport.

Subject Five's oral language was improving slowly; his early health problems and recent hearing difficulty had delayed his development. However, his teacher reported that when reading aloud, (usually repetitive text) he was able to produce longer and more complex sentence structures than he could use spontaneously. Both his teacher and his parents commented that his expressive language was far more limited than his receptive language, and that his utterances tended to be imitations of what was said to him.

Subject Six spent all of the developmental learning session working with books. He selected a book from the reading corner, sat down with it at his desk, and flicked backwards and forwards through it, apparently stopping at random every now and then to peer a little closer at something that caught his attention. During this activity, he brought his face right down to the paper - it is possible that he was gaining some form of visual stimulation from the points which caught his attention. This activity continued through the whole developmental session, and according to the teacher, was typical behaviour.

At home, Subject Six was reported to enjoy sitting

with parents and other children reading to him. His attention in this setting was generally given to the illustrations. Other reading-related activities included pointing to objects that were named by his parents, and matching simple picture cards. These activities all needed to be initiated by others, as Subject Six preferred to exercise no choice of activity when left alone, but would remain inactive. His oral language was minimal.

These low-expectation subjects both displayed some interest in print during developmental learning sessions, but this seemed to be as a form of visual stimulation rather than as a series of symbols conveying a message. At home, both preferred to listen to others reading, and enjoyed simple, repetitive texts. Subject Five appeared to be more sophisticated in his understanding that print is meaningful than Subject Six, and had a greater verbal ability with which to convey his understanding.

Discussion and Conclusion

There is growing support among teachers for the notion that active participation is an important element of the learning process. Cognitive processing of information - the sorting, matching, selecting, evaluating etc., leads to the building of networks of knowledge, but the covert participation of learners cannot be observed and introspective interviews do not necessarily accurately reflect what actually happened, particularly with young children. Overt participation however, is easily observable. Brophy and Good (1986) cite the works of Nuthall (1970), Nuthall and Church (1973) and Hughes (1973) in suggesting that "younger students need to participate overtly in recitations and discussions..." (p.333). If this is true for 'normal' children, then it follows that children with general developmental delay also need to participate overtly in order to learn.

The results of the present study indicate that there are indeed differences between the interactions of teachers with Down's Syndrome children and those with other pupils, as a group. Quantitatively, the Down's Syndrome children had the opportunity to respond to two and a half times as many questions , and more than twice as many interactions as each of their peers, in the settings observed.

What reasons are likely for this greater amount of teacher input? It is possible that the effect of

being observed may have led the teachers to interact more often with the target children. However, careful establishment of rapport and the collection of data across a variety of settings should have minimised the likelihood of such an effect. A more likely explanation is that the teachers interacted more often with the Down's Syndrome children in order to encourage them to participate overtly in the learning process, and therefore to derive greater benefit from the lesson.

Group Instructional Reading was a small group setting in which teachers were easily able to encourage the active participation of Down's Syndrome children. Across the six groups, Down's Syndrome children were able to respond to more than twice as many interactions, and two and a half times as many questions as their peers. They were asked more individual questions and individually interacted with more than other children, on average. However, the perceived ability of the target children led to the use of different types of interactions.

High and medium-expectation Down's Syndrome children were asked high-order questions relating to the academic aspects of the lesson and extrapolating information beyond the immediate text, using their general knowledge and experiences to support them. Their teachers made heavy use of confirmative questions to check their understanding, making sure that they were participating actively to an extent which would allow them to keep pace with their peers. Teachers of low-expectation subjects, on the other hand, asked them

mainly low-order schematic/experiential questions which allowed these children to relate their own knowledge and experiences to the story. The more capable subjects did this automatically, but for low-ability children it is necessary for teachers to assist them to make the connection between things that they knew and had done, and things that were being discussed.

Down's Syndrome children were given more instructions than their peers, and most were organisational. Teachers appeared to concentrate on giving them clear signals about what was expected of them. Target children also received much more feedback than other pupils. For medium and low-expectation subjects this mainly took the form of negative teacher comment abut their behaviour and attention. Perhaps it would be more useful for these teachers to draw the subjects' attention to more appropriate behaviour by first praising another group member and then praising the subject as soon as they exhibit characteristics of the same appropriate behaviour.

High-expectation subjects were the only target children to receive corrective feedback. It seems likely that teachers perceived some benefit from immediate correction of details for these more capable Down's Syndrome children.

The six Down's Syndrome pupils in the study responded to nearly all individual questions and interactions, suggesting that active participation can be increased through the use of these techniques. Non-verbal responses (e.g. nodding, compliance with instructions and requests, etc.,) were common for most

target children, although one high-expectation pupil with well-established language used verbal responses more often than non-verbal ones. Results across the six pupils indicated that in most cases, verbal responses were made more often to individual questions and interactions than to group (general) ones. Low-expectation pupils rarely, if ever, responded verbally.

During Group Instructional Reading, teachers verbally reinforced the responses of high and medium-expectation Down's Sydnrome pupils more often than their peers, using powerful and specific phrases, whereas low-expectation pupils were reinforced less often than their peers, by less powerful reinforcement.

The overall picture gained of Group Instructional Reading is one in which teachers interacted usefully and positively with high and medium-expectation Down's Syndrome children, extending their knowledge and checking their progress during each lesson. Low-expectation subjects however, did not appear to be encouraged to participate actively in the same way, and because of their lesser abilities they were not naturally inclined to take active part in the learning process. Because they were members of low-ability groups and the teachers were particularly concerned about their group membership skills, they did not receive the same teacher input related to academic development as other children in the study.

Observation of Shared Reading lessons yielded rather different results. In these large group settings, teachers had the educational needs of many children besides the target children to consider. High-expectation subjects were found to be self-motivated to attend to and participate in the lessons, while teacher-manipulation of the roles of Subjects Three and Five ensured that they too participated with interest and enjoyment. The remaining two Subjects were not self-motivated to participate, and may have benefitted from greater teacher intervention.

During Shared Reading, in a similar way to Group Instructional Reading, Down's Syndrome children, as a group, were able to respond to more than twice as many interactions and two and a half times as many questions as each of their peers. Although Down's Syndrome children had the opportunity to answer high-order, low-order and organisational questions, they were not asked any confirmative, decriptive or interpretive/ predictive questions individually. They were however, asked many more motivational/organisational questions than their peers. It seems that their teachers used academic and schematic/experiential questions briefly to assess their ability to relate to the story together with individual questions necessary to the smooth running of the lesson, and then concentrated on questions asked of the group as a whole and of other individuals.

Teachers only interacted with two of the Down's Syndrome pupils individually during Shared Reading, but these were at such a high rate that overall, Down's

Syndrome children had the opportunity to respond to more than twice as many interactions as their peers. These children were Subject Three, who took an active role as the teacher's assistant, and Subject Four. In the latter case, all interactions were feedback relating to her behaviour and attention.

Except for one child who was passive throughout, all target children responded to group-directed questions and interactions, mostly non-verbally. The two children who were interacted with individually, made use of mainly non-verbal responses. All responses to questions were reading-aloud behaviours or non-verbal compliance behaviours. Only half of the Down's Syndrome children observed initiated comments during class discussion or reading of the Shared Book. These were based on familiar concepts such as number, favourite characters, characters' actions etc. These verbal contributions in a large group situation, particularly in the case of Subject Five (who only responded non-verbally to the teacher's interactions) indicate the powerful effect of a child's personal motivation to share experiences, knowledge and ideas with others. This suggests the importance of being able to choose relevant stories and to provide adequate background experiences for a child to want to attempt to participate actively in such a public arena. No amount of teacher questioning, interacting or encouragement can help without such experiences, especially

with a developmentally-delayed child who is already at a disadvantage in comparison with other children.

The two children whose activities during Shared Reading time had been prompted by their teachers in order to maintain interest and active participation, were verbally reinforced more often than other target children. This probably led to their very high levels of response, particularly to general interactions.

During Shared Reading time, Down's Syndrome children who were self-motivated and compliant were rarely interacted with, but when teachers did interact with target children it was often related to their lack of attention or appropriate behaviour. Most of the subjects appeared to maintain an active role through remaining on-task and reading aloud at various stages of the lesson, and teachers especially reinforced the appropriate responses of children whose roles they had planned and established. Apart from motivational factors, the expectation level of Down's Syndrome children did not appear to be important to the types of interactions during Shared Reading.

The sophistication and complexity of reading-related activities pursued during Developmental Learning periods and at home was related to the expectational level of the subjects. High-expectation level subjects often selected reading activities when given free choice, medium-expectation subjects enjoyed reading as well as many other activities, and low-expectation subjects

preferred to have others read to them, or to try unrelated activities. In each case, reading was valued by the subject's parents, with a range of related games and activities being used regularly at home, and each child was reported to be improving in oral language which linked in some way to the child's reading activities.

How can the results of this study be used to assist future teachers of mainstreamed Down's Syndrome children?

When Down's Syndrome children are working in small reading groups, it appears to be important to involve them actively by giving them clear instructions about what they are expected to do, and by checking their understanding of the task and the content. Higher order questions are useful to extend more capable pupils, while low-order questions that directly link personal knowledge and experience to the story are required for children who cannot make such connections easily by themselves. These patterns are similar to those used for non-handicapped children of similar ability levels, but the Down's Syndrome children need more of each type of question. Descriptive questions are not appropriate in large quantities because of the expressive language limitations of the Down's Syndrome children. However, by observing such questions asked of their peers where patterns of response are modelled, capable Down's Syndrome children may feel confident enough to attempt a response if the structure has been recently demonstrated.

Teacher praise has been shown to encourage the active participation of Down's Syndrome children, demonstrating its effectiveness as a reinforcer. These children tended to respond more in the non-verbal mode than verbally, but more verbal responses were elicited through individual rather than group-directed questions. This was also true in the large group setting observed. Active participation during Shared Reading seemed to be maintained by each subject's inherent interest and motivation, or by the teachers setting active roles, monitoring performance and praising appropriate behaviour for the less self-motivated Down's Syndrome children. Down's Syndrome children with low self-motivation and no particular teacher-direction were either entirely passive throughout, in which case they were possibly missing any learning experiences, or were often behaving inappropriately or failing to attend, in which case the feedback directed to them interrupted the flow of the lesson and disrupted the learning process of the other pupils. This situation is to be avoided if possible, therefore it is recommended that teachers of mainstrained Down's Syndrome pupils with low spans of concentration or maintenance of interest, give them specific tasks or roles to undertake during large group sessions, and that they praise them intermittently to reinforce their appropriate behaviour. Active participation in the form of reading along with the group is to be encouraged, but it cannot be expected that these children will necessarily be able to respond individually to questions and interactions in this

large group setting. Confidence to do so is rare enough for non-handicapped children, let alone those who have experienced a developmental delay with its limiting effect on expressive language.

No teacher should be afraid of teaching a Down's Syndrome child to read. If the parents of children in this study are representative, then parents of mainstreamed Down's Syndrome children value reading, they support it through activities at home, and they can perceive its spin-off in improvement of oral language. While the teacher input to the Down's Syndrome child does need to be greater than for non-handicapped children in the small group setting, this does not necessarily need to take a great deal of time, and can easily be fitted in, to ensure active participation. In large group situations, the teacher simply needs to devise a small role which ensures that the Down's Syndrome child remains interested and active. Occasional praise to encourage the child is effective in maintaining responses.

These guidelines have been derived from the observation of teachers who believe that they have developed useful ways of interacting with Down's Syndrome children in reading lessons, so far. They may evolve these further and find that use of different types of questioning, for instance, may enhance active particpation. This is an observational study reporting on current practices in local schools, with the aim of giving 'new' teachers of mainstreamed Down's Syndrome children some ideas about

how to begin their task. It is not intended to prescribe a course of action which should be adhered to, but is rather an attempt to gather information which may assist. To determine the extent to which active participation in such reading lessons can lead to increased learning, further experimental research is needed which empirically measures the gains in knowledge and skills related to the various ways in which teachers encourage the Down's Syndrome children to participate overtly.

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Appendix A - Letter to Principals

Christchurch Teachers College

Dovedale Avenue, Christchurch 4, New Zealand. P.O. Box 31 065 Ilam. Telephone 482 059

The Principal

Dear

As a lecturer in Education at Christchurch Teachers College and a M.Ed student, I have a special interest in the current mainstreaming issue.

During the third term of this year, under the supervision of Professor Graham Nuthall (University of Canterbury) I intend to carry out an observational study of mainstreamed Down's Syndrome children. This will take place over a period of approximately six weeks, using running records, interviews, questionnaires and possibly video tape recordings. The purpose of this research is to obtain an overview of the activities and interactions of these children within the classroom. In no way will it be judgemental of the teaching or programmes concerned.

Permission is currently being sought from the Canterbury Education Board to implement this research, and I would very much like to include _____ in the study. I will telephone you during the next week or so to discuss this possibility.

Thank you for your consideration.

Yours sincerely

S Bridges

Appendix B - Letter to Parents of all Class Members

Christchurch Teachers College

Dovedale Avenue, Christchurch 4, New Zealand. P.O. Box 31 065 Ilam. Telephone 482 059

JM:SB

31 August 1987

Dear Parent/Guardians

During the next few weeks I hope to be visiting your child's class on several occasions as part of a small study that I am carrying out. The purpose of this study is to examine the way in which children work and interact in the classroom.

I hope to use the findings to assist teacher trainees to gain a deeper understanding of classroom dynamics.

Information will be collected through the use of a video recorder, which I will then collate and analyse. No-one beside myself will need to view the video.

Please fill in the permission sheet below and return to your child's school by _____.

If you would like to know any more about the study, please feel free to contact me at 482-059 extension 8078.

Thanking you in anticipation of your assistance.

Sue Bridges

Sue Bridges
LECTURER IN EDUCATION

I give permission for _____ (child's name)

at _____ (name of school) to be

included in S Bridges' study of classroom interactions.

SIGNED: _____

DATE: _____

APPENDIX C

TEACHER QUESTIONNAIRE

PLEASE OUTLINE YOUR ANSWERS AS FULLY AS POSSIBLE

1.(a) What have your long-term social objectives for ..... been this school year?

(b) To what extent have these been met?

2.(a) What have your long-term general academic objectives for ..... been this school year?

(b) To what extent have these been met?

3.(a) What benefits do you see from having mainstreamed ..... this year?

(b) What drawbacks do you see from having mainstreamed ..... this year?

4. Please outline your opinion of 'functional mainstreaming' as you have experienced it this year:

5. DEVELOPMENTAL LEARNING PROGRAMMES

(a) What type of skills do you expect ..... to develop during developmental periods?

(b) What type of activities does ..... tend to engage in most often during a time of free choice?

(c) In what way, if any, does ..... choose developmental activities that are reading-related?

6. SHARED READING (blown up books etc.)

(a) What are your general objectives for your class during shared book sessions?

(b) What are your general objectives for ..... during shared book sessions?

(c) How does ..... respond/react during these sessions?

(d) Please describe any interaction that usually occurs between ..... and yourself and/or the other children during shared book sessions:

7. INSTRUCTIONAL GROUP READING

(a) How many children are usually in .....'s instructional reading group?

(b) What level was ..... working at during the second half of this school year?

(i) Instructional level:

(ii) Independent level?

(c) What are your objectives for ..... during Guided Silent Reading/Instructional lessons?

What interaction do you expect to take place during these lessons between:

(i) ..... and yourself?

(ii) ..... and the other children?

(iii) ..... and the material/text/content?

(d) Are there any ways in which you feel a need to interact differently with ..... than the other group members during these sessions?

8. LANGUAGE EXPERIENCE

(a) What type of activities do you include as language experience?

(b) How does ..... contribute to these sessions usually?

(c) Have you noticed any developments in .....'s speech which may be related to reading activities? (Please outline in detail.)

9. GENERAL

Please add any comments which you would like to make regarding .....'s placement in your class this year?

THANK YOU FOR YOUR INVALUABLE HELP WITH MY STUDY THIS YEAR. WITHOUT YOUR COOPERATION AND FLEXIBILITY, IT WOULD NOT HAVE BEEN POSSIBLE. I WILL CONTACT YOU IN THE FIRST TERM NEXT YEAR TO LET YOU KNOW WHAT HAS BEEN LEARNED AS A RESULT.

Appendix D - Parent Questionnaire

Christchurch Teachers College

Dovedale Avenue, Christchurch 4, New Zealand. P.O. Box 31 065 Ilam. Telephone 482 059

Thank you for your assistance with this questionnaire. Its purpose is to find out what your expectations are for your child in a mainstream classroom, and the way in which s/he is applying school-related skills to the home situation. Please answer as fully as possible, and feel free to write on the back of the sheets if necessary.

All information will be treated as confidential.

Thank you again.

Sue Bridges
Lecturer in Education
Christchurch Teachers College

NAME OF CHILD:

SCHOOL ATTENDED:

DATE OF BIRTH:

1. How long has _____ attended school? _____

2. What are the main social benefits that you hope _____ will gain by attending this school?

3. What are the main academic gains that you expect _____ to make by attending this school?

4. Did _____ attend any pre-school course(s)? Yes ☐ No ☐
(If yes, please answer 5, otherwise go on to 6).

5. a. What pre-school course was attended?

   b. What school-related skills were learned?

6. Please outline the progress that you feel _____ has made in reading skills since starting school:

7. Please outline the progress that you feel _____ has made in the following areas since starting school:

   a. Maths

   b. Oral Language

   c. Written Communication

8. On the next page is a list of activities which you may engage in with _____. Please tick those which you find _____ enjoys, and where appropriate, give examples of the books or games that are typical of those used (eg. 'Captain Pugwash' books).

9. Please outline any other activities which _____ enjoys at home: _____
_____
_____

ACTIVITY	TICK BOOK IF APPLICABLE	TYPICAL BOOK OR GAME (Where applicable)
Parents read to _____	☐	_____
_____ reads along with parents	☐	_____
_____ reads to parents	☐	_____
Library visits _____ chooses own books	☐	_____
Library visits _____ and parents choose books together	☐	_____
Word games - letters	☐	_____
Word games - matching words and pictures	☐	_____
Word games - building sentences	☐	_____
Word games - pointing to objects and naming them	☐	_____
Word games - other (Please explain)	☐	_____
Number games - counting	☐	_____
Number games - making groups, sorting	☐	_____
Number games - size, shape	☐	_____
Number games - Other (Please explain)	☐	_____

10. Which of the following would be closest to describing _____'s general attitude to books and reading? (Please tick one).

☐ a. Not at all interested. eg. usually tosses book aside even when parent is encouraging and reading to him/her.

☐ b. A little interested. eg. Can be persuaded to 'read' with parents for a short time (eg. 2-5 minutes), but unwilling to 'read' on own.

☐ c. Willing to 'read' with parents for longer periods of time, but unwilling to 'read' alone.

☐ d. Prefers to 'read' alone than with parents.

☐ e. Enjoys 'reading' with parents and independently.

☐ f. Other (Please specify) _____

_____

_____

11. Which of these skills do you observe _____ using when 'reading' alone? (Please tick).

☐ The book held the right way up

☐ 'Reading' from left to right

☐ 'Reading' from top to bottom

☐ Turning pages correctly

☐ Looking at pictures only

☐ Looking at words only

☐ Looking at words and pictures

☐ Reading aloud

12. Please circle any of the skills in Question 11 that you observe when _____ is reading to or with you, and add below any other skills or habits that you have noticed:

_____

_____

_____

Thank you for your co-operation with this questionnaire.

APPENDIX E

RELIABILITY RESULTS

Table 20 Percentages of Observer Agreement with Researcher*

	TARGET CHILD		INDIVIDUAL OTHER		GROUP	
	Obs.1 %	Obs.2 %	Obs.1 %	Obs.2 %	Obs.1 %	Obs.2 %
QUESTIONS						
Academic	96	98	97	100	99	98
Confirmative	100	100	100	100	100	100
Descriptive	100	100	100	100	100	98
Interpretitive/ Predictive	87	93	91	98	98	100
Motivational/ Organisational	100	100	99	100	100	100
Schematic/ Experiential	100	100	100	100	93	96
INTERACTIONS						
(INSTRUCTION)						
Task	100	96	100	98	96	89
Organisation	97	92	89	92	87	93
(FEEDBACK)						
Behaviour/ Attention	88	96	96	93	100	98
Correction	92	98	100	94	94	96
Affirmation	96	94	92	87	97	88
(ASSISTANCE)						
Explanation etc.	100	92	93	100	91	79
Strategy	100	100	83	89	100	97
Model Provision	100	100	98	95	100	100

* All figures were calculated to the nearest percentage.

APPENDIX F

TABLES OF QUESTION AND INTERACTION-TYPE DATA FOR EACH GROUP

Table 21 Percentages of Question Types asked of Group One during Group Instructional Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=1)	Group	Total
Academic	20.7	6.0	6.0	12.8	39.5
Confirmative	12.8	-	-	-	12.8
Descriptive	-	-	-	10.4	10.4
Interpretitive/ Predictive	5.3	6.0	6.0	10.4	21.7
Motivational/ Organisational	5.3	4.0	4.0	-	9.3
Schematic/ Experiential	-	-	-	6.4	6.4
	44.1	16.0	16.0	38.0	100% *

Table 22 Percentages of Question Types asked of Group Two during Group Instructional Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=4)	Group	Total
Academic	2.7	1.0	4.1	23.8	30.6
Confirmative	7.9	1.5	6.2	-	14.1
Descriptive	2.7	1.5	6.2	11.6	20.5
Interpretitive/ Predictive	5.3	1.0	4.1	5.8	15.2
Motivational/ Organisational	7.9	-	-	11.6	19.5
Schematic/ Experiential	-	-	-	-	-
	26.5	5.0	20.6	52.8	100%

* N.B. All figures have been rounded to one decimal place and therefore may not exactly total 100%.

Table 23 Percentages of Question Types asked of Group Three during Group Instructional Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=6)	Group	Total
Academic	19.6	0.9	5.7	25.9	51.1
Confirmative	3.2	-	-	-	3.2
Descriptive	13.4	-	-	12.9	26.3
Interpretitive/ Predictive	3.2	-	-	6.5	9.7
Motivational/ Organisational	-	-	-	-	0
Schematic/ Experiential	3.2	-	-	6.5	9.7
	42.6	0.9	5.7	51.8	100%

Table 24 Percentages of Question Types asked of Group Four during Group Instructional Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=4)	Group	Total
Academic	4.4	-	-	12.3	16.6
Confirmative	13.3	0.7	2.9	3.1	19.3
Descriptive	-	-	-	15.2	15.2
Interpretitive/ Predictive	4.4	2.9	11.5	12.2	28.1
Motivational/ Organisational	4.4	0.7	2.9	6.1	13.4
Schematic/ Experiential	4.4	-	-	3.1	7.5
	30.9	4.3	17.3	51.9	100%

Table 25 Percentages of Question Types asked of Group Five during Group Instructional Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=6)	Group	Total
Academic	-	2.9	17.2	27.8	45.0
Confirmative	-	-	-	4.0	4.0
Descriptive	-	1.0	5.7	19.8	25.5
Interpretitive/ Predictive	-	1.0	5.7	4.0	9.7
Motivational/ Organisational	-	-	-	15.8	15.8
Schematic/ Experiential	-	-	-	-	0
	0	4.9	28.6	71.4	100%

Table 26 Percentages of Question Types asked of Group Six during Group Instructional Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=4)	Group	Total
Academic	3.5	-	-	18.9	22.4
Confirmative	-	-	-	-	0
Descriptive	-	3.5	13.8	18.9	32.7
Interpretitive/ Predictive	-	-	-	18.9	18.9
Motivational/ Organisational	-	-	-	-	0
Schematic/ Experiential	3.5	0.9	3.5	18.9	25.9
	7.0	4.4	17.3	75.6	100%

Table 27 Percentages of Interaction Types Initiated to Group One during Group Instructional Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=1)	Group	Total
INSTRUCTION					
Task	12.8	-	-	2.3	15.1
Organisation	9.1	4.2	4.2	24.4	37.7
FEEDBACK					
Behaviour/ Attention	1.8	-	-	2.3	4.1
Correction	1.8	-	-	-	1.8
Affirmation	3.7	2.1	2.1	8.8	14.6
ASSISTANCE					
Explanation etc.	7.3	1.1	1.1	15.4	23.8
Strategy	1.8	1.1	1.1	-	2.9
Model Provision	-	-	-	-	0
	38.3	8.5	8.5	53.2	100%

Table 28 Percentages of Interaction Types Initiated to Group Two During Group Instructional Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=4)	Group	Total
INSTRUCTION					
Task	4.1	2.5	10.0	15.6	29.7
Organisation	8.2	-	-	21.8	30.0
FEEDBACK					
Behaviour/ Attention	-	-	-	-	0
Correction	8.2	2.5	10.0	3.1	21.3
Affirmation	-	-	-	3.1	3.1
ASSISTANCE					
Explanation etc.	-	-	-	9.3	9.3
Strategy	-	0.8	3.3	-	3.3
Model Provision	-	0.8	3.3	-	3.3
	20.5	6.6	26.6	52.9	100%

Table 29 Percentages of Interaction Types Initiated to Group Three during Group Instructional Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=6)	Group	Total
INSTRUCTION					
Task	4.6	-	-	26.2	30.8
Organisation	-	-	-	26.2	26.2
FEEDBACK					
Behaviour/ Attention	3.1	-	-	-	3.1
Correction	-	-	-	-	0
Affirmation	6.2	-	-	3.8	10.0
ASSISTANCE					
Explanation etc.	-	-	-	29.9	29.9
Strategy	-	-	-	-	0
Model Provision	-	-	-	-	0
	13.9	0	0	86.1	100%

Table 30 Percentages of Interaction Types Initiated to Group Four during Group Instructional Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=4)	Group	Total
INSTRUCTION					
Task	6.4	0.9	3.7	9.0	19.1
Organisation	15.1	-	-	11.3	26.4
FEEDBACK					
Behaviour/ Attention	6.4	0.9	3.7	2.3	12.4
Correction	-	-	-	-	0
Affirmation	2.2	1.8	7.1	-	9.3
ASSISTANCE					
Explanation etc.	2.2	-	-	4.5	6.7
Strategy	-	-	-	-	0
Model Provision	8.6	0.9	3.7	13.8	26.1
	40.9	4.6	18.2	40.9	100%

Table 31 Percentages of Interaction Types Initiated to Group Five during Group Instructional Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=6)	Group	Total
INSTRUCTION					
Task	-	0.4	2.3	34.7	37.0
Organisation	-	0.4	2.3	11.4	13.7
FEEDBACK					
Behaviour/ Attention	9.3	-	-	-	9.3
Correction	-	-	-	-	0
Affirmation	-	-	-	-	0
ASSISTANCE					
Explanation etc.	-	-	-	30.7	30.7
Strategy	-	-	-	-	0
Model Provision	-	-	-	9.3	9.3
	9.3	0.8	4.6	86.1	100%

Table 32 Percentages of Interaction Types Initiated to Group Six during Group Instructional Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=4)	Group	Total
INSTRUCTION					
Task	-	1.3	5.2	13.9	19.1
Organisation	4.3	-	-	7.0	11.3
FEEDBACK					
Behaviour/ Attention	8.8	1.3	-	-	14.0
Correction	-	2.6	10.5	-	10.5
Affirmation	-	-	-	20.9	20.9
ASSISTANCE					
Explanation etc.	4.3	-	-	3.4	7.7
Strategy	-	1.3	5.2	-	5.2
Model Provision	4.3	-	-	7.0	11.3
	21.7	6.5	26.1	52.2	100%

Table 33 Percentages of Question Types asked of Group One during Shared Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=25)	Group	Total
Academic	-	0.8	20.0	70.0	90.0
Confirmative	-	0.4	10.0	-	10.0
Descriptive	-	-	-	-	0
Interpretitive/ Predictive	-	-	-	-	0
Motivational/ Organisational	-	-	-	-	0
Schematic/ Experiential	-	-	-	-	0
	0	1.2	30.0	70.0	100%

(No questions were asked of Group Two during Shared Reading.)

Table 34 Percentages of Question Types asked of Group Three during Shared Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=15)	Group	Total
Academic	5.3	-	-	31.6	36.9
Confirmative	-	-	-	5.3	5.3
Descriptive	-	0.4	5.3	31.6	36.9
Interpretitive/ Predictive	-	-	-	10.5	10.5
Motivational/ Organisational	5.3	-	-	-	5.3
Schematic/ Experiential	5.3	-	-	-	5.3
	15.9	0.4	5.3	79.0	100%

Table 35 Percentages of Question Types asked of Group Four during Shared Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=17)	Group	Total
Academic	-	-	-	11.1	11.1
Confirmative	-	-	-	-	0
Descriptive	-	1.6	27.8	-	27.8
Interpretitive/ Predictive	-	0.3	5.6	11.1	16.7
Motivational/ Organisational	-	0.3	5.6	-	5.6
Schematic/ Experiential	5.6	1.3	22.2	11.1	38.9
	5.6	3.5	61.2	33.3	100%

Table 36 Percentages of Question Types asked of Group Five during Shared Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=21)	Group	Total
Academic	20.8	-	-	50.0	70.8
Confirmative	-	-	-	-	0
Descriptive	-	1.4	29.2	-	29.2
Interpretitive/ Predictive	-	-	-	-	0
Motivational/ Organisational	-	-	-	-	0
Schematic/ Experiential	-	-	-	-	0
	20.8	1.4	29.2	50.0	100%

Table 37 Percentages of Question Types asked of Group Six during Shared Reading

QUESTION TYPES	TEACHER QUESTIONS DIRECTED TO				
	Target Child	Individual Others (average)	Individual Others (total) (n=31)	Group	Total
Academic	-	0.4	12.5	12.5	25.0
Confirmative	-	-	-	12.5	12.5
Descriptive	-	-	-	-	0
Interpretitive/ Predictive	-	-	-	12.5	12.5
Motivational/ Organisational	-	-	-	-	0
Schematic/ Experiential	-	1.2	37.5	12.5	50.0
	0	1.6	50.0	50.0	100%

Table 38 Percentages of Interaction Types Initiated to Group One during Shared Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=25)	Group	Total
INSTRUCTION					
Task	-	0.2	4.2	8.3	12.5
Organisation	-	0.3	8.3	-	8.3
FEEDBACK					
Behaviour/ Attention	-	0.5	12.5	12.5	25.0
Correction	-	-	-	-	0
Affirmation	-	0 3	8.3	8.3	16.6
ASSISTANCE					
Explanation etc.	-	-	-	37.6	37.6
Strategy	-	-	-	-	0
Model Provision	-	-	-	-	0
	0	1.3	33.3	66.7	100%

Table 39 Percentages of Interaction Types Initiated to Group Two during Shared Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=18)	Group	Total
INSTRUCTION					
Task	-	-	-	-	0
Organisation	-	-	-	-	0
FEEDBACK					
Behaviour/ Attention	-	-	-	-	0
Correction	-	-	-	-	0
Affirmation	-	5.6	100	-	100
ASSISTANCE					
Explanation etc.	-	-	-	-	0
Strategy	-	-	-	-	0
Model Provision	-	-	-	-	0
	0	5.6	100	0	100%

Table 40 Percentages of Interaction Types Initiated to Group Three during Shared Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=15)	Group	Total
INSTRUCTION					
Task	3.8	-	-	19.2	23.0
Organisation	7.7	0.3	3.8	7.7	19.2
FEEDBACK					
Behaviour/ Attention	7.1	1.0	15.4	7.7	30.2
Correction	3.8	-	-	-	3.8
Affirmation	7.7	0.3	3.8	-	11.5
ASSISTANCE					
Explanation etc.	-	-	-	11.5	11.5
Strategy	-	-	-	-	0
Model Provision	-	-	-	-	0
	30.1	1.6	23.0	46.1	100%

Table 41 Percentages of Interaction Types Initiated to Group Four during Shared Reading

INTERACTION TYPES	TEACHER INTERACTIONS DIRECTED TO Target Child	Individual Others (average)	Individual Others (total) (n=17)	Group	Total
INSTRUCTION					
Task	-	0.5	8.3	4.2	12.5
Organisation	-	0.3	4.2	8.3	12.5
FEEDBACK					
Behaviour/ Attention	12.5	-	-	8.3	20.8
Correction	-	-	-	-	0
Affirmation	-	0.7	12.5	12.5	25.0
ASSISTANCE					
Explanation etc.	-	0.5	8.3	20.8	29.1
Strategy	-	-	-	-	0
Model Provision	-	-	-	-	0
	12.5	2.0	33.3	54.1	100%

Table 42 Percentages of Interaction Types Initiated to Group Five during Shared Reading

INTERACTION TYPES	Target Child	TEACHER INTERACTIONS DIRECTED TO Individual Others (average)	Individual Others (total) (n=21)	Group	Total
INSTRUCTION					
Task	-	0.8	16.7	33.3	50.0
Organisation	-	-	-	16.7	16.7
FEEDBACK					
Behaviour/ Attention	-	-	-	16.7	16.7
Correction	-	-	-	16.7	16.7
Affirmation	-	-	-	-	0
ASSISTANCE					
Explanation etc.	-	-	-	-	0
Strategy	-	-	-	-	0
Model Provision	-	-	-	-	0
	0	0.8	16.7	83.4	100%

Table 43 Percentage of Interaction Types Initiated to Group Six during Shared Reading

INTERACTION TYPES	Target Child	TEACHER INTERACTIONS DIRECTED TO Individual Others (average)	Individual Others (total) (n=31	Group	Total
INSTRUCTION					
Task	-	-	-	25.0	25.0
Organisation	-	0.4	12.5	-	12.5
FEEDBACK					
Behaviour/ Attention	-	-	-	25.0	25.0
Correction	-	0.4	12.5	-	12.5
Affirmation	-	0.4	12.5	-	12.5
ASSISTANCE					
Explanation etc.	-	0.4	12.5	-	12.5
Strategy	-	-	-	-	0
Model Provision	-	-	-	-	0
	0	1.6	50.0	50.0	100%