An empirical study of four year olds in a variety of pre-school settings

Collinson, Jean Cynthia

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Abstract.

This study concentrates on the way the environment can be structured to nurture children's learning. It is concerned essentially with play as the medium through which young children learn and it seeks to identify the strengths and weaknesses of three forms/models of provision as a means of building a view of the appropriate curriculum for pre-school children.

The study draws on the research design of the Oxford Preschool Research Project team, using their child watching technique, and observation coding system. The work was carried out in three types of preschool settings, Nursery Schools, Nursery Units and Nursery Classes. Two of each type of centres were studied to enable comparisons to be made. A sample of six children, three boys and three girls from each centre, a total of thirty six children, were observed for five twenty-minute periods, documenting 3,600 minutes of behaviour.

The observations revealed that one of the major influences on the content of the curriculum was the degree of autonomy each centre enjoyed. There was evidence that temporal structure had more effect upon cognitive challenge than task structure, with a significant effect upon the social grouping. They also showed the importance of sociodramatic play for facilitating the use of language to provide planning and sustaining functions, and the amount of interactions between adults and children.

The evaluation of the results support the findings of the Oxford Preschool Research, that centres which have the most positive effects are characterized by "nurture",an atmosphere of intimacy, conversation with adults and a focus on challenging and imaginative play.

"AN EMPIRICAL STUDY OF FOUR YEAR OLDS IN A VARIETY OF PRE-SCHOOL SETTINGS."

Submitted by Jean Cynthia Collinson
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Contents.

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In completing this study I should like to thank my Tutor, friends, and the children and teachers in the pre-school centres.

Chapter. 1.

The Design of the Study.

Part 1. The Design of the Study.

Part 2. Description of the Pre-school Centres Studied.

Part 3. The Programmes of the Pre-school Centres Studies.

Part 1

The Design of the study.

The issue addressed in this empirical study of four year old children in a variety of pre-school settings is, which, if any, of the present forms of provision for nursery education may provide a model for the attention of those responsible for extending nursery provision, or whether, as a result of recent research, innovation needs to be made in order to provide centres where it is possible to structure programmes that will contribute towards a more lasting benefit for the child, and through the child to the community.

The study was carried out in six Local Education Authority nurseries. As the focus of the study was the influence of the form of provision on the curriculum, two of each kind of centres usually provided by Local Education Authorities were selected, so that comparisons could be made between the different types of provision, and also between those which gave similar provision. The criteria for the selection of the centres was that they were (a), staffed by teachers trained or retrained for nursery education, and (b), that they had qualified assistants. The two Nursery schools and two Nursery Units were in one authority. The two nursery classes used for the study were both in a neighbouring County.

A small sample of six children, three boys and three girls, from each centre, were selected, a total of thirtysix children. The children were selected on a random basis from those who had attended the pre-school for a minimum of one term, who had no obvious handicap, and were

between four years and four years nine months of age.There were no further criterion for selection. It was not considered necessary to match the children or use any tests to get a measure of the base line of the children in any particular aspect of development. They could only be compared on the basis of age, sex, and date of entry into school. English was the first language of thirtyfive of the children, one child interacted with her peer group in Urdu, her own first language, she was not heard to use English, although it was on record that she understood it.

The design of the study involved the collection of data on each of the 36 children over a period of time to ensure that it was possible to observe a range of activity. Each school operated a part time system, the children attending morning or afternoon for between two and two and a half hours. In each instance the afternoon session was shorter than the morning session, and it proved to be unproductive to observe after 3.00.p.m. due to constant interruptions of the group by parents.

Each child was observed for five twenty-minute periods, documenting a total of 3,600 minutes of behaviour. The observations were necessary to establish the nature of the curriculum being offered. From the observations information was collected about the child's activities, the cognitive challenge they gained from them, the social context and whether there was any dialogue.

In this study the method used for collecting the information was the one developed by the Oxford Preschool Research Project, from this point referred to as O.P.R.P,

it was a major piece of research on the provision for the under fives in Britain, in 1980, The S.R.P. team devised a 'target child' technique, and a coding system for recording observations of children objectively. This technique had been adopted from the focal animal technique originally developed by ethologists for collecting information from observing individual animals in their natural environment.

The 'target child' method meant that the observer's attention was focussed on one child for a period of time, recording in a systematic way each action of the child during each minute. The time span of one minute was recommended in 'Observing Children' Sylva, Roy and Painter. 1979. as a manageable span for recording. This was tested and found to be a satisfactory unit of time and was used in this empirical study. The observations were recorded at different times during the session which the 'target child' attended, this helped to give a profile of each child's level of activity during the period of study. The observations were then categorized in ways that enabled general statements to be made.

Sylva,Roy,and Painter, who will be referred to as S.R.P. used a time span of 1/2 minute intervals which may have resulted in more detailed recordings. Each action was coded to give information about what the child was doing; with whom he was doing it; whether there was any dialogue; and how long the activity lasted. The coding systems devised by the S.R.P. were used to enable the recording to be as objective as possible. Recording sheets

(Appendix 1 p 119) were prepared for a minute by minute recording by hand of the activity and its category, of language, and social context. The S.R.P. team took more than a year to shape and polish this method of target child observation and coding and this study replicated their methods to test their ability to provide objective observations.

The actions of the children are defined into twentyfour activity categories, described as 'Task Codes'. The codes have been grouped to show activities that could be judged to give challenge in varying degrees. The detailed observations would show whether children engaged in these challenges gave evidence of complex thinking, described by the S.R.P. as High Cognitive Challenge or if not judged to be complex, Ordinary Cognitive Challenge. The characteristics of these two levels of play (Appendix. 2. p 120) were adhered to in this study in the analysis of the observations.

1. Task code categories - (Appendix. 3. p 121) numbered 1 to 6 were judged by S.R.P. to have the possibility of being intellectually demanding, observations of these activities in this study were coded as giving high cognitive challenge or ordinary challenge, using the criteria developed by S.R.P. Tasks 7, 8 and 9 were judged to give moderate challenge, 10,11,and 12 only low challenge, and the task numbered 13 in the list was judged to give the lowest yield of cognitive challenge. A child could participate in all these activities without being stretched. Problem solving, Examination, and Adult

Directed Art could also be ordinary or challenge complex thinking, observed instances of these activities were found to be embedded in another activity and coded under that behaviour.

In addition to these action codes - three other major categorical systems were developed.

Social Codes - the social setting in which the activity occurred, with another child in peer group, small group of peers (3 to 5), large group (6 plus), target child and adult.

Language Codes - Language was described in broad terms.

a). The number of utterances the target child addressed to others.

b). Status of speakers and listeners, adult or child. It proved to difficult to record the actual speech of the child in each time span of 1/2 minute.

A dialogue was defined as a three turn sequence;

A ----> B; B ----> A; A ----> B;

The topic had to be consistent throughout all three turns,and each contribution expand the previous one.

The fourth coding system, playbouts, is different from the other three which describe exactly the child's activity.The observations were analysed to show themes in the children's play. This helps to identify what it is that holds the interest of the child.

Playbouts - were described as spells of related activity - holding a particular theme. This allowed the preparation and discussion after to be part of the theme, completing a unit of activity or attention.

In this study, as in the S.R.P.Project the target child was observed for a few minutes before the recording began, so that the observer could judge an appropriate moment to begin. If there was an interruption during the twenty minute period, the recording ceased and was continued when the target child returned or recommenced the activity.

The focus of study for the "Observing Children" project was not on the organization of the materials to promote specific skills, but on the interaction between children and what was on offer in the environment, the situational factors that helped children to thrive.

In order to do this the team of Dr.Kathy Sylva, a trained psychologist, Carolyn Roy, a research student,and Marjorie Painter, a lectured in Nursery Education, authors of the research publication "Childwatching at Playgroup and Nursery School". 1980. chose first to study concentration. Their definition of concentration was, focussing one's attention on some act or thing in a sustained way; and the two componants of concentration, the ability to sustain attention and the capacity for committment to one's actions. The choice of concentration was for its value to the children's future educational opportunities. David Fontana, Curriculum Studies, 1976,Vol.8,No. 1, 27 - 34. identifies attentional skills

as one group of the precise skills needed in the learning process. The decision was also influenced by the fact that concentration was an area where findings could be used to a practical benefit. Therefore the first clearly defined research goal of the team was established as ..

> "..concerned factors in the preschool that encouraged or hindered concentration in young children.....exploring materials, events and interactions that were most often associated with periods of sustained attention to some action or event that earned the child's respect....."
> Sylva,Roy, Painter.(1980).p.19.

Next the Sylva, Roy and Painter team decided on the 'how' of the research. As the observational studies were to be in the nursery setting, an experimental approach that would require situations to be set up was discounted, and advice was given by researchers who had conducted ethological approaches to the study of child development. The team visited nurseries and playgroups trying out different methods of recording. Video cameras and tape recorders were tested and rejected, as the use of them would not fit with the declared intention of Jerome Bruner, the Project Director, that the research should bridge the gap from research into practice. After experiment and discussion with practitioners the following design model was agreed;

a). To adopt the 'focal animal' technique originally developed by ethologists. The 'focal animal' became the 'target child'.
(The goal here was to develop an action/research tool that could be used by teachers and playgroup leaders).

b). The period of observation was to be of 20 mins duration, broken down into managable time spans of 1/2 min intervals.
The recording to be done with paper and pencil.

c). That each action should be coded in a way that the categories of behavior observed enabled the researchers to identify, 1. what the child was doing; 2. with whom he was doing it; 3. whether there was any dialogue; 4. how long the activity lasted.

In order that the action coding (c) above was objectively observed, the four major categorical systems that have been described were developed. The research was carried out in nineteen centres, representative of city, suburb, and rural environment. Sylva, Roy and Painter, (1980). say of the sample, that they were satisfied that the state nurseries were representative of others in Oxfordshire, but the playgroups were drawn from the better ones, had trained staff, and were well established. There would have been little value in observing in some preschool settings, with very poor facilities, and untrained staff. The three types of preschool were fairly evenly represented, 6 nursery schools, 6 nursery classes and seven playgroups. One hundred and twenty children were randomly selected, from two age groups, three and a half to four and a half; four and a half to five and a half. Half boys and half girls in each group. Each was observed for two twenty minute periods, summarized by Bruner (1980).p57 as follows

> "In gross time this amounted to 4,800 minutes of observation - 80 hours, or roughly 30 days of the active life of children in a preschool".

The reliability of the observing and coding were measured by Cohen's Kappa measure, and the data analysed with multiple regression. Sylva, Roy, and Painter (1980). pp.205;223.

Possibly, one of the most rewarding aspects of the work in developing the coding categories, was that the research 'tool' devised, proved sensitive to many factors,and the observations could shed light on the complexity of play, as well as extent. This was probably due to the skills of the the teams cognitive psychologists. They were able to devise a system of judging the cognitive complexity of tasks that was possible for practitioners to use.

A strict behavioural definition was adopted by the S.R.P towards cognitive complexity. For play to be cognitively complex, there had to be evidence of task related behaviour, sequentially organized and elaborated, or containing a symbolic transformation. A transformation was judged to be, when one object or act was made to represent another at a level beyond early representational play, the child knows the difference, and yet in his play he is capable of using the object to represent what he needs. This definition was used when analysing the observations recorded in this replication of the S.R.P.project.

A decision was made by S.R.P. to score cognitive challenge in the first twelve categories on the Activity Code list (Appendix 3 p 121) Each category judged by independent rules, and characteristics of high/low cognitive challenge. Particular activities found in the nursery environment were judged to have high to low yield in challenge. The observers catagorized behaviour high level, and challenging, only if they saw positive evidence

of sequential elaboration or transformation. Their objective was to evaluate so that factors that encouraged, or hindered, concentrated challenging activity could be identified.

The levels of play were defined by S.R.P as:

A. Complex play (1).Usually involved materials that provided feedback; (2).The goals were usually set by the child; (3). The task self chosen; (4). The task had an element of risk, of achievement or failure, and required a commitment. B. High challenge activities included small and large scale construction, structured materials, which included activites connected with the 3Rs. and art and music when it was self chosen. C. Moderate challenge activites included pretend,scale version toys, manipulation. D. Lowest challenge activities included non-playful interaction, informal games, rule bound games, gross motor play, social play,'horsing around' and giggling.

It was found by S.R.P. that (B) the highest yield goal orientated tasks stretched the mind, (C) the moderate yield encouraged social interaction, and (D) where activites just happened without planning took the time that could be spent in more sociable and cognitively stretching activities.

The organization of the Oxford centres was carefully examined for its effect on the outcomes of the childrens activity. To be objective in this area presented problems due to the diverse nature of the centres. The final decision made by S.R.P. was to look at structure in two

ways. One focussing on the nature of the tasks given to children, and the second on the regularity of the daily programme. The terms "more structured" "less structured" or "too structured" may mean different things to each teacher and the research required an objective definition of structure.

A centre was described as 'high' on task structure if there were two or more prescribed tasks during each session, one of which had to be 'school-like' - the activity and materials were imposed upon the children by adults, and children engaged in them for a fixed period of time, not necessarily all together or participating in the same task. In the discussion of a task structured centre it was stressed that structure did not mean regimentation. Free play was allowed for the greater part of the session. Each child was invited and expected to take part in a compulsory structured activity for a period of 10 - 20 minutes.

> "Centres high on task structure provided a steady diet of free play 'seasoned' with a few mandatory tasks.....for simplicity of labelling, we call these 'high' centres 'structured programme' and their opposites 'free programme'." Sylva,Roy, and Painter,(1980). p.132.

Most schools in the Oxford sample had a fixed routine, rather than a task structured programme. To evaluate whether it was the regularity of the routine or the regularity of the tasks, centres were sorted into two categories, either a fixed temporal structure, or a free temporal structure. The centres described as having a "fixed temporal structure" had to conduct three regular

activities each day at the same time. These included milk and outdoor play.

Part 2

Description of the Pre-School Centres Studied.

Nursery School NS1 was a single storey prefabricated building situated on level ground in a quiet cul-de-sac. It had a hard surfaced play area, and was surrounded by a grassed area which was well fenced, and secure. It had an adequate storage shed for outdoor play equipment, and a covered sand pit. The two nursery rooms opened directly onto a raised path with ramps leading down to the play area. The entrance hall of the building was used as a parent information centre, and the corridor between the two playrooms had pegs for outdoor clothes. A small 'quiet' room and bathroom led off the corridor with the playrooms situated at each end. Other indoor facilities included a kitchen, staff room and office. The areas were very small and crowded. One playroom contained all the art media, manipulative materials, and the home corner. The second playroom contained a book corner, music area, construction toys, jigsaw puzzles, and provision for the children to have milk and snacks. The 'quiet' room was equipped with open shelves holding books and games, a low table and cushions. The resources in each area were accessible to the children, and were organized so that items used could be returned to the correct storage area.

The school NS1 had forty part time places, providing morning or afternoon sessions for 80 children. A few children with special needs stayed over the lunch time period, and for the afternoon session. The school was staffed by a Head Teacher, one classroom teacher, two nursery nurses, and a part-time non-teaching assistant

who was also the part-time secretary. The school was serviced by a part time caretaker who was not available during the school opening times. In addition to these members of staff the school was used as a training establishment for nursery nurses, the time spent in the placement varied throughout the year, there were weeks when no students were working in the school.

The school enjoyed a high level of family involvement and had 'open' access. There was usually a parent working with the children in each playroom. The school had a very active parents' committee which organised both day time and evening meetings for 'educational' interaction, fund raising, and social events. Members of staff took turns to represent the staff on the committee.

Nursery School NS2 was a single storey brick building on two levels on a steeply sloping site. A recently built first school shared the first part of the drive. Access to the play area was at the rear of the building. There was a small paved area with a storage shed for outdoor play equipment, from this area, up several steps and a steep slope, was a large hard surfaced play area, surrounded on three sides by level grassed areas. A public footpath led from a housing estate on the boundary through the field to the front drive of the school. Only the drive end of the footpath was gated, therefore the outside play area was not secure.

The entrance opened into a narrow corridor, on this level there was one playroom, office/staffroom, kitchen and small store room. A short flight of steps led to a

narrow corridor cloakroom area, with two classrooms on the right, and bathroom, and outdoor access at the end of the corridor. The two classrooms on this level had been linked by removing the doors that led to a shared stockroom, this enabled the children to move freely between the two rooms without using the corridor. One room had a large well equipped home corner, book corner, jigsaws and construction toys, the adjoining room had a large block play area, art and craft materials, a pet corner and science equipment. Both rooms had sand and water play activities available. The resources in each room were organized for the children to use freely. The single classroom on the lower level was equipped with climbing frames, large bricks, planks and boxes, dressing up clothes, small wheeled toys, big cushions on a carpeted area, and one table which was frequently used for a cooking activity as the playroom was next to the kitchen.

The school NS2 was a seventy place unit, providing for one hundred and forty children in two sessions. The school was staffed by a Head Teacher, two classroom teachers, and three nursery nurses, and a part time non teaching assistant who was also the part time secretary. The school was a training centre for nursery nurse students, and has recently had young people from a youth training scheme. The school had a link with the probationary service and was used as a placement for suitable men and women to carry out community service. The intake of the school was mainly from Asian families and many of the woman did not speak english. The staff

encourage family involvement and have the help of an Asian home/school visitor who provided a link with the families. The school was serviced by a part time caretaker and cleaner. The cleaner came for one hour between the sessions and assisted with the cleaning and preparation for the afternoon session.

The two thirtynine place nursery units used in the study were identical purpose built units situated in the grounds of two Local Education Authorities First Schools, both units had been open for twelve years. The buildings were rectangular, the main playroom occupying two thirds of the space. Each had a small entrance and cloakroom area leading into the playroom which was divided into separate activity areas by cupboards and screens. One section was carpeted, both units used this area for block play, and the NU1 unit used half the space for 'home' play. One corner of the rectangle housed a large store room which had a door to the outside play area, and a small alcove which was used by NU2 as a 'home' area, and by NU1. as a book and jigsaw puzzle area. This alcove could be curtained off from the main play area providing a small 'home' like space. The other corner contained a well equipped kitchen.

The toilets and washbasins occupied an alcove off the playroom, allowing easy access for the children. A small staffroom opened from the entrance, both units used this space for group stories, singing and quiet activities with small groups. Double doors led from the main playroom onto a covered patio and into a safely fenced

outdoor play area. The external walls of both buildings were covered with a very sharp composition which was designed to prevent graffiti, and which caused injury to the children when they came into contact with it.

The arrangement of the resources in the units differed very slightly, each had the same design of furniture and equipment. The open shelves and tray cupboards contained jig saws and construction toys which the children were able to use freely. The space between the toilets and washbasins was used by both groups for the water play trough and clay table. The floor along one side of the playroom was partly tiled. Both groups had painting activities in this area, and sand trays if the weather was unsuitable for them to be on the patio.

The NU1 units outdoor space had a large hard surfaced area with a grassed area along two sides of it. It was separated from the main school playground by a mesh fence. There was a flower bed along the boundary wall which the children help to maintain. The play area contained a small sandpit, a fixed section of drainpipe which was big enough for the children to walk through, and a shed for storing outdoor equipment. The lightweight climbing frames could be set up in various combinations either indoors or out and were frequently used in the covered patio area. A good supply of wheeled toys and carts were available. This unit had a pet corner with a rabbit and guinea pig, and an incubator for hatching eggs. On fine days the woodwork bench and tools were used on the patio, this activity was restricted because of the noise and lack of indoor space.

The outdoor space of the NU2 unit had a large hard surfaced area surrounded on two sides by steeply sloping grassed banks. The third side had been made level by building a retaining wall to provide a raised grassed play area. This had a narrow flower bed along the fenced edge which separated the nursery grounds from the school playing field. The grounds contained a small sand pit, and a section of a large diameter drain pipe. All the outdoor equipment was stored in the main building and included wheeled toys, climbing frames, wood work bench and tools. This unit also had to restrict the use of wood and tools to the out of doors, due to space and noise.

The nursery units were staffed by a Nursery Teacher with a post of responsibility, who was answerable to the Headteacher of the First School. There were also two Nursery Nurses. Both units were used as training centres for Nursery Nurse students. The units were serviced by cleaning staff from the main school who were not available during the day. The midday cleaning and preparation for the afternoon group was done by the staff team. All the children attended part time, each session lasting for two and a half hours. The schools were situated in council housing estates and had children from very similar home backgrounds. There was strong family support for the schools for social and money raising events. There was little to no help in working with children and teachers in the classrooms.

Nursery class NC1 was housed in purpose built premises, opening from the main Primary School hall, and

accommodating twentysix children. The unit was five years old. The area was divided to provide an alcove with a tiled floor which contained a sink and was used for water play and painting activities. One side had a work bench with cupboards underneath. Adjacent to this area were the toilets, washbasins and sluice sink. Outdoor clothes were hung on a mobile rack which was pushed into a large store room during the play period. There was a carpeted alcove with cushioned bench seats around three sides, which was big enough for the group of twenty six children to sit in and was used for stories. Usually a mobile book stand was available in this area during play periods. With the use of cupboards and screens a home corner had been created which was well equipped and large enough not to restrict the play. The room contained sufficient tables and chairs for all the children to sit down at the same time, which left very little open space. The children only used the resources that were put on the tables for them.

The room opened to a level hard and grassed surfaced play area, which was the access to the classroom used by parents and children. It was separated from the school field by a ranch style wooden fence. There was no fixed equipment or sandpit. The outdoor equipment was stored in a small wooden shed situated in the corner of the garden. The resources for outdoor play were limited to a few wheeled toys and a selection of small games apparatus.

The classteacher had a fulltime Nursery Nurse assistant. Occasionally Nursery Nurse students were placed at the nursery for block experiences lasting

several weeks. The classroom received no extra support from cleaning staff, and the cleaning and preparation between the session was shared between the teacher and nursery nurse. All the children attended part time. Each session lasting for two and a half hours. Parents were welcome to stay with the child at the start of the session to take off outdoor clothes. At the end of the session the children were prepared for home and called to the door by a member of staff as parents arrived. Parents did not participate in the daily activities, they did however support fund raising events and helped with summer expeditions. The school was situated on the edge of a large council housing estate, the children came from this estate and as it was a church school, from further afield. School uniform was worn by all the children.

Nursery class NC1 was in a church Primary school housed in the oldest building in the study. The class size was twentysix. The school was built on three sides of a square, each classroom opening on to the centre yard, with a covered way around the edge. The nursery class occupied the end classroom with adjacent cloakroom and toilet facilities which could be entered from the playground.

The room was small, with a high ceiling and had windows from a ledge three feet high to the ceiling on three walls. The fourth wall connected the cloakroom. A piano was situated on this wall alongside storage cupboards and a cooker. Chairs and tables were provided for all the twentysix children to sit down at the same time. One corner was carpeted and separated from the main

play area with book cases. This area had low cushioned bench seats round the edge, and was big enough for class group times. One corner contained 'home' play equipment and furniture. Sand, water play, and paint easels occupied spaces between the tables. Jigsaw puzzles, construction toys and all other resources were in closed cupboards or inaccessible boxes, they were put out on tables before the children arrived. Outdoor play was restricted to the times when the rest of the school was not using the shared yard. A good supply of wheeled toys was available, these were stored in a shed at the rear of the building. All the children went out together, each child bringing a toy from the shed to the central yard. A swing and rope ladder were hung from the covered way frame.

The class teacher had a full time Nursery Nurse assistant. Parents brought their children into the cloakroom at the start of the session and waited for them there at the end. There was no parental involvement in the classroom activities. The caretaker came to clean the toilets at lunch time whilst the teacher and nursery nurse prepared the room for the afternoon group. Some children attended both sessions and had lunch in the school dining hall with the older children. The children came from the nearby council estates, and further afield, and all wore school uniform.

Part 3

The programmes of the Pre-School Centres Studied in the Three Forms of Provision.

Differences were observed between and within each type of provision. There were also shared characteristics between and within the centres - particularly the Nursery Schools and Nursery Units. This may be due to the greater autonomy that this form of provision has over Nursery Classes, which operate under very different constraints.

In the Nursery Schools and Units the children had access to a wide range of materials. The rooms were prepared so that children could engage immediately with tasks that attracted them. Most parents brought their children into the nursery and saw them settled at an activity before leaving. Sand, water, painting, drawing, manipulative and construction materials, with home corner and dressing up clothes, puzzles and books were available throughout the session until story or singing time which usually took place during the last fifteen minutes. In each centre 'special' activities were offered, these varied from day to day. They were usually adult led and skill based, and available throughout the session in order to give each child the opportunity to participate. In all four centres access to the outdoor playing area was restricted during the first part of the session when arrivals and departures were taking place. The children were then free to choose to be indoors or out. Registration was informal, the teachers checking the roll without involving the children.

An outline of a typical daily schedule for the Nursery schools and units would be:

9.00 - 9.30.a.m./ 1.15 - 1.45.p.m
Arrival and settling in - free choice of activity indoors. In both schools, children had a 'home' base and usually spent the first part of the session there. In the morning this period was the time when many children had 'snack' and milk, although this was available throughout the morning.

9.30 - 11.00.a.m./ 1.45. - 2.45.p.m.
Both indoor and outdoor play available. Specific group activities organized during this period by N.S.2.
(At 10.45 and 2.45. both Nursery Units had a story time in the staff room during the main school
morning or afternoon break).

11.00 - 11.30.a.m./ 2.45 - 3.15.p.m.
Clearing away time followed in the Nursery Schools by 'storytime' in small groups using all the adults available. Children in the Nursery units continued to be engaged in individually chosen tasks until 11.20. when they frequently joined together in one group to sing.

11.30.a.m. / 3.15.p.m.
Home time - children leaving the group as a parent arrived at the door to collect them, allowing the opportunity for parents to view children's work and speak to staff.

The Nursery Classes were much more 'school like' at the beginning of the sessions. Children entered the cloakrooms with their parents when the school bell went. The programme for NC1 followed the same structure for both sessions. Parents helped children off with their coats and bid them 'goodbye' in the cloakroom/ entrance area, which was an integral part of the main room. The children were greeted by the two members of staff and were free to choose what to do from the range of activities available, which always included, sand, water, painting, construction,and playdough. Other table activities were varied from day to day and included a teacher led

activity, usually a game with rules such as picture lotto. (A record was kept by the teacher of the children taking part in this activity). At the end of this 'free' period, all the tables were cleared and each child sat at his/her own place to work with a preselected range of 'school like' activities which included the sorting, ordering, matching of colours, shapes, numbers and letters. The children stayed in their place working at a given task, the teacher and the nursery nurse moved between the tables giving help and encouragement. At the end of fifteen minutes, the tables were cleared and the children sat in the carpeted alcove for registration and news time. Each child answered "Here Mrs....." in response to their name being called, or several children responded if there was any hesitation on the part of the child whose turn it was to answer.This was followed by a snack time when juice and biscuits were served by helpers. Name cards were shown to the group, and as each child recognised his name he collected his mug and sat at a table. The mugs were labelled with picture symbols.

This period was supervised by the nursery nurse, whilst the teacher went to the staffroom to have her 'break' time with the rest of the school staff. On fine days, outdoor play followed juice time. On wet days the school hall was available in the afternoons and used for singing games. All the children played out of doors together. They were usually ready with their coats on when the teacher came back. She then supervised the outdoor play, and the nursery nurse had a 'break'. The children

took the toy they wanted to use out of the shed and were responsible for returning it to the shed when they had finished with it. Outdoor playtime lasted between fifteen and thirty minutes, leaving the last fifteen minutes of the session for a story when the children gathered together in one group in the alcove. If coats were worn for outdoor play they were kept on. At the end of the session children were called to the door as their parents arrived to collect them.

Daily Programme:

9.00.a.m./1.00.p.m.	Free choice of activities.
9.00.a.m./2.00.p.m.	Mandatory tasks at tables
10.15.a.m./2.15.p.m.	Group time for registration and news.
10.35.a.m./2.35.p.m.	Snack time.
10.50.a.m./2.50.p.m.	Outdoor play time.
11.15.a.m./3.15.p.m.	Story time.
11.30.a.m./3.30.p.m.	Home time.

The children in NC2 began their day sitting on chairs in a large semi-circle. Both sessions began with prayers, followed by the calling of the register, and in the morning, the calling of the dinner register, as some children stayed all day and had dinner in the main school hall. As well as regular 'dinner children' others seemed to be able to elect to stay for dinner and then go home before the afternoon session. The children were 'counted' round everyone joining in the number chant. This was followed by calendar time, when the date and day of the week were changed on a board and rhymes were chanted about the days of the week and months of the year. This circle time lasted between twenty and thirty minutes when children then chose which activity they were going to before they left the semi-circle. The activities had been

prepared by the nursery nurse, the number of children allowed to take part in any activity was controlled by the number of aprons or chairs. It was usually four. The child's choice of activity was monitored and recorded.

Each day four children helped the Nursery Nurse to prepare a snack. This could involve baking buns, or making sandwiches which included buttering bread, spreading jam, and cutting into quarters. This group were also responsible for serving and washing up. Other activities available during this time were, painting, water, sand, and tabletop toys such as jigsaw puzzles and lego. A corner of the room was furnished as a home corner, containing soft toys, two dolls prams, and dressing up clothes. This whole area was covered over with a sheet and not in use during the sessions when observations being were recorded.

A typical timetable for each session would be:

9.00.a.m. / 1.15.p.m.
Circle time for - Prayers - Registration - Calendar - choice of activity.

9.20.a.m. / 1.35.p.m. Activity time.

9.50.a.m. / 2.05.p.m. Clearing away time.

10.00.a.m./ 2.15.p.m. Book time. All the children sat on benches or chairs around the carpeted area looking at books. These were selected and changed at will. The teacher sat with one child in turn to read a book with him/her.

10.20.a.m./ 2.35.p.m. Toilet time.

10.30.a.m./ 2.45.p.m. 'Snack time' This was supervised by the Nursery Nurse. The children sat at tables and were served by the helpers who prepared the snack.

10.40.a.m./ 2.55.p.m. Circle time for singing rhymes and jingles with the Nursery Nurse.

10.50.a.m./3.05.p.m. Outdoor play time. Supervised by the teacher. The outdoor play equipment was stored in a shed behind the main school. All the children went to the shed and rode, pulled

or pushed a toy back into the central playground.

11.05.a.m./3.20.p.m. Circle time for number games, followed by a story.

11.45.a.m./3.40.p.m. Home time or toilet time for children staying to lunch.

Chapter. 2.

Review of the Literature.

Review of the Literature.

The nature of learning for the pre-school child makes the formulation of a relevant curriculum difficult. Nursery education is still strongly influenced by its historic roots, and by the various people over many years who have contributed to it, with a curriculum designed to meet the needs of young children as they identified them at the time. This study accepts those contributions and attempts to redefine and clarify the needs of young children, and the curriculum which might be required to satisfy these needs in contemporary education.

The general arguments for nursery education are well summarized in an abundance of literature available. However the literature which is relevant to this study needed to be selected with a sharper focus in mind. In this study research has been reviewed which identifies what is thought to be the best setting and provision for early childhood education.

> "A curriculum model can be thought of as ideal representation of the essential philosophical and pedagogical components of a plan for education. This representation usually is descriptive, in graphic or narrative form , and serves as a basis for action on the part of practitioners." (Spodek.1973) Handbook of Research in Early Childhood Education.

These models in education show the influence of the changes in society. They have appeared in one form or another since the beginning of formal education for young children.

The model of Traditional Nursery Education reflects the visions of Emile Rousseau (1712-1852) Johann

Pestalozzi (1746-1827) and Friedrich Froebel (1782-1852) who all believed that education should grow out of the interests and curiosity of the children. The major goals were the promotion of the personal, social and general motor development of the children.

Rousseau emphasized the value of play and the vast difference between a child's interests and values and those of an adult. His idea that family life was at the heart of education is relevant today when parental interaction in the learning environment is in the forefront of educational thinking. This developmental, child centred theory was accepted and built upon by Pestalozzi, who was the originator of the notion of 'readiness', that children should be allowed time and experience in order to understand, they should not be forced but taught according to their stage of development, and with direct and concrete experiences. His theory was that self activity was to be encouraged and the senses developed, a notion that was carried further by Froebel who had worked under Pestalozzi in Switzerland for two years.

Froebel's vehicle for learning was play, which he viewed as both instructive and enjoyable, he wrote.....

> "Education would grow out of the natural interest and motivation of the children but be tempered with guidance from the educator. The educator places the child in a stimulating environment where the logical outcome is self direction and self control" Tessa Blackstone, A Fair Start. (1971)

This statement links directly with the active learning theory of Piaget which was accepted and developed

by Weikart into the contemporary curriculum model, High-Scope The influence of Froebel, and through him, the visions of childhood that were held by Rousseau and Pestalozzi, is still significant today when curricula models of early childhood are suggesting an informally structured interactionist approach such as that which is outlined in Weikart's High/Scope programme. Tina Bruce Early Childhood Education (1987). in her discussion of the influence of three of the most influential pioneers in early childhood education, shows that Froebel's emphasis on play for the young child, leads to this informally structured interactionist approach to education. He valued child-initiated and child directed activity, through which self-discipline is developed and the relationship between adult and child is stressed,

> ...The adult helps the child to articulate and understand events in which he/she has participated through language, play and activities. Inner influence rather than external force is the key to the emergence of self-discipline. Bruce.(1987) p.20.

Froebel designed sets of manipulative materials which he called 'gifts', also a series of craft activities which were 'occupations'. The 'gifts' and 'occupations' were to be used in a prescribed way at each stage of development. As Spodek, (1982) explains John Dewey (1859-1952), contributed important ideas to the development of early childhood education, he praised the philosophy underlying Froebel's work yet was critical of the practice which he considered to be limiting. He did not reject Froebel's

ideals but extended them by advocating that children had first hand real life experiences in both the home and community as a foundation for building true understanding rather than the sets of abstract ideas symbolized in the 'gifts' and 'occupations'.(Bernard Spodek, Current Topics in Early Childhood Education. Vol 1V 1982. Ed. Lilian Katz. p.177)

A stimulating environment that would provide opportunities for problem solving, first sensing a problem, then analysing it, proposing solutions, testing them and drawing a final hypothesis, was basic to Dewey's curriculum and to his philosophy. Thus learning by doing, where knowledge discovered for one's self was knowledge that lasted, influenced the content of the pre-school curriculum in the 1930s and 1940s and is one of the underlying theories in the origins of the High/Scope programme in the 1980's.

This influence was carried forward in Britain by the McMillan sisters Margaret and Rachel who were contemporaries of Dewey and who were strongly influenced by both his and Froebel's philosophies. (Blackstone,1971) The McMillans were concerned about the health and living conditions of children from poor families, they realized that if any progress was to be made in the enrichment of the children's experience,that it had to be made with the co-operation and involvement of parents. Margaret McMillan believed that the Nursery School should be an extension of the home, supporting families, not replacing them. The Nursery School should nurture the whole child, socially,

physically, emotionally and intellectually through play and through the use of 'discovery materials' with an emphasis on free access between an indoor and outdoor environment.

Audrey Curtis, (1986) discusses the similarities between the ideas of McMillan and the views of the Head Start planners in the U.S.A. in the 1960's, who felt, as she did, that a better start in life for disadvantaged children would be a 'specially devised pre - school education programme that would counteract the effects of a poor material environment' p.10. thus McMillan may have been the first to raise the issue of structure in the environment as competent education. She also argued for Nursery Education to be available to all children whose parents wished them to have it. As Curtis (1986) reminds us this was also a recommendation of the Plowden Report (1967) and the view expressed in the DES (1972a) document, Education: A Framework for Expansion.

> Para.16." There is now considerable evidence pointing to the importance of the years before five in a child's education - and to the most effective ways of providing for the needs, and potential, which children display at this age.....
> Para.17. The action the Government now propose will give effect to these (the Plowden) recommendations. Their aim is that within the next 10 years nursery education should become available without charge, within the limits of the demands estimated by Plowden, to those children of 3 and 4 whose parents wish them to benefit from it."

Susan Isaacs, also a contemporary of Dewey, and whose approach to children's intellectual development was influenced by him, was a psychoanalyst. Her observations

of children at her Malting House School were the basis for much of her writing and teaching. Isaacs encouraged teachers to study and record accurately the behaviour of young children. She emphasized the benefit that could come from close and detailed observation when it was more usual for educators to rely on systematic testing rather than systematic observation of learning. A statement Isaacs made on the value of observation has been included in full as she, clearly and simply, makes the case for the observations of children as the guide to good practice, a strategy that is the focus for curriculum designers today.

> "The scientific study of the behaviour of young children has in recent years enabled us to understand the general lines of normal development from infancy to school life. Every mother and nurse and teacher has experience of her own to draw upon in trying to appreciate the needs of the children she deals with and coming to some opinion about children in general. But nowadays we are not confined to the narrow circle of our own experience. The knowledge and judgement of a great many observers has been pooled in scientific study. We have learnt how to watch and record the behaviour of children and how to arrange and classify the facts we have gathered, so as to come to more reliable and widely applicable conclusions about their development than can be hoped from the limited contact of any one of us, and especially from one engaged all the time in the practical work of tending or teaching. We have learnt to observe large numbers of children both individually and in groups, either by giving them problems to solve under precise conditions, experiments and tests; or by watching their behaviour under ordinary conditions, in their daily lives, when they play together in the home and garden, and are at work in the school.We have learnt that above every other source of knowledge about children stands the study of their ordinary spontaneous play, whether in the home, the school playground, the street or the park."
>
> Susan Isaacs, The Educational Value of the Nursery School, 1954. p6.

These observational techniques and the developments from them were fundamental to the inquiry that Jerome Bruner co-ordinated into the provision for the under fives in Britain between 1975 and 1978. The method developed by Bruner's team when studying children in Nursery Schools and Playgroups was used as the starting point for this study.

Celia Genishi, Handbook of Research in Early Childhood Education. 1982 assures us that 'despite some lingering mistrust of observation in educational research it is becoming more acceptable to use direct observation as a method for data collection particularly in the years of early childhood education.' Genishi (1982) reasons that:

> "..... to use observation in early childhood education is the nature of the phenomenon studied. Researchers in early childhood have fewer methods available to them than those who study adults. Very young children's abilities to understand instructions, respond verbally, or attend to what are to them uninteresting tasks are not yet developed. Consequently, they make poor subjects for methods requiring those skills, such as interviews or experiments. Wright (1960) points out, on the other hand , that because they seem less self conscious while observed than adults, children make good subjects for observation. Another reason for observing is related to ethics. We cannot experiment with certain aspects of development and learning." p.566.

New technology enables unobtrusive filming and recording of children's play and speech providing material which gives insights into children's ability to think and reason.(Joan Tough, Communication Skills in Early Childhood Project (1977).). Isaacs' use of

observation as a vehicle for learning about children is very relevant today.

Isaacs' curriculum model had a special emphasis on make-believe play, this aspect of her work was influenced by Freud (1896 - 1939) and within it she stresses that both parents and teachers should leave ample opportunity to the child for quite free, unhindered, unorganized, imaginative play. This is of great importance for giving opportunities for sublimation, which according to Freudian theory provide the opportunity for the child to find mental ease through play activities where he can work upon his wishes, fears and fantasies. Susan Isaacs, Social Development of Young Children. (1933). pp406-429.

In later writings Isaacs cites two fundamental values that make-believe play has for the young child, a stimulus to his intellectual growth and the vehicle which enables the development of logical thinking, these provide 'the first glimpses of the possibility of hypothesis, "as-ifness", without which no science is possible, no reasoning can be sustained'. Isaacs,(1954) pp.26.

Thus Isaacs provides a focus which draws together the beliefs and values of previous providers who have focused on the needs of young children and argues for careful observations as a guide for providing appropriate experiences and curriculum. Although Isaacs' philosophy centres on the freedom to play, she also explores more measurable forms of educational strategies such as the apparatus designed by Montessori. Montessori (1870-1953) did not value play, she emphasized the value of real tasks

and structured the child's environment so that learning developed in a planned sequence, safe from interference. (Bruce,1987) Montessori's philosophy led to a formally structured interactionist approach that had a clearly defined curriculum, unlike that of Isaacs or McMillan, or Froebel, and has an expression today most clearly in the DISTAR approach which has been cited later as a model to provide an alternative perspective and comment as it differs from the British Tradition.

The developmental model of early childhood education, which followed the Isaacs' tradition, with programmes that were child-centred, in an environment that fostered children's natural curiosity and provided for a wide range of experiences which enabled children to become competent in ways that had meaning to them, was widely adopted and accepted and became the traditional British Nursery School model, this was not seriously challenged until the 1960s.

Three distinct patterns of early childhood education now begin to emerge, the traditional child-centered nursery, the structured compensatory response of which DISTAR, (summarized later) is an example, and the cognitively oriented programme, High/Scope, an example of a programme which is associated with the work of Piaget.

Researchers in the U.S.A. into the educational needs of the children from the poverty-stricken areas of the American black ghettos recommended a compensatory approach to learning for these 'culturally deprived' and 'socially

disadvantaged' children. Children from low income families had been shown to underacheive in perceptual and cognitive development and in language, all areas which are closely related to school success. Clarke & Clarke. Early Experiences Myth and Evidence. 1976. pp.232.

Many intervention programmes were developed in America in the 1960s, as a result of the initiation by President Johnson of a massive pre-school education project. At the same time, in the United Kingdom it was thought that intervention at the pre-school stage could be a strategy that enabled children to gain more from compulsory schooling, and the Plowden Committee suggested a programme of compensation to 'educational priority areas'. A national experiment, sponsored by the Department of Education and Science and the Social Science Research Council was launched to develop strategies which would improve the educational environment in identified educational priority areas. Three areas, Liverpool, Birmingham and the West Riding of Yorkshire developed a common pre-school programme which involved the use of the Peabody Language Development Kit introduced by the National Foundation for Educational Research and discussed later.

The experimental projects in these three areas provided innovations that have had lasting influence. In Liverpool Dr Eric Midwinter introduced the Playbus, taking pre-school education into areas where there was no accommodation for group activities. There is an account of the growth and fruition of his idea in 'Priority

Education', Penguin, 1972. and evidence of the continued use of the 'Playbus' in the United Kingdom, particularly in Northern Ireland, and in other countries, for example New Zealand. In Birmingham Priority Area Playgroups were established with support for child-minders in an attempt to improve the quality of minding. Childminding is still an area of concern. It was one of the aspects of child care focussed upon by the Oxford Preschool Research Project, and reported in Bridget Bryant, Miriam Harris and Dee Newton's book ' Children and Minders.' 1980. The Red House experiment is perhaps the most notable of the innovations in the West Riding. This pre-school experiment began in 1969 with a group of three-year-olds who represented most of the intake of a reception class in an infant school in an 'educational priority area'. The project's concern was 'to demonstrate the willingness of parents to allow their children to participate in the programme and to carry out an evaluation of the effects of particular language development schemes' G.A.Poulter and Terry James 'Pre-school learning in the Community' p.50 The result of this small beginning was to set up a home visiting scheme followed by an educational partnership with teachers and parents engaged in both group and home based work, leading to the establishment of the Red House Centre. As the researchers explain in their report the partnership with teachers and parents engaged in both group and home based work, leading to the establishment of the Red House Centre. As the researchers explain in their report the funding of the evaluation of the programme did

not permit a longitudinal study to be made. This appears to be the case with all the intervention programmes, and we have to look for long term evidence of the value of intervention at the studies in the U.S.A.

Other compensatory education projects were set up by the National Foundation for Educational Research and the Schools Council. The N.F.E.R's project became the first British programme to introduce and evaluate a highly structured language programme, the Peabody Language Development Kit, in selected nursery classes with children at educational risk. The N.F.E.R's study showed that the children who had experienced this special language programme of twenty minutes of intensive and highly structured language imput, had improved linguistic skills compared with those who experienced the traditional 'free play' programme. The evaluation of the N.F.E.R study by A.F.Osborn and J.E.Milbank 'The Effects of Early Education' suggests that this attention to language was to the detriment of the children's social adjustment, and although special language programmes appear to improve linguistic ability in the short term "they do not necessarily give the child a special across-the-board learning advantage in the infant school". p.23.

The Schools Council approach to the problem of disadvantage was to concentrate on providing methods and materials for teachers. The Communication Skills in Early Childhood Education, directed by Dr. Joan Tough, was one of the major projects and involved action research and evaluation by teachers to develop linguistic skills to

benefit all children, not just low achievers.

In the U.S. A. the HEADSTART pre-school programmes were influenced by the theories of the behaviourist psychologists in particular by Skinner, probably the most important of the modern exponent of this kind of theory. He suggested that human and animal learning is based upon the principle that spontaneous random responses are made to stimulus and that that which is reinforced will become associated with the original stimulus. The learner performs again the activities which are reinforced and tends to drop others, so by carefully selected reinforcement the teacher can direct, or shape behaviour. In order that children received reinforcement to a correct response immediately Skinner developed machines and programmed his material in an organised sequence, in small stages of learning so that the child was reinforced frequently. Similar strategies are used in early childhood education today where the computer is a tool in the classroom.

From the language work of Bereiter and Engelman in the 1960s. Teaching Disadvantaged Children in the Primary School. (1966) which was based on the learning psychology from behaviour modification, a distinct model of pre-school curriculum was developed which was a marked departure from the child-centered model. The original premise for the programme that has become DISTAR defined cultural deprivation as language deprivation. The Distar Instructional System is an example of direct instruction in early childhood education. It is described

by Bereiter and Engelmann (1966) as suitable for children from the age of four years, and designed for those with severe educational handicaps - manifested mostly in language production. The programme is defined by a set of direct instructional techniques and co-ordinated sequenced learning tasks in language, arithmetic and reading. (Appendix 4a-4d) The model was described by Pine,(1966) as pressure cooker learning. Activities are structured - initiated and directed by the teacher. All the objectives, activities and interaction strategies are carefully defined for the teacher. The teacher's primary responsibility is to present the curriculum according to specifications, perform basic diagnostic operations, reinforce children for correct responses, and maintain the desired instructional pace. As can be seen from the language lesson examples in Appendix 4a-4d the verbal interaction for the teacher is very high and for the children very low. This emphasis on highly structured learning programmes and associated language programmes such as the Peabody Language Development Kit, were strongly criticized on the grounds that language needs to be generated within the context of meaningful experience. 'Out of context' teaching appeared to be irrelevant to teachers of young children.

Another Academic pre-school programme developed during this period was the tutorial approach of Blank and Soloman (1968) Marion Blank referred to the 'traditional' Nursery School as a 'benign environment, of value in sharing with the mother the responsibility of child

rearing, but of more questionable significance as education. Blank states that teachers must structure the material, information and language in extremely precise ways'. The tutorial approach of Blank and Soloman, like Distar sought to facilitate abstract thinking, especially among pre-school 'deprived' children. The major difference was that Distar instructed in small groups and Blank and Solomon worked on the individual teacher-child tutorial time, using materials readily available in the pre-school environment. The Distar programme had lessons in Arithmetic, Language and Reading with specially prepared materials each session. Blank and Solomon recommended several brief sessions each week, involving frequent reinforcement of new skills.

An approach that had a better 'match' to the curriculum of established Nursery education, was that of Joan Tough (1976) as a result of a project that arose in response to the recognition of the influence language played in early learning. The individual adult/child tutorial dialogue was recommended by Sylva, Roy and Painter, (1980)p92. Both Sylva and Tizzard (1979) have shown the lack of dialogue in pre-school settings and the need to plan programmes and materials to foster dialogue.

The tutorial system developed by Blank represents only one possible teaching model. Blank shows the dichotomy of views of the development of language and thought by eminent psychologist in the following extract.....

"Those who believe in the role of language in

> thinking find it evident that language critically affects concept formation (Vygotsky,1962; Langer,1949; Luria,1957; Whorf,1956). those who believe that language does not play a major role in thinking find it equally obvious that language (while perhaps an aid) is in no way critical to concept development (Harlow,1959;Piaget,1947; Furth,1969). Marion Blank, Teaching and learning in the Pre-School; A Dialogue Approach." 1973 p.44.

For the American psychogist and educationist, language and thought are inseparable and complimentary, for Piaget thought takes precedence over language. Piaget regarded language as insufficient for the development of operational thought. The influence of Piaget, a Swiss born psychologist, was a major contributory factor to change in the curriculum of early childhood education. Piaget's theory of active learning - the direct and immediate experiencing of objects, people and events, is a necessary condition for cognitive restructuring and therefore for development. It is one of the main theories that underpin the most recent curriculum model that is gaining recognition in early childhood education in many countries. The High - Scope curriculum.

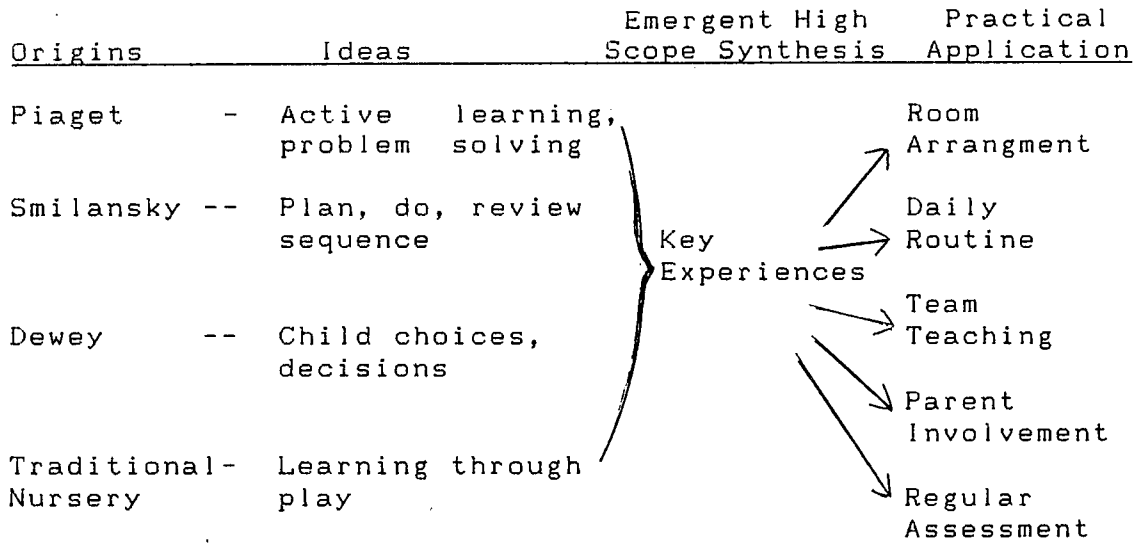
Weikart says 'to us, the overriding implication of Piaget's work for educators is that the teacher is a supporter of development, and as such his or her prime goal is to promote active learning on the part of the child'. Hohmann,Banet,& Weikart.(1979) p3.

Piaget's research concerned the development of logical thinking and representation; the processes by which a child develops knowledge about himself and objects; sees develops knowledge about himself and

objects; sees relationships between himself and objects, groups and orders the objects and events in his world, and begins to use symbols to represent what he sees and knows. Piaget has shown that a child's intelligence develops in stages related to age. Each new stage builds on the previous stage and brings with it new abilities which determine what can be learned during this period. The order of stages holds true for all children, but the age range in which each stage evolves depends on the quality of the physical and social environment in which the child matures. Central to Piaget's theory is that a child learns through active involvement with his environment. Piaget found that during each period a child has a charateristic way of looking at and thinking about the world that is different from that of an adult.

This theoretical framework was used by Weikart as the basis for the cognitive curriculum in the Ypsilanti Pre-school demonstration project which followed his earlier research with the Perry Preschool project where 123 children attended a High Scope programme part time for two years. This programme was included in the work of the Consortium for Longitudinal Studies coordinated by Irving Lazer and Richard Darlington who looked at eleven experimental programmes that were started in the 1960s. (1983) and gained recognition for its potentically radical implications.

The underlying theory of the cognitively orientated curriculum is summarised here:



Sara Smilansky, the Israeli psychologist contributed the idea of children first planning, then playing, then evaluating. A sequence now known as plan, do, review, which Smilansky had found to have had positive effects on increasing the socio-dranatic play of the socially disadvantaged children she was working with, was integrated into Weikark's theory of structure. Smilansky seems to be responsible for the best practice in traditional nursery education being included. High/Scope, Distar, and the traditional nursery became the three models for the Ypsilanti project which ran from 1967 to 1970. The Ypsilanti project was the subject of a longitudinal follow up study under the direction of Weikart (1986) Lawrence J Schweinhart, David P Weikart, and others, Consequences of Three Pre-school Curriculum Models through Age 15. Early Childhood Research Quarerly 1, 15 - 45 (1986). The project is of particular interest for its present influence on early childhood education. The major findings of the followup studies are included in

Appendix 5 (p 127/128)

Osborn, (1987) in his recently published report, draws our attention to the importance of the American intervention studies and the evidence they have given us for the value of high quality early childhood education. He reminds us that Woodhead pointed out that the conclusions are not directly transferable to the U.K. setting as the majority of the children involved in the U.S.A. programmes were from very poor black ghettos. As Osborn argues, the question of how to interpret research results is always a difficult one, however the evidence that the quality of pre-school education had contributed to positive good in later life is very significant and must be one of the issues to be considered when planning a curriculum for young children.

The first British High/Scope implimentation programme was monitored for one year by Sylva, Smith and Moore from the University of Oxford's Department of Social and Administrative Studies during 1984 - 1985. In the final report published in 1986 the research team stressed that a curriculum as broad and complex as High/Scope cannot be implemented in one year. The team only witnessed the first stage of the three stages of implementation. Voluntary Organisations' Liason Council for Under Fives acting on the benefits reported by the University of Oxford, have undertaken to make the High/Scope training available in the United Kingdom.

Pressures for cost effectiveness and accountability are leading to a closer scrutiny of both the value of

early education and the form in which it is provided. (Osborn and Milbank 1987). From the vast amount of research focussing upon young children in recent years, one British project in particular appears to offer the practitioner help in evaluating provision and curriculum. This the Oxford Preschool Research Group under the leadership of Professor Bruner, the research was commissioned and financed by the Educational Research Board of the Social Science Research Council. The research areas suggested by the working party were: Bruner (1980),p.xiii

(i) studies in monitored intervention [i.e., nursery programmes accompanied by studies of their effects];
(ii) studies of skills, and their development through curricular;
(iii) multi-disciplinary studies of the structure of curricular and invisible pedagogies in the peer-group, home and school.
(iv) studies (socio-political in style) of the community,its organization and 'empowerment'in relation to preschool provision.

Bruner agreed to do the research if the working party accepted his proposal that the research should also include, how research findings get from the research community into the community of practitioners. It was this aspect of dissemination, this deliberate attempt to bridge the gap between research and practice, that aroused interest among practitioners. It was a clear example of researchers taking their skills onto the workshop floor.

As shown earlier in this study it was from the reading of this publication that I began to question whether the findings were a reflection of all Nursery

provision, and if so would a replication of the project show the same results, or show that the findings were particular to the Oxford area and Oxford children. Therefore this study draws on the research design of part of the Oxford Pre-School Research Project, the part that studied nurseries and playgroups. The same methods of collecting and analysing data have been used for this study so that a comparison could be made of some of the findings.

Chapter. 3.

Part 1. Results and Analysis.

Part 2. Discussion of Results.

Part 1
Results and Analysis.

The data from the 3,600 minutes of observed behaviour has been analysed to show the differences that emerged within the same form of provision, and between the three different forms of provision in the study. The tables of analyses follow as closely as possible the research design of the Oxford Pre-School Research Project so that a comparison could be drawn between the results of their project and the results of this study.

In order to evaluate the part the environment played in nurturing or hindering children's learning experiences, the data was divided into the two ways that make learning possible. One was concerned with the structure, (activities and routine), and the other with the social setting.

S.R.P. looked at structure of tasks in two ways, one focussing on the nature of the tasks given to the children and the other on the routine of the session. This study analysed the data collected using the same identities. A centre was judged to be 'high' on task structure if it conducted two or more prescribed tasks during each session. One could be milk or story time, the other had to be when the activity and materials used were imposed by the adults. If children were required to participate in two compulsory 'educational' tasks, led by adults, the centre was said to have a 'structured programme', 'high' on task structure, centres with less than two prescribed tasks in a session, had a 'free programme', 'low' on task

structure.

Of the two Nursery Schools studied, one NS1 had a free programmes. Children were expected to participate in one adult led 'educational' task and group story or singing. The children at this nursery had access to the milk table from the beginning of the session to the last half hour. The arrangements for drinking milk at NS2 were similar, the programme of NS2 had higher task structure as children were expected to join in two educational type activities, one conducted in the play room and the other in either the story room or staff room. The nursery units also had one centre classified high on task structure and the other on low. NU1 had two imposed tasks, and a story in a large group. NU2 had only one activity which children had a free choice to take part in or not, and a group story. Both centres had flexible milk periods. The nursery classes were both high on task structure, both had a class milk time when all the children sat down at tables and milk was given out by selected children. Outdoor play periods were compulsory in both centres, and dressing for going out and going home was an 'educational' task. In addition to these tasks NC1 had two periods when children worked in a class group and then in smaller adult led groups on specific tasks. NC2 had three additional periods of adult led class groups and one period when half the children were in small adult led groups and the others were having a 'free' programme.

Tables 2.1 and 2.2 (pp.67) show the activities most frequently seen in centres with 'structured' or 'free'

programmes, and the percentage of time devoted to these activities. Children in programmes 'high' on task structure spent more time in adult led group activities in comparison to the children in the programmes that were 'low' on task structure who spent more time in pretend play which offered more opportunity for high cognitive challenge, although in the analysis of selected activities the group of four centres with 'high' task structure had 3% more challenging minutes of play. (Table. 3 pp. 68) The highest percentage in this group being 43% and the lowest 4%, Table. 4.1 (pp.69) gives the details of highly challenging minutes in the selected activities, the same data as it relates to the three forms of provision is shown on Table. 4.2.(pp. 70)

In order to judge whether the regularity of tasks effected the quality of play, the six centres were sorted into those high and low on temporal routine. To be classed as high, with a 'fixed temporal' structure, the centre had to have a minimum of three regular activities in each session. These included milk and outdoor play. Centres with less than three regular activities are described as having a low 'free temporal'structure. This follows the criteria of the S.R.P.Project. Of the three forms of provision, only the Nursery Classes had a 'fixed temporal structure', NC1 having four regular activities and NC2 eight regular activities. The Nursery Schools and Units had only one fixed regular activity and therefore all are described as having a 'free temporal structure'.

The most frequent social grouping, in the three forms

of provision, was in an adult-led group.The 'target'children in centres 'high' on task structure spent 50% of the time observed in an adult-led group. (Table 5.1 pp. 71) Five of the six centres in this study ranked this social grouping first, the sixth centre, NS1., having child/child pair in this position. (Table 5. 2 pp. 72). The centres 'low' on task structure had time more evenly divided between the adult-led group and the child/child pair.

The most frequent social groupings seen in the six centres is the same for the programmes with 'fixed' or 'free' temporal structure as those 'high' or 'low' on task structure. Tables. 6.1, 6.2, and 6.3 (pp. 73/74) show the percentage of time the target children spent in specific social groups. As previously stated children in five of the six centres spent the highest percentage of their time in adult led groups. For the children in NC2 the percentage of time was more than double that of children in the schools and units. The rank order of the social grouping in the forms of provision with fixed or free temporal structure differed only slightly. The difference was in the percentage of time the child spent alone - in a child - child pair - in a child group or adult-led group. The provision with fixed temporal structure showed that children spent a high percentage of time in adult-led groups which left less time available for other social groupings.

The activities most frequently seen in each centre are shown on Table. 7.(pp. 76) The cognitive challenge of

the activity the child was engaged in is significant in this and the S.R.P.Project. Tables 8.1,8.2,and 8.3.(pp.77) shows the percentage of time spent in high cognitive challenge in the forms of provision with 'free' or 'fixed' temporal structures. The Nursery Class provision, both with fixed temporal structure, showed a significant difference in the percentage of high challenge between the two classes. NC2 with the highest number of regular activities having the lowest percentage of highly challenging play. The target children in this class spent 81% of their time in an adult led group. NC1 ranked second in the six centres in the amount of time spent in high cognitive challenge, the target children in this class spent more time interacting with an adult than any other group. Table 9.1(pp 78) has shown that the highest incidence of challenging play was in the social category of the adult and child as an interacting pair.

The influence of the size of the centre was considered, the three forms of provision provided the division into large, medium and small centres. The large centres were the Nursery Schools, each having forty or more part time places, the Nursery Units were classified as being of a medium size with the maximum of thirtynine places, and the Nursery classes were small centres each with twentysix children.

Table 10.1 (pp 81) shows the percentage of time spent in various activities according to the size of the centre. The adult-led group activities increased and the gross motor play decreased as the centres got smaller. Imaginative play and

the use of structured materials doubled in the middle sized provision. Domestic activity was highest in the smallest centres. Table 10.2 (pp 82) gives the information collected about each centre and shows a marked contrast in the time spent in various activities in the same form of provision, most noticeably in 'pretend' play, the 3rs and adult-led groups in the Nursery Classes. Directed manipulation, art and 'pretend play in the Nursery Units, with the Nursery Schools showing the main difference between gross motor activities, informal games, social interaction, and 'pretend' play.

Small centres provided the highest adult contact time, Table 10.4 (pp 83) this was mainly in large passive groups, which ranked first in the table of activities whose duration is usually determined by an adult. The large centres also ranked passive adult-led groups first in this analysis having only 56% of the time in this group of the small centres. Therefore the most frequent social grouping of the target children was in an adult led group. There was evidence that a low percentage of challenging play was seen to occur in this social group (Table. 9.1 pp. 78). 50% of the children's time in the structured programmes was in a group interacting with an adult. The most challenging play was seen with the adult and child as an interacting pair, the interaction of the adult does not always bring the play into a complex and challenging stage, as can be seen from the results shown on Table. 9.3. (pp. 80)

The Nursery Unit, NU1. provided the programme with the highest percentage of challenge. This centre had free temporal structure and was 'High' in task structure, the data

shows it to be 14% higher than the second ranked centre. (Tables. 10.5 and 10.6 pp 84)

The three forms of provision in the study provided a programme that could be compared across a range of activities, the total number of observations made, thirty in each centre, two of the centres in each form of provision, have been analysed to show the number of times that particular activities were seen. Table.11.1 (pp. 85) It is interesting to note that in these forms of pre-school provision '3R' activities were observed the highest number of times. The details of the individual centres are displayed on Table. 11.2 (pp. 86)

The full range of the activities observed was divided into groups which provided differing levels of structure, and each category examined to identify the cognitive challenge it presented. Activities that were 'goal structured' included those where the 'goal' was set by either the adult or the child, and were, adult-directed art and manipulation, art, structured materials,three Rs, large and small scale construction,and problem solving. Tables.12.1 and 12.2 (pp.87/ 88) show the percentage of time spent in each activity which was evaluated to be ordinary play, or challenging and complex. The total of challenging play in these 'goal' structured activities was disappointingly low. The highest challenge across the provision coming in the '3R' activities, which also occupied the most time in this activity group, particularly in NU1 and NC2 the difference between these centres being in the amount of challenge in the activity.10% in NU1 and 1% in NC2.

The second level of activities is described as 'loosely structured' and these activities, which are usually self directed by the children, are gross motor motor play, pretend, manipulation, scale-version toys,social interaction that is not play, music, close examination, and informal games. The analysis of this group of activities showed that there was no challenging play seen in gross motor activities, or informal games in any centre although these activities occupied 11% of the total of 3,600 minutes observed.'Pretend' play was the most popular in this group and is also credited with one of the highest percentages of challenging play.(Tables.13.1 and 13.2 pp. 89/90).

From the data already discussed it is clear that children spent a large amount of their time in adult-led groups. these passive/non-engaged activities also included, watching, waiting, aimless standing around, wandering or gazing, cruising and distress, all activities mostly controlled by the adult. By definition these activities do not challenge the child, and none of the seven hundred minutes observed of children engaged in these activities was judged to be challenging. Seven hundred minutes represents almost one fifth of the total time, most of which was spent in passive adult-led groups, only four minutes of distressed behaviour was seen, and these were the results of physical pain. (Tables. 14.1 and 14.2 pp. 91/92).

Domestic activity, purposeful movement and games with rules were grouped together as 'other' activities.

(Tables.15.1 and 15.2 pp. 93/94). Only 'games with rules presented any challenge and the incidence of this was very low. A total of 15% of the children's time was spent in this group, the time engaged in domestic activity is very high in the Nursery classes, this finding links with the classes having a 'fixed temporal' structure, where the children were required to take part in specific tasks at the same time in each session.

The analysis of the data revealed the length of time that children spent at the activity they were engaged in, and this information has been presented to show the 'mean' bout length of activities whose duration was (a) usually determined by an adult and (b) usually determined by the child. Table.16.1 (pp. 95) shows the total of all the provision, with passive adult-led groups holding first place in group (a) and large muscle movement in group (b). Adult directed manipulation held the children's concentration for less time than 'free' manipulation. Table. 16.2 (pp. 96) shows the difference in ranking between all three forms of provision, and 'mean' bout length in minutes. The comparison between the centres is shown on Table.16.3 (pp. 97) The 'mean' bout length of 'passive/non-engaged activities is five minutes which equals a high proportion of the total time, and offered no opportunity to be engaged in high cognitive challenge.

The language of the children was record during the observations, although it was not always possible to record the exact words the children used, the amount of dialogue and the social context was noted. A conversation

was counted only if it conformed to the S.R.P.Projects definition, which was that it had a three turn sequence on a topic which was identical, or similar throughout all three turns, each contribution expanding on the previous one.

Some activities appeared to promote more talk than others and selected activities were analysed which examined the amount of dialogue, and the social context. The results show that 'pretend' play promoted the highest number of dialogues, and the highest number of child-child exchanges. The total rank order did not match S.R.P. findings, an issue that will be discussed later.

Group routine was observed the highest number of times. 60% of the total time the child was 'silent' or engaged in 'one off' remarks or 'talking to self'. The highest percentage of 'one off' speech or 'speech to self' fell into the '3R' activity code, followed by adult directed manipulation.

In the ten coded activities examined, five had the highest percentage of observations in the category without speech, two in the child/child exchanges, and one with 'one off' speech or 'speech to self' Manipulation seemed to be the activity that promoted the highest total of exchanges, and also ranked second in the number of dialogues. 8Tables. 17.1 and 17.2 pp. 98/99)

The social grouping appeared to effect the promotion of dialogue and the cognitive level of play, and is therefore significant to all the findings. Tables. 18.1,18.2.and 18.3.. (pp. 100/102) show the percentage of

time the child spent in each social context, and the rank order of the groupings in each form of provision. It is clear that the highest percentage of time was spent in adult-led groups, and that this passive group yielded a low return of cognitive challenge.

TABLE. 2.1

Activities most frequently seen in centres 'High' and 'Low' on task structure
(The % of 600 minutes observation in each centre devoted to selected activities. (N6))

Task Structure.	NS1. Low	NS2. High	NU1. High	NU2. Low	NC1. High	NC2. High	Low total	High total
Adult led group activities.	20%	40%	38%	15.5%	42%	82%	17%	50%
Manipulation.	36%	36%	23%	18.5%	17%	11%	25%	21%
Pretend.	37%	12%	18%	48.5%	33%	2%	44%	17%
Structured materials.	7%	12%	21%	18.5%	8%	5%	14%	12%

Table.2.2

Percentage of all time devoted to selected activities most frequently seen in centres 'High' and 'Low'on task structure.

Task Structure.	High NS2.NU1.NC1.NC2.	Low NS1.NU2.
Adult led group activities.	50%	17%
Manipulation.	21%	25%
Pretend.	17%	44%
Structured materials.	12%	14%

Children in programmes 'High' on task structure spent 50% of their time in the adult led groups which were directed manipulation or passive/non-engaged activities.

Table. 3.1.

Percentage of time spent in high cognitive challenge in centres 'High' or 'Low' task structure.(N6)

	NS1. Low	NS2. High	NU1. High	NU2. Low	NC1. High	NC2. High
Percentage of high challenge.	16%	25%	43%	28%	29%	4%
Percentage of low challenge.	84%	75%	57%	72%	71%	96%
Number of minutes observed in each centre.	600	600	600	600	600	600

The table shows a significant level of difference in the % of time spent in 'High' cognitive challenge in centres with 'High' task structure, NU1.43% - NC2.4%, as well as the comparison with 'Low' task structure.

Table.3.2.

Percentage of time spent in high cognitive challenge in centres with 'High' or 'Low' task structure. Four centres 'High' in task structure, and two 'Low' in task structure.

	Centres with 'High' task structure. NS2. NU1. NC1. NC2.	Centres with 'Low' task structure. NS1. NU2.
Percentage of high challenge.	25%	22%
Percentage of low challenge.	75%	78%
Number of minutes observed.	2400	1200

Table.4.1.
Percentage of highly challenging time in selected activities out of 600 minutes of observation in each of the six centres.

	NS1. N600	%	NS2. N600	%	NU1. N600	%	NU2. N600	%	NC1. N600	%	NC2. N600	%	TOTALS. N3600	%
Adult Directed Manipulation.	00	00%	00	00%	32	05%	00	00%	10	02%	00	00%	42	01%
Art.	10	02%	24	04%	00	00%	24	04%	19	03%	00	00%	78	02%
Structured Materials.	03	01%	17	03%	64	11%	39	07%	16	03%	6	01%	145	04%
3RS.	31	05%	29	05%	62	10%	17	03%	04	01%	5	01%	148	04%
Large Scale Construction.	00	00%	00	00%	16	03%	04	01%	00	00%	00	00%	20	01%
Small Scale Construction.	00	00%	14	02%	03	01%	00	00%	00	00%	09	02%	26	01%
Pretend.	07	01%	12	02%	20	03%	29	05%	56	09%	02	00%	126	03%
Manipulaton.	37	06%	22	04%	48	08%	29	05%	25	04%	00	00%	161	04%
Scale Version Toys.	00	00%	07	01%	11	02%	04	01%	37	06%	00	00%	59	02%
Social Interaction Not Play.	07	01%	15	03%	02	00%	04	01%	00	00%	00	00%	28	01%
Music.	00	00%	00	00%	02	00%	18	03%	00	00%	00	00%	20	01%
Informal Games.	00	00%	00	00%	00	00%	00	00%	00	00%	00	00%	00	00%
Games with Rules.	00	00%	06	00%	00	00%	00	00%	08	01%	00	00%	14	00%
TOTALS														
Mins per provision.	95		147		263		136		175		22		867	
% per provision.		16%		25%		43%		28%		29%		04%		24%

Details of highly challenging minutes in selected activities.

Table. 4.2.

Percentage of highly challenging time in selected activities out of 1200 minutes of observation given to each of the three forms of provision.

	Nursery Schools N1200mins.	%	Nursery Units N1200mins.	%	Nursery classes N1200mins.	%	TOTALS. N3600mins.	%
Adult Directed Manipulation.	00	00%	32	03%	10	01%	42	01%
Art.	35	03%	24	02%	19	02%	78	02%
Structured Materials.	20	02%	103	09%	22	02%	145	04%
3RS.	60	05%	79	07%	09	01%	148	04%
Large Scale Construction.	00	00%	20	02%	00	00%	20	01%
Small Scale Construction.	14	01%	03	00%	09	01%	26	01%
Pretend.	19	02%	49	04%	58	05%	126	03%
Manipulation.	59	05%	77	06%	25	02%	161	04%
Scale Version Toys.	07	01%	15	01%	37	03%	59	02%
Social Interaction Not Play.	22	02%	06	01%	00	00%	28	01%
Music.	00	00%	20	02%	00	00%	20	01%
Informal Games.	00	00%	00	00%	00	00%	00	00%
Games with Rules.	06	01%	00	00%	08	01%	14	00%
TOTALS								
Mins per provision.	242		428		197		867	
% per provision.		20%		36%		16%		24%

Details of highly challenging minutes in selected activities.

Table. 5.1.

Most frequent social groupings seen in the centres 'high' or 'low' on task structure. Percentage of N600 minutes of observation in each centre.

		Centres 'High' on task structure. NS2. NU1. NC1. NC2. N2400 mins.	Centres 'Low' on task structure. NS1. NU2. N1200 mins.
Target child alone.	N	250	149
	%	10%	12%
	Rank Order	4	4
Child / Child pair.	N	348	302
	%	15%	25%
	Rank Order	2	2
Child group.	N	294	247
	%	12%	21%
	Rank Order	3	3
Target child parallel to children.	N	45	32
	%	2%	3%
	Rank Order	7	7
Target child with other children, adult near.	N	154	101
	%	6%	8%
	Rank Order	5	5
Adult / child interacting pair.	N	114	55
	%	5%	5%
	Rank Order	6	6
Target child in group - adult interacting with group	N	1198	316
	%	50%	26%
	Rank Order	1	1

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Children in centres 'high' on task structure spent 50% of their time in an adult-led group. In centres 'low' on task structure this percentage of time was more evenly distributed between the adult-led group and the child/child pair.

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Table. 5.2.

Most frequent social groupings seen in the six centres 'high' or 'low' on task structure. Percentage of N600 minutes of observation in each centre.

		NS1 N600 Low	NS2 N600 High	NU1 N600 High	NU2 N600 Low	NC1 N600 High	NC2 N600 High
Target child alone.	N	87.5	104	76.5	61	50.5	18
	%	15%	17%	13%	10%	8%	3%
	Rank Order	4	3	4	5	6	3
Child / Child pair.	N	194	128	103	108	54.5	61.5
	%	32%	21%	17%	18%	9%	10%
	Rank Order	1	2	3	3	4	2
Child group.	N	99	54	121	148	116	3
	%	17%	9%	20%	25%	20%	1%
	Rank Order	3	4	2	2	2	6
Target child parallel to children.	N	32	5.5	29	00	00	9.5
	%	5%	1%	5%	00%	00%	2%
	Rank Order	5	7	7	7	7	4
Target child with other children, adult near.	N	25.5	43.5	35	74.5	62	13
	%	4%	7%	6%	12%	10%	2%
	Rank Order	6	5	5	4	3	4
Adult / child interacting pair.	N	23.5	22	33	31	52	7.5
	%	4%	4%	6%	5%	9%	1%
	Rank Order	6	6	5	6	4	6
Target child in group - adult interacting with group.	N	138.5	243	201.5	177	265	487.5
	%	23%	41%	33%	30%	44%	81%
	Rank order	2	1	1	1	1	1

This Table is the same as for centres with 'fixed' or 'free' temporal structures.

Table. 6.1.

Most frequent social groupings seen in provision with 'fixed' or 'free' temporal structures.
Percentage of N2400 minutes of observation in four centres with fixed temporal structure and N1200 minutes in the two centres with free temporal structure.

		Free Temporal structure. NS1.NS2.NU1.NU2.	Fixed temporal Structure. NC1.NC2.	Totals
Number of minutes observed.		N2400	1200	3600
Target child alone.	N	329	69	398
	%	14%	6%	11%
	Rank Order	4	5	4
Child / Child pair.	N	533	116	649
	%	22%	10%	18%
	Rank Order	2	3	2
Child group.	N	422	119	541
	%	18%	10%	15%
		3	2	3
Target child parallel to children.	N	67	10	77
	%	3%	1%	2%
	Rank Order	7	7	7
Target child with other children, adult near.	N	178	75	253
	%	7%	6%	7%
		5	4	5
Adult / child interacting pair.	N	109	59	168
	%	4%	5%	5%
		6	6	6
Target child in group - adult interacting with group.	N	762	752	1514
	%	32%	63%	42%
	Rank Order	1	1	1

In the programmes with 'Fixed' temporal structure, 63% of the children's time was spent in a group interacting with an adult. The data shows the effect that 'temporal' structure has on social grouping.

Table.6.2.

Most frequent social groupings seen in forms of provision with 'fixed' or 'free' temporal structures.
Percentage of N1200 minutes of observation in each form of provision.

		Free Temporal structure. Nursery Schools.	Free Temporal structure. Nursery Units.	Fixed temporal Structure. Nursery Classes.	Totals.
Number of minutes observed.		N1200	1200	1200	3600
Target child alone.	N	191	138	69	398
	%	16%	11%	6%	11%
	Rank Order	3	4	5	4
Child / Child pair.	N	322	211	116	649
	%	26%	18%	10%	18%
	Rank Order	2	3	3	2
Child group.	N	153	269	119	541
	%	13%	22%	10%	15%
	Rank Order	4	2	2	3
Target child parallel to children.	N	37	30	10	77
	%	3%	2%	1%	2%
	Rank Order	7	7	7	7
Target child with other children, adult near.	N	69	109	75	253
	%	6%	9%	6%	7%
	Rank Order	5	5	4	5
Adult / child interacting pair.	N	45	64	59	168
	%	4%	5%	5%	5%
	Rank Order	6	6	6	6
Target child in group - adult interacting with group.	N	383	379	752	1514
	%	32	33	62	42%
	Rank Order	1	1	1	1

The Table shows that 42% of the total time was spent in an adult-led group and only 5% with the adult and child as an interacting pair, which is the social grouping shown to foster challenging play.

Table. 6.3.

Most frequent social groupings seen in the six centres with 'fixed' or 'free' temporal structures.
Percentage of N600 minutes of observation in each centre.

		NS1 N600 Free	NS2 N600 Free	NU1 N600 Free	NU2 N600 Free	NC1 N600 Fixed	NC2 N600 Fixed
Target child alone.	N	87.5	104	76.5	61	50.5	18
	%	15%	17%	13%	10%	8%	3%
	Rank Order	4	3	4	5	6	3
Child / Child pair.	N	194	128	103	108	54.5	61.5
	%	32%	21%	17%	18%	9%	10%
	Rank Order	1	2	3	3	4	2
Child group.	N	99	54	121	148	116	3
	%	17%	9%	20%	25%	20%	1%
	Rank Order	3	4	2	2	2	6
Target child parallel to children.	N	32	5.5	29	00	00	9.5
	%	5%	1%	5%	00%	00%	2%
	Rank Order	5	7	7	7	7	4
Target child with other children, adult near.	N	25.5	43.5	35	74.5	62	13
	%	4%	7%	6%	12%	10%	2%
	Rank Order	6	5	5	4	3	4
Adult / child interacting pair.	N	23.5	22	33	31	52	7.5
	%	4%	4%	6%	5%	9%	1%
	Rank Order	6	6	5	6	4	6
Target child in group - adult interacting with group.	N	138.5	243	201.5	177	265	487.5
	%	23%	41%	33%	30%	44%	81%
	Rank order	2	1	1	1	1	1

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The rank order of the social grouping varies only slightly. The percentage of time spent in the group varies considerably.

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Table. 7.

Activities most frequently seen in centres with 'Fixed' or 'Free' temporal structure (The % of 600 minutes observation in each centre devoted to selected activities.(N6)

Task Structure.	NS1. Free N600	NS2. Free N600	NU1. Free N600	NU2. Free N600	NC1. Fixed N600	NC2. Fixed N600
Adult led group activities.	20%	40%	38%	15.5%	42%	82%
Manipulation.	36%	36%	23%	18.5%	17%	11%
Pretend.	37%	12%	18%	48.5%	33%	2%
Structured materials.	7%	12%	21%	18.5%	8%	5%

The difference in the results of the centres that had a 'fixed' temporal structure seems to show that centres can be 'over' structured and therefore prevent children engaging in activities that are 'goal' structured.

Table. 8.1.
Percentage of time spent in high cognitive challenge in forms of provision with 'fixed' or 'free' temporal structures.(N6)

	Free Temporal Structure.				Fixed temporal Structure.	
	NS1.	NS2.	NU1.	NU2.	NC1.	NC2.
Percentage of high challenge.	16%	25%	43%	28%	29%	4%
Percentage of low challenge.	84%	75%	57%	72%	71%	96%
Number of minutes observed.	600	600	600	600	600	600

The table shows the contrast in 'high' cognitive challenge between the centres with the same form of provision, and the same temporal structure.

Table. 8.2.
Percentage of time spent in high cognitive challenge in forms of provision with fixed or free temporal structures.(N3)

	Free Temporal structure. Nursery Schools.	Free Temporal structure. Nursery Units.	Fixed temporal Structure. Nursery Classes.
Percentage of high challenge.	20%	36%	16%
Percentage of low challenge.	80%	64%	84%
Number of minutes observed.	1200	1200	1200

Table. 8.3.
Percentage of time spent in high cognitive challenge in centres with fixed or free temporal structures.

	Centres with free temporal structure. NS1. NS2. NU1. NU2.	Centres with fixed temporal structure. NC1. NC2.
Percentage of high challenge.	28%	16%
Percentage of low challenge.	72%	84%
Number of minutes observed.	2400	1200

Table. 9.1.

Percentage of challenging play in each social category.
N3600 minutes of observation.

Target child alone.	N397	
	Challenging play.	27%
	Ordinary play.	73%
Child / Child pair.	N650	
	Challenging play.	18%
	Ordinary play.	82%
Child group.	N542	
	Challenging play.	36%
	Ordinary play.	64%
Target child parallel to children.	N76	
	Challenging play.	45%
	Ordinary play.	55%
Target child with other children, adult near.	N254	
	Challenging play.	28%
	Ordinary play.	72%
Adult / child interacting pair.	N169	
	Challenging play.	53%
	Ordinary play.	47%
Target child in group - adult interacting with group.	N1512	
	Challenging play.	19%
	Ordinary play.	81%

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The highest percentage of challenging play occurred when the adult and child were an interacting pair.

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Table. 9.2.

Percentage of challenging play in each social category, in each form of provision.
N1200 minutes of observation in each form of provision.

		Nursery Schools. N1200	Nursery Units. N1200	Nursery Classes. N1200
Target child alone.	N	192	138	68
	Challenging play.	21	39	20
	Ordinary play.	79	61	80
Child / Child pair.	N	322	211	116
	Challenging play.	11	31	16
	Ordinary play.	89	69	84
Child group.	N	153	269	119
	Challenging play.	22	32	61
	Ordinary play.	78	68	39
Target child parallel to children.	N	37	29	10
	Challenging play.	8	91	53
	Ordinary play.	92	9	47
Target child with other children, adult near.	N	69	110	75
	Challenging play.	24	28	30
	Ordinary play.	76	72	70
Adult / child interacting pair.	N	45	64	60
	Challenging play.	40	86	27
	Ordinary play.	60	14	73
Target child in group - adult interacting with group.	N	384	379	752
	Challenging play.	32	30	7
	Ordinary play.	68	70	93

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The cognitive challenge the child is engaged in is significant in this and the O.P.R. study, and the social interaction of the child during activity may enhance the challenge. The results of the analysis of the social code shown on this Table highlight issues for discussion.

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Table. 9.3.

Percentage of challenging play in each social category, in the six centres.
N600 minutes of observation in each centre.

		NS1 N600	NS2 N600	NU1 N600	NU2 N600	NC1 N600	NC2 N600
Target child alone.	N	88	104	77	61	50	18
	Challenging play.	25%	19%	52%	21%	28%	00%
	Ordinary play.	75%	81%	48%	79%	72%	100%
Child / Child pair.	N	194	128	103	108	54	61
	Challenging play.	6%	18%	41%	22%	14%	18%
	Ordinary play.	94%	82%	59%	78%	86%	82%
Child group.	N	99	54	121	148	116	3
	Challenging play.	13%	39%	47%	20%	63%	0%
	Ordinary play.	87%	61%	53%	80%	37%	100%
Target child parallel to children.	N	32	5	29	00	00	10
	Challenging play.	00%	55%	91%	00%	00%	53%
	Ordinary play.	100%	45%	9%	00%	00%	47%
Target child with other children, adult near.	N	25	44	35	75	62	13
	Challenging play.	12%	31%	23%	31%	27%	46%
	Ordinary play.	88%	69%	77%	69%	73%	54%
Adult / child interacting pair.	N	23	22	33	31	52	8
	Challenging play.	40%	39%	88%	84%	31%	00%
	Ordinary play.	60%	61%	12%	16%	69%	100%
Target child in group - adult interacting with group.	N	139	243	202	177	265	487
	Challenging play.	56%	18%	28%	32%	20%	000%
	Ordinary play.	44%	82%	72%	68%	80%	100%

The Table shows a significant difference in the amount of challenging play between the six centres in the two social categories where children and adults interacted. Both 'task' and 'temporal' structures have significant effects upon the social grouping.

Table. 10.1.

Percentage of time spent in various activities according to size of centre.

		Large. N1200	Medium. N1200	Small. N1200
Passive adult led group activites.	N	59	86	308
	%	5%	7%	26%
	Rank Order.	8	6	1
Adult directed manipulation.	N	74	85	77
	%	6%	7%	6%
	Rank Order.	7	7	5
Pretend.	N	98	207	100
	%	8%	17%	8%
	Rank Order.	4	1	3
Manipulation.	N	153	132	76
	%	13%	11%	6%
	Rank Order.	2	2	6
Structured materials.	N	41	123	37
	%	3%	10%	3%
	Rank Order.	9	3	8
3RS.	N	78	103	100
	%	7%	9%	8%
	Rank Order.	6	4	3
Large muscle movement.	N	173	78	66
	%	14%	7%	6%
	Rank Order.	1	8	7
Domestic activity.	N	139	94	183
	%	12%	8%	15%
	Rank Order.	3	5	2
Social interaction not play.	N	88	16	20
	%	7	1	2
	Rank Order.	5	9	9

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The data shows a significant difference between the passive adult-led groups in the large centres, Nursery Schools, and the small centres, Nursery classes.

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Table. 10.2.

Percentage of time spent in various activities according to size of centre. Details of the six centres.

		Large.		Medium.		Small.	
		NS1. N600	NS2. N600	NU1. N600	NU2. N600	NC1. N600	NC2. N600
Passive adult led group activites.	N	15	44	50	36	105	203
	%	3%	7%	8%	6%	18%	34%
	Rank Order.	11	5	6	6	1	1
Adult directed manipulation.	N	22	52	73	12	47	30
	%	4%	9%	12%	2%	8%	5%
	Rank Order.	8	4	3	11	4	5
Watching.	N	20	36	17	21	13	44
	%	3%	6%	3%	4%	2%	7%
	Rank Order.	9	7	9	7	10	4
ART.	N	16	38	1	39	25	8
	%	3%	6%	.5%	7%	4%	1%
	Rank Order.	10	6	12	5	7	9
Pretend.	N	70	28	58	149	93	7
	%	12%	5%	10%	25%	16%	1%
	Rank Order.	3	11	5	1	2	10
Manipulation.	N	66	87	76	56	47	29
	%	11%	15%	13%	9%	8%	5%
	Rank Order.	4	1	2	2	4	6
Structured materials.	N	12	29	67	56	22	15
	%	2%	5%	11%	9%	4%	3%
	Rank Order.	12	9	4	2	8	8
3RS.	N	44	34	83	20	11	89
	%	7%	6%	14%	3%	2%	15%
	Rank Order.	6	8	1	8	11	3
Large muscle movement.	N	115	58	34	44	42	24
	%	19%	10%	6%	7%	7%	4%
	Rank Order.	1	2	8	4	6	7
Informal games.	N	39	8	17	19	9	0
	%	7%	.5%	3%	3%	2%	0%
	Rank Order.	7	12	9	9	12	0
Domestic activity.	N	84	55	41	53	78	105
	%	14%	9%	7%	9%	13%	18%
	Rank Order.	2	3	7	3	3	2
Social interaction not play.	N	59	29	5	11	18	2
	%	10%	5%	1%	2%	3%	.5%
	Rank Order.	5	9	11	12	9	11

Table. 10.3.

Percentage of social groupings according to size of centre.(N6)

		Large Centres.		Medium Centres.		Small Centres.	
		NS1 N600	NS2 N600	NU1 N600	NU2 N600	NC1 N600	NC2 N600
Child alone.	N	87	104	77	61	50	18
	%	15%	17%	13%	10%	8%	3%
Child with a peer. (no adult present)	N	325	187	253	256	171	74
	%	54%	31%	42%	43%	29%	12%
Child in contact with adult.	N	188	309	270	283	379	508
	%	31%	52%	45%	47%	63%	85%

The children in both large centres spent more time alone than children in the other groups. The Table shows the significant difference between the peer group play of the 'target' children in centres NS1 and NC2.

Table. 10.4.

Percentage of social groupings according to size of centres. (N3)

		Large Centres. N1200	Medium Centres. N1200	Small Centres. N1200
Child alone.	N	191	137	68
	%	16%	11%	6%
Child with a peer. (no adult present)	N	512	511	245
	%	43%	43%	20%
Child in contact with adult.	N	497	551	886
	%	41%	46%	74%

Table. 10.5.

Percentage of challenging activity according to size of centre. (N6)

	Large centres		Medium centres.		Small centres.	
	NS1.	NS2.	NU1.	NU2.	NC1.	NC2.
Percentage of high challenge.	16%	25%	43%	28%	29%	4%
Percentage of low challenge.	84%	75%	57%	72%	71%	96%
Number of minutes observed in each centre.	600	600	600	600	600	600

The Table above shows a significant difference between the percentage of challenging activity in the small centres.

Table. 10.6.

Percentage of challenging activity according to the size of provision. (N3)

	Large centres Nursery Schools.	Medium centres. Nursery Units.	Small centres. Nursery Classes.
Percentage of high challenge.	20%	36%	16%
Percentage of low challenge.	80%	64%	84%
Number of minutes observed.	1200	1200	1200

The percentage of challenging activity according to the size of centre matches the percentage of time spent in 'high' cognitive challenge in forms of provision with 'free' or 'fixed' temporal structures.

Table. 11.1.
Distribution of activity type across the three forms of provision.

Number and percentage of all observations in each category seen in each form of provision.
N = 60 observations in each case.

	Nursery Schools. N60	Nursery Units. N60	Nursery Classes. N60	N180
1. Three Rs Activities. N	16	18	16	N50
% of total.	32%	36%	32%	
2. Structured Materials. N	9	10	7	N26
% of total.	35%	38%	27%	
3. Pretend. N	10	26	11	N47
% of total.	21%	55%	23%	
4. Manipulation. N	18	12	13	N43
% of total.	42%	28%	30%	
5. Games With Rules. N	3	2	5	N10
% of total.	30%	20%	50%	
6. Large Muscle Movement. N	20	17	8	N45
% of total.	44%	38%	18%	
7. Adult-directed art & Manipulation. N	10	6	11	N27
% of total.	37%	22%	41%	
8. Passive Adult-led Group Activities. N	5	11	29	N45
% of total.	11%	24%	64%	
9. Standing Around. N	7	5	8	N20
% of total.	35%	30%	40%	

'3R' activities were observed the highest number of times across the three forms of provision.

Table. 11.2.
Distribution of activity type across the six centres.

Number and percentage of all observations in each category seen in each centre.
N = 30 observations in each case.

		NS1 N30	NS2 N30	NU1 N30	NU2 N30	NC1 N30	NC2 N30	N180
1. Three Rs Activities.	N	7	9	12	6	6	10	N50
	% of total.	14%	18%	24%	12%	12%	20%	
2. Structured Materials.	N	4	5	4	6	5	2	N26
	% of total.	15%	19%	15%	23%	19%	8%	
3. Pretend.	N	5	5	8	18	9	2	N47
	% of total.	11%	11%	17%	38%	19%	4%	
4. Manipulation.	N	8	10	6	6	5	8	N43
	% of total.	19%	23%	14%	14%	12%	19%	
5. Games With Rules.	N	0	3	0	2	4	1	N10
	% of total.	0%	30%	0%	20%	40%	10%	
6. Large Muscle Movement.	N	13	7	6	11	5	3	N45
	% of total.	29%	16%	13%	24%	11%	7	
7. Adult-directed art & Manipulation.	N	5	5	4	2	7	4	N27
	% of total.	19%	19%	15%	7	26%	15%	
8. Passive Adult-led Group Activities.	N	2	3	6	5	13	16	N45
	% of total.	4%	7%	13%	11%	29%	36%	
9. Standing Around.	N	3	4	1	4	2	6	N20
	% of total.	15%	20%	5%	20%	10%	30%	

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The highest number of observations in any one category is in 'pretend' play, this activity shows a difference of 34% between NU2 and NC2.

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Table. 12.1.
Percentage of time spent in 'goal structured' activities in the three forms of provision.

		Nursery Schools. N1200	%	Nursery Units N1200	%	Nursery Classes N1200	%	TOTALS. N3600	%
Adult Directed	CH	00	0%	32	3%	10	1%	42	1%
Manipulaton.	0	75	6%	53	4%	59	5%	187	5%
TOTALS		75	6%	85	7%	69	6%	229	6%
Art.	CH	35	3%	24	2%	19	2%	78	2%
	0	19	2%	16	1%	14	1%	49	1%
TOTALS		54	5%	40	3%	33	3%	127	3%
Structured	CH	20	2%	103	9%	22	2%	145	4%
Materials.	0	21	2%	21	2%	16	1%	58	2%
TOTALS		41	4%	124	11%	38	3%	203	6%
3rs.	CH	60	5%	79	7%	9	1%	148	4%
	0	20	2%	24	2%	91	8%	135	4%
TOTALS		80	7%	103	9%	100	9%	283	8%
Large Scale	CH	00	0%	20	2%	00	0%	20	1%
Construction.	0	1	0%	12	1%	00	0%	13	0%
TOTALS		1	0%	32	5%	00	0%	33	1%
Small Scale	CH	14	1%	3	0%	9	1%	26	1%
Construction.	0	19	2%	7	1%	11	1%	37	1%
TOTALS		33	3%	10	1%	20	2%	63	2%
Problem	CH	9	1%	2	0%	1	0%	12	00%
Solving.	0	00	0%	4	0%	2	0%	6	00%
TOTALS		9	1%	6	1%	3	0%	18	1%
TOTALS.									
CH		138	12%	263	22%	70	6%	471	13%
0		155	13%	137	11%	193	16%	485	13%
TOTAL		293	24%	400	33%	263	22%	956	27%

The highest percentage of time is shown to be spent in '3R' activities. The lowest place is shared between problem solving and large scale construction, which seems to provide opportunity for problem solving.

Table. 12.2.

Percentage of time spent in 'goal structured' activities in the six centres.

		NS1. N600	%	NS2. N600	%	NU1. N600	%	NU2. N600	%	NC1. N600	%	NC2. N600	%	TOTALS. N3600	%
Adult Directed	Ch	00	0%	00	0%	32	5%	00	0%	10	2%	00	0	42	1%
Manipulation.	0	23	4%	52	9%	41	7%	12	2%	29	5%	30	5%	187	5%
TOTALS		23		52		73		12		39		30		229	
%			4%		9%		12%		2%		7%		5%		6%
Art.	CH	10	2%	25	4%	00	0%	24	4%	19	3%	00	0%	78	2%
	0	7	1%	12	2%	1	0%	15	3%	6	1%	8	1%	49	1%
TOTALS		17		37		1		39		25		8		127	
%			3%		6%		0%		7%		4%		1%		4%
Structured	CH	3	1%	17	3%	64	11%	39	7%	16	3%	6	1%	145	4%
Materials.	0	9	2%	12	2%	4	1%	17	3%	7	1%	9	2%	58	2%
TOTALS		12		29		68		56		23		15		203	
%			3%		5%		11%		10%		4%		3%		6%
3RS.	CH	31	5%	29	5%	62	10%	17	3%	4	1%	5	1%	148	4%
	0	14	2%	6	1%	21	4%	3	1%	7	1%	84	14%	135	4%
TOTALS		45		35		83		20		11		89		283	
%			8%		6%		14%		3%		2%		15%		8%
Large Scale	CH	00	0%	00	0%	16	3%	4	1%	00	0%	00	0%	20	1%
Construction.	0	00	0%	1	0%	12	2%	00	0%	00	0%	00	0%	13	0%
TOTALS		00		1		28		4		00		00		33	
%			0%		0%		5%		1%		0%		0%		1%
Small Scale	CH	00	0%	14	2%	3	1%	00	0%	00	0%	9	2%	26	1%
Construction.	0	00	0%	19	3%	7	1%	00	0%	00	0%	11	2%	37	1%
TOTALS		00		33		10		00		00		20		63	
%			0%		6%		2%		0%		0%		3%		2%
Problem	CH	4	1%	5	1%	0	0%	2	0%	1	0%	0	00%	12	00%
Solving.	0	00	0%	00	0	1	0%	3	1%	2	0%	0	0%	6	00%
TOTALS		4		5		1		5		3		0		18	
%			1%		1%		0%		1%		1%		0%		1%
TOTALS															
CH		48	8%	90	15%	177	30%	86	14%	50	8	20	3	471	13%
0		53	9%	102	17%	87	15%	50	8%	51	9	142	24	485	13%
TOTAL		101	17%	192	32%	264	44%	136	23%	101	17	162	27	956	27

Table. 13.1

Percentage of time spent in 'loosely structured' activities in the three forms of provision.

	Nursery schools. N1200	%	Nursery Units. N1200	%	Nursery Classes. N1200	%	TOTALS. N3600	%
Large Muscle Movements.								
CH	000	00%	00	00%	00	00%	000	00
0	173	14%	78	07%	67	06%	318	09
TOTALS	173		78		67		318	
%		14%		07%		06%		09%
Pretend.								
CH	19	02%	49	04%	58	05%	126	04%
0	79	07%	159	13%	42	04%	280	08%
TOTALS	98		208		100		406	
%		08%		17%		08%		01%
Manipulation.								
CH	59	05%	77	06%	25	02%	161	04%
0	95	08%	54	05%	52	04%	201	06%
TOTALS	154		131		77		362	
%		13%		11%		06%		10%
Scale-version toys.								
CH	07	01%	15	01%	37	03%	59	02%
0	07	01%	02	00%	04	00%	13	00%
TOTALS	14		17		41		72	
%		01%	00	01%		03%		02%
Social interaction not play.								
CH	22	02%	06	01%	00	00%	28	01%
0	81	07%	10	01%	20	02%	111	03%
TOTALS	103		16		20		139	
%		09%		01%		02%		04%
Music.								
CH	00	00%	20	02%	00	00%	20	01%
0	01	00%	22	02%	00	00%	23	01%
TOTALS	01		42		00		43	
%		00%		04%		00%		02%
Examination.								
CH	20	02%	08	01%	00	00%	28	01%
0	00	00%	01	00%	00	00%	01	00%
TOTALS	20		09		00		29	
%		02%		01%		00%		01%
Informal games.								
CH	00	00%	00	00%	00	00%	00	00%
0	47	04%	36	03%	09	01%	92	03%
TOTALS	47		36		09		92	
%		04%		03%		01%		03%
TOTALS								
CH	127	11%	175	12%	120	15%	422	12%
0	483	40%	362	30%	194	16%	1039	29%
TOTAL	610		537		314		1461	
%		51%		45%		26%		41%

Table. 13.2
Percentage of time spent in 'loosely structured' activities in the six centres.

	NS1. N600	%	NS2. N600	%	NU1. N600	%	NU2. N600	%	NC1. N600	%	NC2. N600	%	TOTALS. N3600	%
Large Muscle Movement.														
CH	000		00		00		00		00		00		000	0
O	115	19%	58	10%	34	6%	44	7%	42	7%	25	4%	318	9%
TOTALS	115		58		34		44		42		25		318	
%		19%		10%		6%		7%		7%		4%		9%
Pretend.														
CH	7	1%	12	2%	20	3%	29	5%	56	9%	2	0%	126	4%
O	63	11%	16	3%	38	6%	121	20%	37	6%	5	1%	280	8%
TOTALS	70		28		58		150		93		7		406	
%		12%		5%		10%		25%		16%		1%		11%
Manipulation.														
CH	37	6%	22	4%	48	8%	29	5%	25	4%	0	0%	161	4%
O	30	5%	65	11%	27	5%	27	5%	22	4%	30	5%	201	6%
TOTALS	67		87		75		56		47		30		362	
%		11%		15%		13%		9%		8%		5%		10%
Scale Version Toys.														
CH	0	0%	7	1%	11	2%	4	1%	37	6%	0	0%	59	2%
O	2	0%	5	1%	2	0%	0	0%	4	1%	0	0%	13	0%
TOTALS	2		12		13		4		41		0		72	
%		0%		2%		2%		1%		7%		0%		2%
Social Interaction Not Play.														
CH	7	1%	15	3%	2	0%	4	1%	0	0%	0	0%	28	1%
O	52	9%	29	5%	3	0%	7	1%	18	3%	2	0%	111	3%
TOTALS	59		44		5		11		18		2		139	
%		10%		7%		1%		2%		3%		0%		4%
Music.														
CH	0	0%	0	0%	2	0%	18	3%	0	0%	0	0%	20	1%
O	1	0%	0	0%	15	3%	7	1%	0	0%	0	0%	23	1%
TOTALS	1		0		17		25		0		0		43	
%		0%		0%		3%		4%		0%		0%		1%
Examination.														
CH	19	3%	1	0%	8	1%	0	0%	0	0%	0	0%	28	1%
O	0	0%	0	0%	1	0%	0	0%	0	0%	0	0%	1	0%
TOTALS	19		1		9		0		0		0		29	
%		3%		0%		2%		0%		0%		0%		1%
Informal Games.														
CH	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
O	8	1%	39	7%	17	3%	19	3%	0	0%	9	2%	92	3%
TOTALS	8		39		17		19		0		9		92	
%		1%		7%		3%		3%		0%		2%		3%
TOTALS														
CH	70	12%	57	10%	91	15%	84	14%	118	20%	2	0%	422	12%
O	271	45%	212	35%	137	24%	225	38%	123	20%	71	12%	1039	29%
TOTAL	341		269		228		309		241		73		1461	
%		57%		45%		38%		52%		40%		12%		41%

Table. 14.1.

Percentage of time spent in 'passive/non-engaged' activities in the three forms of provision.
(By definition activities that do not challenge).

Minutes	Nursery Schools N1200	Nursery Units. N1200	Nursery Classes. N1200	TOTALS. N3600
Passive adult-led Group activity.				
TOTALS	59	86	308	453
%	5	7	26	13
Watching.				
TOTALS	56	38	57	151
%	5	3	5	4
Waiting.				
TOTALS	14	4	19	37
%	1	0	2	1
Aimless wandering gaze.				
TOTALS	14	11	20	45
%	1	1	2	1
Cruise.				
TOTALS	8	2	0	10
%	1	0	0	0
Distressed behaviour.				
TOTALS	1	0	3	4
%	0	0	0	0
TOTALS	152	141	407	700
%	13	12	34	19

Table. 14.2.

Percentage of time spent in 'passive/non-engaged' activities in the six centres.
(By definition activities that do not challenge).

Minutes	NS1. N600	NS2. N600	NU1. N600	NU2. N600	NC1. N600	NC2. N600	TOTALS. N3600
Passive adult-led group activity.							
TOTALS	15	44	50	36	105	203	453
%	3	7	8	6	18	34	13
Watching.							
TOTALS	20	36	17	21	13	44	151
%	3	6	3	4	2	7	4
Waiting.							
TOTALS	4	10	2	2	16	3	37
%	1	2	0	0	3	1	1
Aimless Wandering gaze.							
TOTALS	4	10	3	8	8	12	45
%	1	2	1	1	1	2	1
Cruise.							
TOTALS	3	5	2	0	0	0	10
%	1	1	0	0	0	0	0
Distressed behaviour.							
TOTALS	1	0	0	0	3	0	4
%	0	0	0	0	1	0	0
TOTALS	47	105	74	67	145	262	700
%	8	18	12	11	24	44	19

Table. 15.1.

Percentage of time spent in 'other' activities in the three forms of provision.

Minutes.	Nursery Schools. N1200	%	Nursery Units N1200	%	Nursery Classes. N1200	%	TOTALS. N3600	%
Domestic Activity.								
CH	00	00	00	00	00		000	00
0	139	12	94	8	183	15	416	12
TOTALS	139		94		183		416	
%	12		8		15		12	
Purposeful Movement.								
CH	00		00		00		00	
0	16	1	24	2	6	1	46	1
TOTALS	16		24		6		46	
%	1		2		1		1	
Games with rules.								
CH	6	1	0	0	8	1	14	0
0	13	1	14	1	29	2	56	2
TOTALS	19		14		37		70	
%	2		1		3		2	
TOTALS								
CH	06	1	00	0	8	1	14	0
0	158	13	132	11	218	18	508	14
TOTALS	164		132		226		522	
%	14		11		19		15	

Table. 15.2.

Percentage of time spent in 'other' activities in the six centres.

Minutes.	NS1. N600	%	NS2. N600	%	NU1. N600	%	NU2. N600	%	NC1. N600	%	NC2. N600	%	TOTALS. N3600	%
Domestic Activity.														
CH	00		00		00		00		00		00		00	
0	55	9	84	14	41	7	53	9	105	18	78	13	416	12
TOTALS	55		84		41		53		105		78		416	
%	9		14		7		9		18		13		12	
Purposeful Movement.														
CH	00		00		00		00		00		00		00	
0	5	1	11	2	6	1	18	3	2	0	4	1	46	1
TOTALS	5		11		6		18		2		4		46	
%	1		2		1		3		0		1		1	
Games with Rules.														
CH	0	0	6	1	0	0	0	0	8	1	0	0	14	0
0	0	0	13	2	0	0	14	2	23	4	6	1	56	2
TOTALS	0	0	19		0		14		31		6		70	
%	0		3		0		2		5		1		2	
TOTALS														
CH	00	00	6	1	00	0	00	0	8	1	00	0	14	0
0	60	10	98	16	47	8	85	14	130	22	88	15	508	14
TOTALS	60		104		47		85		138		88		522	
%	10		17		8		14		22		15		15	

Table. 16.1.

Mean bout length of activities in minutes in rank order.

	Rank.	Mins.
Activities whose duration is usually determined by an adult.		
Passive adult led group activities.	1	13.1
Adult directed manipulation.	2	7.8
Games with rules.	3	5.7
Waiting.	4	5.1
Activities whose duration is usually determined by the child.		
Large muscle movement.	1	14.5
Manipulation.	2	8.9
Pretend.	3	8.6
Structured material.	4	7.4
3RS.	5	6.5
Art.	6	5.9
Small scale construction.	6	5.9
Scale version toys.	8	5.6
Large scale construction.	9	5.4
Domestic activity.	10	4.7
Examination.	10	4.7
Informal games.	12	4.3
Social interaction not play.	13	3.1
Watching.	14	2.7
Aimless wander or gaze.	15	2.4
Purposeful movement.	16	1.7
Cruise.	17	1.0

Table. 16.2.

A) Mean bout length of activities in minutes.
B) Rank order of bout lengths.

		Nursery Schools	Nursery Units.	Nursery Classes.
Activities whose duration is usually determined by an adult.				
Passive adult-led group activites.	Mean.	11.9	7.7	10.6
	Rank.	1	2	1
Adult directed manipulation.	Mean.	7.4	10.5	6
	Rank.	2	1	3
Waiting.	Mean.	2	1.7	9.7
	Rank.	4	4	2
Games with rules.	Mean.	4.7	6.7	5.7
	Rank.	3	3	4
Activities whose duration is uaually determined by the child.				
ART.	Mean.	4.7	9.7	6.5
	Rank.	9	3	7
Small scale construction.	Mean.	4.9	9.7	6.5
	Rank.	4	3	7
Pretend.	Mean.	8.2	8.4	9.0
	Rank.	3	5	1
Manipulation.	Mean.	8.1	11.1	6.9
	Rank.	4	1	5
Structured materials.	Mean.	4.5	11.1	5.2
	Rank.	4	2	9
3RS.	Mean.	5.4	6.8	7.1
	Rank.	7	6	4
Examination.	Mean.	9.2	2.3	0
	Rank.	2	15	0
Scale version toys.	Mean.	3.4	5.6	8.2
	Rank.	12	8	2
Large scale construction.	Mean.	1	6.1	0
	Rank.	16	7	0
Watching.	Mean.	2.3	2.6	3.1
	Rank.	13	12	10
Large muscle movement	Mean.	10.2	5.1	8.2
	Rank.	1	9	2
Informal games.	Mean.	5.6	3.8	2.1
	Rank.	6	11	12
Domestic activity.	Mean.	4.5	4	5.3
	Rank.	10	10	8
Social interaction not play.	Mean.	3.9	2.5	1.6
	Rank.	11	14	14
Purposeful moevement.	Mean.	1.4	1.8	1.8
	Rank.	15	16	13
Aimless wander.	Mean.	1.9	2.6	2.7
	Rank.	14	12	11
Cruise.	Mean.	.9	.7	0
	Rank.	17	17	0

Table. 16.3.

A) Mean bout length of activities in minutes.
B) Rank order of bout lengths.

Activities whose duration is usually determined by an adult.

		NS1.	NS2.	NU1.	NU2.	NC1.	NC2.
Passive adult led group activites.	Mean.	a)7.5	a)14.2	a)8.2	a)7.1	a)7.6	a)12.68
	Rank.	b)1	b) 1	b)2	b)1	b)1	b) 1
Adult directed manipulation.	Mean.	a)4.5	a)10.4	a)12.1	a)5.7	a)5.5	a)6.75
	Rank.	b)2	b)2	b)1	b)3	b)3	b)2
Waiting.	Mean.	a)4	a)1.6	a)2	a)1.5	a)3.9	a)1.5
	Rank.	b)3	b)4	b)3	b)4	b)4	b)4
Games with rules.	Mean.	a)0	a)4.7	a)0	a)6.7	a)5.6	a)6
	Rank.	b)16	b)3	b)18	b)2	b)2	b)3
Activities whose duration is uaually determined by the child.							
ART.	Mean.	a)3.2	a)5.2	a)0.5	a)12.8	a)6.1	a)8
	Rank.	b)9	b)5	b)17	b)2	b)5	b)3
Small scale construction.	Mean.	a)0	a)4.9	a)9.7	a)0	a)0	a)6.5
	Rank.	b)0	b)6	b)2	b)0	b)0	b)6
Pretend.	Mean.	a)11.4	a)5.5	a)7.1	a)9.2	a)10.3	a)3.25
	Rank.	b)1	b)4	b)4	b)4	b)1	b)10
Manipulation.	Mean.	a)8.3	a)8.7	a)12.6	a)11.2	a)9.4	a)4.91
	Rank.	b)4	b)2	b)1	b)3	b)2	b)7
Structured materials.	Mean.	a)3	a)5.7	a)9.5	a)14	a)4.4	a)7.50
	Rank.	b)10	b)3	b)3	b)1	b)6	b)4
3RS.	Mean.	a)6.1	a)4.7	a)7.0	a)6.5	a)2.7	a)8.90
	Rank.	b)6	b)7	b)6	b)5	b)9	b)1
Examination.	Mean.	a)9.2	a)0	a)1	a)2.8	a)0	a)0
	Rank.	b)2	b)0	b)14	b)12	b)0	b)0
Scale version toys.	Mean.	a)2	a)3.7	a)6.5	a)4	a)4	a)0
	Rank.	b)11	b)8	b)7	b)10	b)4	b)0
Large scale construction.	Mean.	a)0	a)1	a)7.1	a)4.2	a)0	a)0
	Rank.	b)0	b)15	b)5	b)9	b)0	b)0
Waiting.	Mean.	a)1.3	a)3.4	a)3.3	a)2.3	a)1.7	a)4
	Rank.	b)12	b)9	b)10	b)15	b)12	b)8
Large muscle movement.	Mean.	a)8.7	a)9.5	a)5.5	a)4.8	a)8.3	a)8.16
	Rank.	b)3	b)1	b)8	b)6	b)3	b)2
Informal games.	Mean.	a)6.9	a)2.6	a)3.3	a)4.6	a)2.1	a)0
	Rank.	b)5	b)12	b)10	b)8	b)10	b)0
Domestic activity.	Mean.	a)5.5	a)3.4	a)3.4	a)4.7	a)4.3	a)6.53
	Rank.	b)7	b)10	b)9	b)7	b)7	b)5
Social interaction not play.	Mean.	a)4.5	a)3.2	a)1.5	a)3.6	a)1.8	a)1.5
	Rank.	b)8	b)11	b)13	b)11	b)11	b)12
Purposeful moevement.	Mean.	a)1	a)1.8	a)0.8	a)2.5	a)0.7	a)4
	Rank.	b)14	b)14	b)15	b)14	b)13	b)8
Aimless wander.	Mean.	a)1.1	a)2.5	a)2.5	a)2.6	a)3.7	a)2.40
	Rank.	b)13	b)13	b)12	b)13	b)8	b)10
Cruise.	Mean.	a)0.8	a)0	a)0.7	a)0	a)0	a)0
	Rank.	b)15	b)0	b)16	b)0	b)0	b)0

Table. 17.1.

ACTIVITIES THAT FOSTER DIALOGUE.
Totalling N3600 minutes of observation.

CODED ACTIVITIES.	PERCENTAGE OF OBSERVATIONS WITH NO SPEECH.	PERCENTAGE OF OBSERVATIONS WITH CH/CH EXCHANGES.	PERCENTAGE OF OBSERVATIONS WITH CH/ADULT EXCHANGES.	PERCENTAGE OF OBSERVATIONS WITH ONE-OFF SPEECH OR " TO SELF.	NUMBER OF OBSERVATIONS IN THE THREE FORMS OF PROVISION.	NUMBER OF DIALOGUES OBSERVED IN THE THREE FORMS OF PROVISION.
SOCIAL INTERACTION, NOT PLAY	27%	19%	29%	25%	80	15
Rank order.	6	5	5	7	3	3
GROUP ROUTINE.	31%	15%	24%	30%	113	15
Rank order.	5	8	4	2	1	3
PRETEND.	15%	46%	15%	24%	82	26
Rank order.	10	1	7	8	2	1
INFORMAL GAMES.	48%	9%	14%	29%	21	1
Rank order.	1	10	8	4	10	10
3RS.	26%	15%	21%	38%	76	9
Rank order.	7	8	6	1	5	6
MANIPULATION.	26%	29%	26%	19%	73	16
Rank order.	7	2	3	9	6	2
LARGE MUSCLE MOVEMENT.	42%	16%	13%	29%	80	9
Rank order.	2	6	9	4	3	6
STRUCTURED MATERIAL.	38%	22%	22%	18%	45	9
Rank order.	3	3	5	10	8	6
SMALL SCALE CONSTRUCTION.	37%	22%	13%	28%	32	5
Rank order.	4	3	9	6	9	9
ADULT DIRECTED ART AND MANIPULATION.	20%	16%	34%	30%	56	13
Rank order.	9	6	1	2	7	5

Pretend play stimulated the highest dialogue score.

Table 17.2.

ACTIVITIES THAT FOSTER DIALOGUE.
N600 minutes of observation in each form of provision. - totalling N3600 minutes of observation.

CODED ACTIVITIES.	PERCENTAGE OF OBSERVATIONS WITH NO SPEECH.			PERCENTAGE OF OBSERVATIONS WITH CH/CH EXCHANGES.			PERCENTAGE OF OBSERVATIONS WITH CH/ADULT EXCHANGES.			PERCENTAGE OF OBSERVATIONS WITH ONE-OFF SPEECH OR " TO SELF.			NUMBER OF OBSERVATIONS IN THE THREE FORMS OF PROVISION.			DIALOGUES. NUMBER OBSERVED.		
	NS	NU	NC	NS	NU	NC	NS	NU	NC	NS	NU	NC	NS	NU	NC	NS	NU	NC
SOCIAL INTERACTION, NOT PLAY	28%	27%	26%	20%	18%	18%	28%	36%	26%	24%	18%	30%	46	11	23	11	3	1
Rank order.	7	9	6	5	6	6	4	1	4	6	7	4	1	8	3	1	5	7
GROUP ROUTINE.	29%	29%	33%	16%	12%	15%	35%	16%	21%	19%	42%	31%	31	24	58	7	3	5
Rank order.	5	7	3	7	7	8	2	6	6	9	2	3	3	4	1	3	5	2
PRETEND.	17%	17%	5%	30%	51%	56%	22%	7%	22%	31%	25%	17%	23	41	18	6	12	8
Rank order.	9	10	9	1	2	1	5	8	5	3	5	8	6	1	4	4	1	1
INFORMAL GAMES.	39%	83%	00%	15%	00%	00%	15%	17%	00%	31%	00%	100%	13	6	2	0	1	0
Rank order.	2	1	0	8	0	0	8	4	0	3	0	1	8	9	10	0	9	0
3RS.	29%	35%	15%	15%	9%	19%	15%	17%	31%	41%	39%	35%	27	23	26	4	1	4
rank order.	5	4	8	8	8	5	8	4	3	1	3	2	5	5	2	6	9	3
MANIPULATION.	26%	32%	18%	26%	32%	29%	22%	20%	41%	26%	16%	12%	31	25	17	4	8	4
Rank order.	8	6	7	2	3	2	5	3	1	5	8	10	3	3	5	6	2	3
LARGE MUSCLE MOVEMENT.	39%	37%	67%	20%	19%	00%	17%	7%	8%	24%	37%	25%	41	27	12	5	4	0
Rank order.	2	3	1	5	5	0	7	8	9	6	7	6	2	2	8	5	4	0
STRUCTURED MATERIAL.	30%	42%	50%	25%	21%	16%	30%	16%	16%	15%	21%	16%	20	19	6	4	5	0
Rank order.	4	2	2	4	4	7	3	6	8	10	6	9	7	6	9	6	3	0
SMALL SCALE CONSTRUCTION.	50%	33%	29%	9%	67%	24%	8%	00%	18%	33%	00%	29%	12	3	17	0	3	2
Rank order.	1	5	4	10	1	3	10	0	7	2	0	5	9	10	5	0	5	5
ADULT DIRECTED ART AND MANIPULATION.	9%	28%	27%	26%	00%	20%	43%	22%	33%	22%	50%	20%	23	18	15	8	3	2
Rank order.	10	8	5	2	0	4	1	2	2	8	1	7	5	7	7	2	5	5

Temporal structure is shown to influence the use of language.
Nursery Schools (NS) score the highest number of language observations in the social interaction category.

Table. 18.1.

Percentage of time children spend in social groups.
N3600 minutes of observation.

Target child alone.	N	397
	%	11%
	Rank Order	3
Child / Child pair.	N	650
	%	18%
	Rank Order	2
Child group.	N	542
	%	15%
	Rank Order	4
Target child parallel to children.	N	76
	%	2%
	Rank Order	7
Target child with other children, adult near.	N	254
	%	7%
	Rank Order	5
Adult / child interacting pair.	N	169
	%	5%
	Rank Order	7
Target child in group - adult interacting with group.	N	1512
	%	42%
	Rank Order	1

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The time spent in an adult-led group is more than double any other social grouping, and ranked first in all centres.

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Table. 18.2.

Percentage of time children spent in each social category, in each form of provision.
N1200 minutes of observation in each form of provision.

		Nursery Schools.	Nursery Units.	Nursery Classes.	Totals.
Number of minutes observed.		N1200	1200	1200	3600
Target child alone.	N	191	138	69	398
	%	16%	11%	6%	11%
	Rank Order	3	4	5	4
Child / Child pair.	N	322	211	116	649
	%	26%	18%	10%	18%
	Rank Order	2	3	3	2
Child group.	N	153	269	119	541
	%	13%	22%	10%	15%
	Rank Order	4	2	2	3
Target child parallel to children.	N	37	30	10	77
	%	3%	2%	1%	2%
	Rank Order	7	7	7	7
Target child with other children, adult near.	N	69	109	75	253
	%	6%	9%	6%	7%
	Rank Order	5	5	4	5
Adult / child interacting pair.	N	45	64	59	168
	%	4%	5%	5%	5%
	Rank Order	6	6	6	6
Target child in group - adult interacting with group.	N	383	379	752	1514
	%	32	33	62	42%
	Rank Order	1	1	1	1

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This Table is the same as Table. which shows the most frequent social groupings seen in the forms of provision with 'free' or 'fixed' structures. The Table shows that 42% of the total time was spent in an adult-led group and only 5% with the adult and child as an interacting pair.

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Table. 18.3.

Percentage of time children spent in each social category in the six centres.
N600 minutes of observation in each centre.

		NS1 N600	NS2 N600	NU1 N600	NU2 N600	NC1 N600	NC2 N600
Target child alone.	N	87	104	77	61	50.5	18
	%	15%	17%	13%	10%	8%	3%
	Rank Order	4	3	4	5	6	3
Child / Child pair.	N	194	128	103	108	54	62
	%	32%	21%	17%	18%	9%	10%
	Rank Order	1	2	3	3	4	2
Child group.	N	99	54	121	148	116	3
	%	17%	9%	20%	25%	20%	1%
	Rank Order	3	4	2	2	2	6
Target child parallel to children.	N	32	5	29	00	00	9
	%	5%	1%	5%	00%	00%	2%
	Rank Order	5	7	7	7	7	4
Target child with other children, adult near.	N	26	44	35	75	62	13
	%	4%	7%	6%	12%	10%	2%
	Rank Order	6	5	5	4	3	4
Adult / child interacting pair.	N	23	22	33	31	52	7
	%	4%	4%	6%	5%	9%	1%
	Rank Order	6	6	5	6	4	6
Target child in group - adult interacting with group.	N	138	243	201	177	265	487
	%	23%	41%	33%	30%	44%	81%
	Rank order	2	1	1	1	1	1

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This Table is the same as for centres with 'fixed' or 'free' temporal structures.

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Part. 2.

Discussion of Results.

The results of this study show that structure is significant in effecting social grouping, which in turn effects cognitive challenge and dialogue. (Table.9.3. p.80 and Table.17.1 p.98.) Temporal structure is shown to have a powerful effect upon social grouping. (Table.6.1.p.73.) Therefore it is not surprising to find that in the pre-school centre with a high temporal structure, 82% of the time was spent in a large adult-led group. The analysis of the results from the study of this centre show only 4% of high challenging play. (Table.4.1.p69) This could have been anticipated as there was little time left in the programme for any child-initiated, self-directed activity which was likely to give rise to elaborated play. The social grouping that resulted in the most challenging play was the adult and child as an interacting pair.(Table.9.1.p78.) The research of Tizard and Hughes. (1984) showed the most rewarding 'intellectual struggle' to be to be between mother and child. p.9. This empirical study showed that there was 'richness, depth, and variety' in the interaction observed. This same social grouping was also the most productive for the four year olds in the S.R.P.Project. The best setting for the younger children in that project was a child/child pair. This did not rank as high in the results of this study when more challenging play was observed when children

played parallel to each other, in a child group,or alone. (Table.9.1.p78).

Temporal structure is shown to influence the use of language.(Table.17.2 p.99.). In the centres with a 'fixed' structure, the highest number of observations was of group routine, when for one third of the time the target children did not speak. Both centres had a high record of adult led group domestic activity where speech was mainly used for requests and control, the setting being inappropriate for 'tutorial' chat. There is such a wide difference in the other two forms of provision that they need to be considered separately. In the Nursery Schools the highest number of observations was when the children were not engaged in specific tasks. In the Nursery Units, the highest number was in pretend play. S.R.P (1980) make the point that activities with high goal structure, require single-mindedness that precludes chat. In these social settings the opportunity for dialogue shows in the results. It is interesting to note that in social interaction that is not play, the child/adult exchanges foster the most dialogues. Whereas in pretend play it is the child/child exchanges which are the most rewarding across all the forms of provision, and which stimulated the most dialogue. (Table.17.1.p.98.)

Routine seems to be important to young children. They feel secure when they know what 'time' and in what 'order' things occur. In the pattern of their day events flow from one activity to the next. If the day ends with a story,

they know that 'home time' follows. Children frequently ask if it's story time, when they really want to know if it's home time. Mia Kellmer Pringle (1974) emphasis the importance to security of a known routine.

All the 'free' structures had a framework which the children seemed to be aware of. In some it was that cooking took place early in the day, in others 'quiet' activities replaced boisterous ones towards the end of the morning.The difference in the results of the two centres that had a 'fixed' temporal structure show the importance of balance between a structure that would enable the child to feel secure, or a structure that prevents the child having any opportunity to set his own 'goals'. (Table.7.p.76)

Some very interesting differences emerged from the analysis of the task structure of the centres, particularly between the centres that were high on both task and temporal structure. The data recorded 29% of high challenge for NC1, and only 4% for NC2. An examination of the profiles of these two centres shows the difference in the amount of time spent in 'goal' structured, 'loosely' structured, 'passive' or 'other' activities. The highest cognitive challenge occurring in the 'loosely' structured activities, where NC1 spent the most time and NC2 the least. Although NC2 spent more time on 'goal' structured activities, than NC1, the results show less challenging engagement, the hypothesis being that the temporal structure restricted the elaboration of the activity. The

S.R.P.Project found that children in the more structured settings generated more elaborated play than children in the less structured ones, this was qualified as referring not to the activity being prescribed, but to the free activity of children playing on their own. The results of this study support that statement.

The highest cognitive challenge was seen in NU1 which had 'free' temporal and 'high' task structure. (Table.4.1.p69). The highest challenge coming from the 'goal' structured activities, structured materials and 3R'S. The information on the programmes of the centres shows that NU1 had one mandatory task, usually a 3R task, each day. The profile of NU2 (Appendix.6b) shows the percentage of cognitive challenge coming equally from 'goal' and 'loosely' structured activities, with double the amount of time spent in 'loosely' structured activities to achieve this. There was a correlation between the 'high' task structure and percentage of challenge in the programme that had 'free temporal structure in the Nursery School and Nursery Unit provision, each generating more cognitive challenge than the programmes with low 'task' and 'free' temporal structures. This data is drawn together and shown on the profiles of the centres. Appendix 6. S.R.P (1980) reported that children exposed to tasks in their daily programme devoted more time to 'educational' materials as the results of this. If children succeed in reaching 'goals' with the support of adults, they seem more likely to set

their own 'goals' using the skills they have acquired. Bruner (1980) cites two characteristics for rich play. These are clear goals and real-world feedback, with the means and ends under the child's own control.

A comparison of the time in activities most frequently seen in centres 'high' on task structure showed that 50% of time was spent in adult groups which were directed or passive/non engaged activities, more than twice as much as the centres that were 'low' on task structure. These centres had twice as much pretend play, with the percentage of time spent with manipulative and structured materials varying only slightly. What does seem at variance, is the slight difference in the percentage of high challenge when all the centres are grouped into 'high' or 'low'. The results of NC2 centre cause this distortion. Table. 4.1 (p69) shows only 4% of challenging play has taken place in this centre.

The rank order of social grouping was the same for centres 'high' or 'low' on task structure, and varied only slightly between each centre. The main differences being between one 'low' Nursery School and one 'high' nursery class. The temporal structure may account for this. The Nursery Class with a 'fixed temporal 'structure, NC1, ranked the child/adult group first with 81% of 600 minutes in this group. The Nursery School, NS2, rated this social group second with 23% of the observed time.Table 6.2 (p74) gives the ranking details. In this research it seemsed necessary to examine the details of all six centres. When

the data from both Nursery Classes was combined to represent one form of provision, the over structured and adult orientated programme of NC2 effects the results of NC1, which ranks second in the amount of challenging time in selected activities. (Table.4.1.p69.)

S.R.P.(1980) found that there was greater contact between children and adults in the smaller centres, and fewer children seen alone in them. Not much difference was seen in the amount of peer interaction. The centres in this study were divided into three groups, small, medium and large. The results supported the first part of the Oxford findings. There was more contact with an adult in the small and medium centres, than the large, and fewer children were seen alone. An interesting piece of research by W.George Scarlett. reported in Early Childhood Development and Education. (1983) ed. Margaret Donaldson, suggests clues as to possible ways that social isolation from peers is fostered in Nursery children by their own behaviour. However there was a greater difference between the two centres with different task and temporal structure. (Apprendix. 5 p). There was less cognitive challenge in the child/adult interaction in the small centres, and the most in the medium centres. The medium centres were identical and purpose built, with easily supervised indoor and outdoor play areas and domestic facilities. Therefore the results of this study show that size is not the only factor that effects the amount of time that adults have to interact with children. NC1 was

also purpose built, with an easily supervised environment and provides an interesting comparison of social groupings to NC2 (Appendix.5c p)

NS2. had split level premises, a very large outdoor play area and was the most difficult of all the centres for management of both children and adults. This is reflected in the amount of time that children were seen alone, or in an adult-led group.(Table.10.3.p83) The large centres in this study had created more small intimate spaces using screens, cupboards, recesses and covers. This provided an environment for pretend play, fostered dialogue, and showed an awareness by the staff that dialogue is as important as physical exploration, Tizard & Hughes. (1984). These large centres, recorded fortynine dialogues compared with twentysix in the small centres. (Table 17.2 p99). S.R.P.(1980) found that smaller centres promoted more pretend play and large centres more physical play. This matched the findings of this study, with pretend play holding children's attention, in the small centres, for the longest 'mean' bout length, in the activities where they usually have control over the duration. Large Muscle movement ranked first in the large centres. (Table. 16.2.p96.).

This result was surprising until the details of each centre were re-examined, and the contrast between the same of provision was taken into account. (Appendix. 3c.). The results have shown that the temporal structure has more influence on the cognitive challenge than the size of

the centre.

A factor that appeared to have considerable influence on the content of the curriculum was the autonomy of the centres. Nursery Schools enjoyed the most, Nursery Classes the least. In practice this meant that the nursery classes were expected to prepare the children for the next class. The activities provided were influenced by need for the children to acquire the skills for reading and 'number'. The records kept of the individual children concentrated on these specific aspects. The record keeping in the nursery units was influenced in a similar way. In contrast the Nursery Schools recorded all aspects of the child's development.

The attention to 3R activities is confirmed by the number of observations seen in this category. It was observed the highest number of times across the three forms of provision, the results showing the same percentage of challenging minutes of activity as structured materials and manipulation. In the Nursery Units, structured materials and manipulation activities, ranked first in the children's attention span and were high in the percentage of time devoted to them. They contained a higher proportion of challenging minutes in these two categories than either the schools or classes. This supports notion that more high level play and more protracted concentration could readily be ensured by the use of more structured materials through which the children can establish goals and monitor feedback.

(Bruner,1980) The Nursery Unit children were offered well planned activities that were enjoyed by small groups of children supported by an adult. This happened to a lesser extent in the Nursery Schools. It must be appreciated that the activity coding categories could not take into account every aspect of the child's interaction, or the ethos of the school. For example there was no measure for the emotional needs of the children. NS1 had a high level of community involvement, accepted children with family problems, and had good relationships with all the social agencies. It provided a caring atmosphere to compensate for the stressful home conditions of some children. Its priority was not preparation for school. The priorities for NS2 were very different. Their intake was mainly from Asian families. English being the children's second language. The school provided family support, and their priority to 'nurture' and foster language development. Neither the units of classes had the same degree of involvement with the community and support agencies as the schools.

The results from the two Nursery Units studied are the most interesting. The buildings were identical, staffing ratios identical. intake very similar. Both schools were on council house estates at opposite side of the same small town. The difference in the programmes being operated was in task structure. The results show that 43% of high cognitive challenge was observed in the unit 'high' on task structure, and 28% in the unit 'low'

on task structure. The children in NU1 spending more time involved in the activities that offered high or moderate challenge.

Chapter. 4.

Conclusions and recommendations.

Conclusions and recommendations.

The question must be asked does the kind of pre-school matter? Are the differences in provision related to outcomes? How would the language of the children attending NS2 have developed if they had been attending NC2? These and many other questions are difficult to answer, even at this stage. The children at NC2 were on the whole very happy, they played, they talked, they laughed. It could be argued that their potential could have been more fully developed if they had had the opportunity to make more choices and solve their own problems.

The use of the observation coding techniques devised by the O.P.R.P. in the attempt to replicate the S.R.& P. research proved to be an objective way of recording particular aspects of behaviour. The prepared observation sheet, used with a stop watch, structured the observation and could be adapted to enable any aspect of behaviour to be 'targeted'.

The results of the study showed a disappointing level of challenging play, and in some cases almost no play. The results of the analysis revealed a wealth of information about the 'target children's' interaction with both their peers and the environment. It was anticipated that the Nursery Schools, who had the most control over the temporal structure of their day, would provide the highest level of cognitive challenge. This hypothesis proved to be wrong. It would seem that a challenging curriculum must be

set against the provision of a warm, friendly environment where all members of the family are nurtured. To improve the challenge the schools would require a higher level of staffing.

It was noticeable in all the centres that outdoor play presented few opportunities for problem solving. The equipment provided was mainly climbing frames, wheeled toys and small games apparatus. The inclusion of boxes, pipes, ropes, steering wheels, tyres, chalk and dressing up clothes, would provide for large scale construction and the props for imaginative play, which has the potential to become cognitively complex.

The analysis of the observations supports the evidence that leads to the main recommendations that S.R.P. make.

* The provision of materials and activities with clear goal structures, with plenty of 'free' and a few well planned activities that the children are expected to participate in.

* The encouragement of child/child pairs which did lead to more sustained attention, providing for longer and more complex play bouts.

* Tutorial discussions. The adult/child ratio enhanced by co-opting parents to make this possible. Much of the management talk could have been eliminated with better organisation of materials. It could be that the introduction of the High/Scope method of organising the learning environment would ease some of the problems. If this was achieved then more time would be available for

adult/child interaction.

* More provision for 'pretend' play, which leads to extended dialogue and co-operative play. The provision of many more simple and flexible properties to enhance and extend the play. A realization of the importance of this form of play in enabling the children to make sense of the world.

* Evidence that the route to competence is not through attention to the '3R'S' but through the '3C'S' concentration, co-operation, and conversation.

The questions to be asked should perhaps, be about the kind of professional training for working with pre-fives, as much as the kind of provision for them. If early education is to have lasting effect then it should be of high quality.

The evidence from research shows that the quality of pre-school education contributed to positive good in later life. The interpretation of the findings from the High/Scope Pre-school curriculum study is that a high-quality pre-school curriculum is based on child-initiated learning activities. Weikart (1978) and Sylva (1986) suggest that it is time to think about the contribution of preschool education to later life. Silva speculates that the main contribution is in the children developing coping skills, and therefore the most effective preschool programmes will be those that foster the competence needed for coping with stress, which she defined into two components, problem solving and regulation of emotional distress. A key element in this

environment is the attitude of the teacher. Attitudes that seem to promote learning are ones of trust, empathy, and authenticity in the teacher.

Providing opportunities for children to make choices and decisions is one way the curriculum helps children to learn to think for themselves. This study has shown that passive adult-led groups do not stimulate the high cognitive challenge, which leads to problem solving.

Provision should be made for early childhood in every setting. Each providing active concrete learning through interaction with materials in a stimulating environment, where adults enable play to be extended through language, and representation - this would help children to plan to achieve goals they have set for themselves. "A play space protected from unpredictable intrusions, familiar peers, and unpressured time are factors likely to enhance play." (Fein.1981.) Children would be motivated to solve the problems they meet either with objects or with people. In sociodramatic play children learn to integrate experiences, judge and select, concentrate on a theme, control behaviour, and react to each other flexibly. These experiences all contribute to emotional and social development and build up into the competence to cope with stress. What is essential is that any curriculum should be balanced, and provide for all ways of knowing the 'world'.

Appendices.

Appendix. 1.

Observation Record Sheet

TARGET CHILD'S INITIALS: SEX: AGE: DATE:
D of B: TIME:

Activity Record	Language Record	Task	Social
0			
1			
2			
3			
4			
5			
6			
7			
8			
9			

Appendix. 2.

The characteristics of the two levels of play described as having high cognitive challenge or ordinary cognitive challenge.

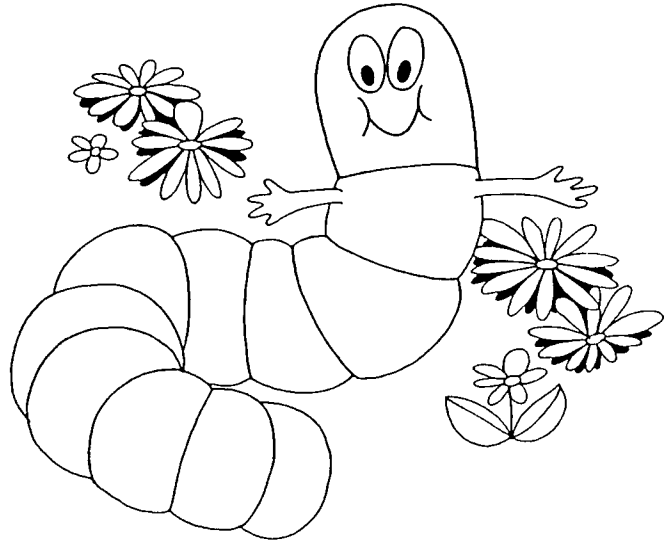
HIGH COGNITIVE CHALLENGE (COMPLEX)	ORDINARY COGNITIVE CHALLENGE
Child's activity is:	Child's activity is:
Novel, creative, imaginative, productive	Familiar, routine, repetitive, stereotyped
Cognitively complex, involving the combination of several elements, materials, actions, or ideas	Cognitively unsophisticated, not involving the combining of elements
Carried out in a systematic, planned and purposeful manner	Performed in an unsystematic, random manner with no observable planning or purposefulness
Structured and goal-directed - working towards some aim, whether the result is a tangible end-product or an invisible goal	Not directed towards a new, challenging goal, 'aimless', and without structure
Conducted with care and mental effort; the child devotes a great deal of attention - is deeply engrossed - takes pains	Conducted with ease, little mental effort, and not much care; the child is not deeply engrossed, his attention may not be entirely on that task
Learning a new skill, trying to improve an established one, or trying novel combinations of already familiar skills	Repeating a familiar, well- established pattern without seeking to improve upon it nor to add any new component or combination.

Appendix.3.

TASK CODE CATEGORIES.

1. Three Rs Activities (3Rs): Attempts at reading, writing or counting. It includes attentive looking at books.
2. Music (MUS): Listening to sounds, rhythms or music, playing instruments, singing solos and dancing.
3. Small Scale Construction (SSC): Using small construction materials such as Lego, meccano, hammering and nailing.
4. Art. (ART) 'Free expression' creative activities such as painting, drawing, chalking, cutting, sticking.
5. Large Scale Construction (LSC): Arranging and building dens, trains etc., with large crates, blocks, etc.,
6. Structured Materials (SM): The use of materials with design constraints, e,g., jigsaw puzzles, peg boards, templates, picture or shape matching materials, counting beads, bead threading and sewing cards.
7. Pretend (PRE): The transformation of everyday objects, people or events so that their 'meaning' takes precedence over 'reality'.
8. Scale Version Toys (SVT): Arranging miniature objects, e.g., doll's house, farm, zoo sets, transport toys. It does not include use of toys such as prams, dolls and dishes. If miniature objects are used in pretend play.
9. Manipulation (MAN): The mastering or refining of manual skills requiring co-ordination of the hand/arm and the senses: e.g., handling sand,dough, clay, water, etc.,
10. Social Interaction, Non Play (SINP): Social interaction, with another child or with an adult, e.g., chatting borrowing, seeking or giving help or information to someone, aggressive behaviour (not play fighting) teasing, being cuddled or comforted by an adult. Note that SINP is only used when the child is not actively engaged in another task code category. e.g., if he is doing a puzzle when chatting to a friend code it as (SM).
11. Games With Rules (GWR): Includes ball games, skittles, circle games including singing games, and board games such as snakes and ladders, dominoes, noughts and crosses, etc.,
12. Large Muscle Movement (LMM): Active movement of the child's body, requiring co-ordination of larger muscles, such as running, climbing.
13. Informal Games (IG): A play situation, with or without language, where the child is playing with another child. These are spontaneously and loosely organized: e.g., following one another around while chanting hiding in a corner and giggling, holding hands and jumping.
14. Adult-directed art & Manipulation (ADM): The child is mastering and refining skills and techniques under adult direction, and sometimes with an adult-determined end-product; e.g., tracing, directed collage.
15. Problem Solving (PS): The child solves a 'problem' in a purposeful way using logical reasoning; e.g., looking to see why something won't work and then repairing it.
16. Examination (EX): Careful examination of an object or material. e.g., looking through a magnifying glass. It differs from manipulation in that the looking, smelling or tasting is more important than the handling.
17. Passive Adult-led Group Activities (PALGA): A large group of children under the leadership of an adult, listening to stories, rhymes or finger plays, watching television, watching a demonstration.
18. Distress Behaviour (DB): Seeking comfort or attention from adult or other child. He must show visible signs of distress or make a visible bid for comfort: e.g., prolonged crying, wanton destruction of materials, social withdrawal.
19. Standing Around, (SA/AWG):The child is not actively engaged in a task or watching a specific event.
20. Cruise (CR): Active movement around from one thing to another, or purposeful looking around, when the child appears to be looking for something to do.
21. Purposeful Movement (PM): Purposeful movement towards an object, person or place: e.g., searching for an object, going outdoors, crossing the room to another activity.
22. Wait (W): The child's time of inactivity while waiting for an adult or child.
23. Watching (WA): Watching other people or events.
The child may watch a specific person or activity, or look around in general. Includes listening-in to conversations without participating.
24. Domestic Activity (DA): Includes going to the toilet, hand-washing, dressing, arrival and departure, rest, tidying up milk, etc.,

10



Part I

Oscar was a worm.

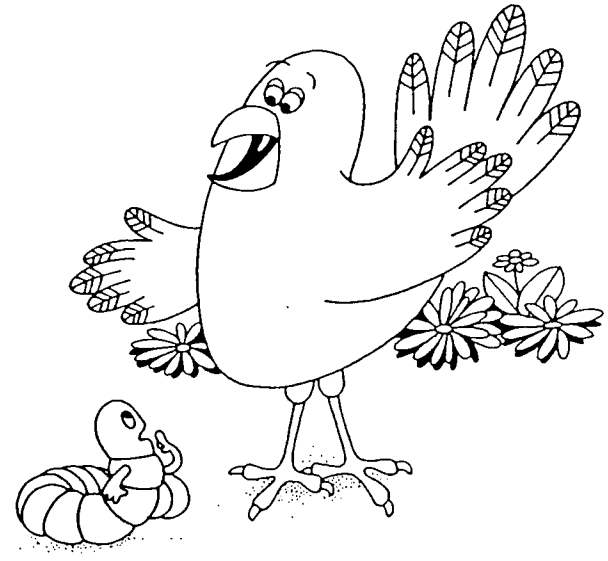
He could not crawl. Could he crawl? *No.*

He could not fly. Could he fly? *No.*

He could not walk. Could he walk? *No.*

He could not sit in a chair. Could he sit in a chair? Let's say the whole thing. *He could not sit in a chair.*

All he could do was wiggle, wiggle, wiggle, and dig, dig, dig. What could he do? *Wiggle, wiggle, wiggle, and dig, dig, dig.*



One day Oscar met a great bird. The great bird said, "Little worm, I am a great bird. I can do many things. I can fly up in the sky." Could the great bird fly in the sky? *Yes.*

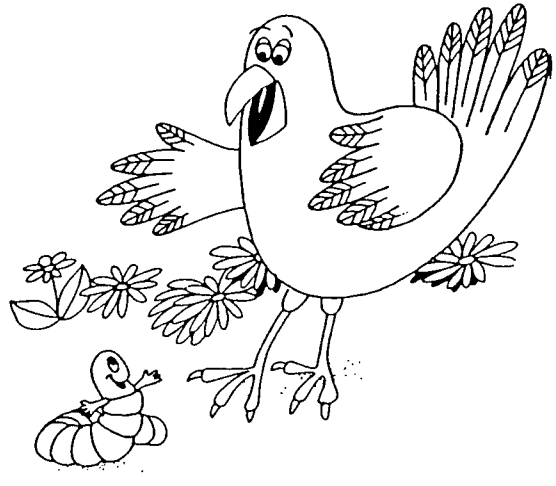
"I can build a nest." Could the great bird build a nest? *Yes.*

"I can whistle." Could the great bird whistle? *Yes.*

"I can walk on the ground." Could the great bird walk on the ground? *Yes.*

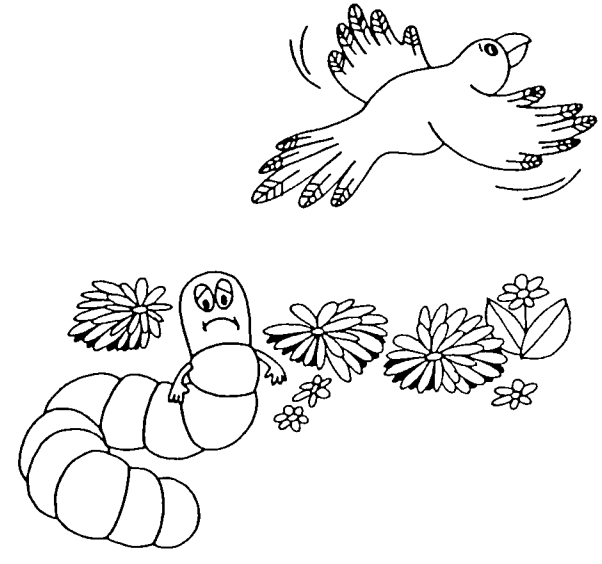
Who can remember what the great bird could do?

10



Oscar looked up at the great bird and said, "I can wiggle, wiggle, wiggle, and dig, dig, dig." What can Oscar do? *Wiggle, wiggle, wiggle, and dig, dig, dig.*

The great bird started to laugh. "Ho, ho, ho. I am much better than you."



The great bird jumped up and flew away. Oscar was sad. He could not fly. Could Oscar fly? *No.*

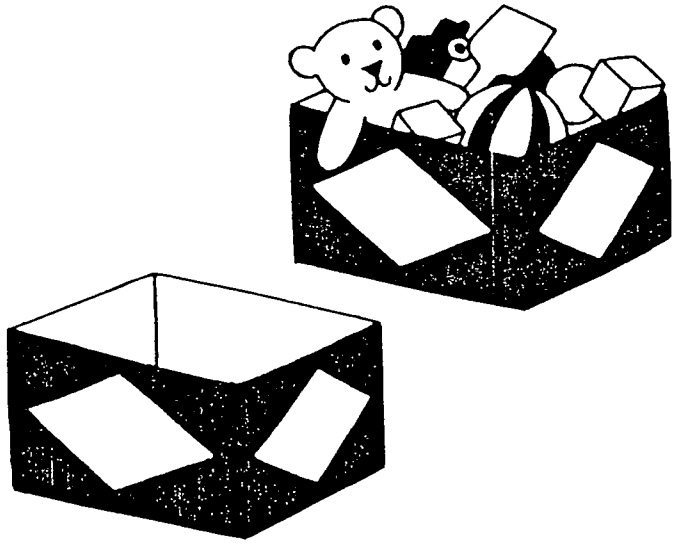
He could not build a nest. Could Oscar build a nest? *No.*

He could not walk on the ground. Could Oscar walk on the ground? *No.*

Who can remember why Oscar was so sad? Tell me some things that Oscar could not do.

25

Praise the children for correct responses. Correct mistakes immediately.



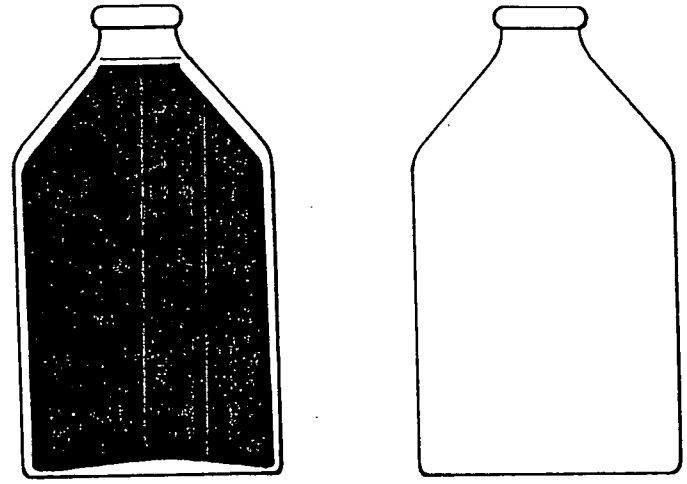
Task 3 Teaching **Full**

Individual Activity

Find the box that is full.
Is this box full? *Yes.*
Point to the empty box. Is this box full? *No.*

Group Activity

Call on one child. Find the box that is full. This box is full.
I can say it. Let's hear you say it. *This box is full.*
Ask the children to repeat the statement two times.



Task 4 Teaching **Full** and **Not Full**

Group Activity

Call on one child. Find the bottle that is full. Everybody, say it.
This bottle is full.
Point to the empty bottle. Is this bottle full? *No.*
No, this bottle is not full. Say it with me. *This bottle is not full.*
Ask the children to repeat the statement three times.

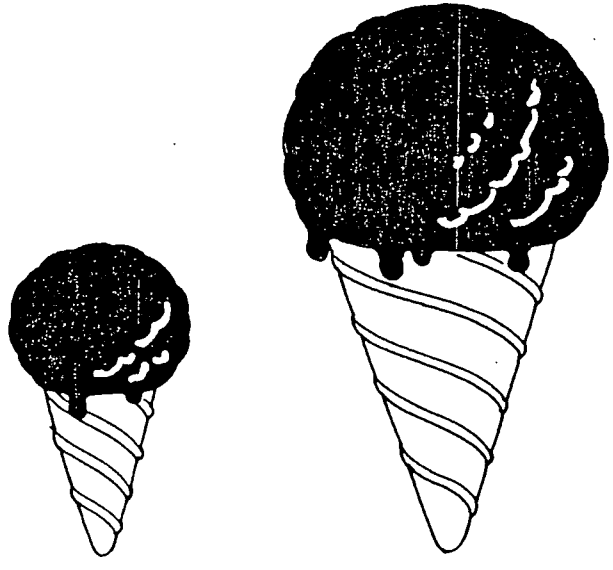
Individual Activity

Point to the empty bottle. Is this bottle full? *No.*
Let's hear you say the whole thing. Help the child with the statement.
This bottle is not full.
Ask the children to repeat the statement two times.

NOW GO TO BOOK B.

26

Praise the children for correct responses. Correct mistakes immediately.



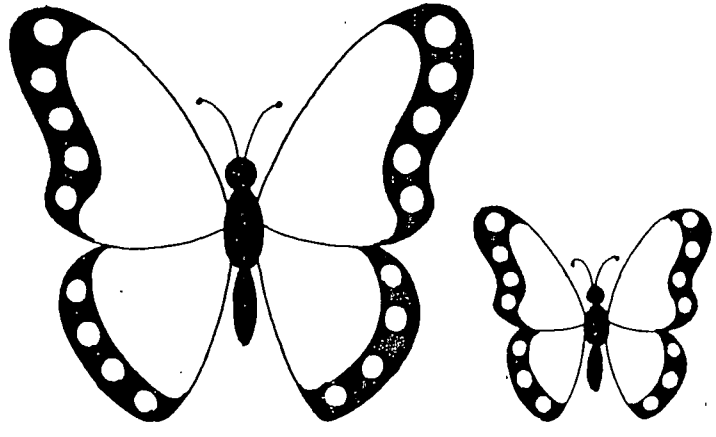
Task 2 Teaching **Big**

Individual Activity

Find the ice-cream cone that is big. Is this ice-cream cone big? *Yes.*
Point to the small ice-cream cone. Is this ice-cream cone big? *No.*

Group Activity

Call on one child. Find the ice-cream cone that is big.
This ice-cream cone is big. I can say it. Let's hear you say it.
Everybody, say the whole thing. *This ice-cream cone is big.*
Ask the children to repeat the statement two times.



Task 3 Teaching **Big**

Individual Activity

Find the butterfly that is big. Is this butterfly big? *Yes.*
Point to the small butterfly. Is this butterfly big? *No.*

Group Activity

Call on one child. Find the butterfly that is big.
This butterfly is big. I can say it. Let's hear you say it.
Everybody, say the whole thing. *This butterfly is big.*
Ask the children to repeat the statement two times.

1 START THE PROGRAM HERE.

Task

a. Everybody, look at me! Praise the children who look.

b. Clap your hands once; pause; slap your lap once with both hands.
This is the right way.

c. Do the sequence four times. Go slowly.
Before each sequence, say: Again.
After each sequence, say: I did it the right way.

d. Have the children do the sequence with you eight times. Go slowly.
Do it with me.
Before each sequence, say: Again.
After each correct sequence, say: We did it the right way.

e. Give each child a turn. Let's see you do it the right way.
Praise the children for correct responses.
- To correct: Repeat *d*. If a child does not do it correctly after several tries, praise him for trying and go to another child.

f. Everybody, look at me! Praise the children who look.
Tap your head once; pause; stamp your foot once.
Is this the right way? Wait. Praise the response "no."
Show me the right way.
- To correct: Let's do it the right way.
Repeat the correct sequence and then *f*.

g. Everybody, look at me! Praise the children who look.
Clap your hands once; pause; slap your lap once with both hands.
Is this the right way? Wait. Praise the response "yes."
- To correct: Let's do it the right way.
Repeat the correct sequence and then *g*.

h. Everybody, look at me! Praise the children who look.
Slap your lap once with both hands; pause; clap your hands once.
Is this the right way? Wait. Praise the response "no."
Show me the right way.
- To correct: Let's do it the right way.
Repeat the correct sequence and then *h*.

NOW GO TO BLENDING – SAY IT FAST

2 SYMBOL-ACTION GAMES

Task

a. Everybody, look at me! Praise the children who look.

b. Stamp your foot once; pause; tap your head once.
This is the right way.

c. Do the sequence four times. Go slowly.
Before each sequence, say: Again.
After each sequence, say: I did it the right way.

d. Have the children do the sequence with you eight times. Go slowly.
Do it with me.
Before each sequence, say: Again.
After each correct sequence, say: We did it the right way.

e. Give each child a turn. Let's see you do it the right way.
Praise the children for correct responses.
- To correct: Repeat *d*. If a child does not do it correctly after several tries, praise him for trying and go to another child.

f. Everybody, look at me! Praise the children who look:
Clap your hands once; pause; slap your lap once with both hands.
Is this the right way? Wait. Praise the response "no."
Show me the right way.
- To correct: Let's do it the right way.
Repeat the correct sequence and then *f*.

g. Everybody, look at me! Praise the children who look.
Tap your head once; pause; stamp your foot once.
Is this the right way? Wait. Praise the response "no."
Show me the right way.
- To correct: Let's do it the right way.
Repeat the correct sequence and then *g*.

h. Everybody, look at me! Praise the children who look.
Stamp your foot once; pause; tap your head once.
Is this the right way? Wait. Praise the response "yes."
- To correct: Let's do it the right way.
Repeat the correct sequence and then *h*.

NOW GO TO BLENDING – SAY IT FAST

Appendix. 5a.

Consequences of Three Pre-School Curriculum Models

SOCIAL BEHAVIOR AND ATTITUDES
REPORTED BY CURRICULUM GROUPS AT AGE 15

Variable	Distar	High/Scope	Nursery-School	p
Family relations				
How have you been getting along with your family?				
Great	33%	33%	28%	-
Fair	44%	67%	56%	
Poorly	22%	0%	17%	
How does your family feel about how you're doing?				
Great	0%	6%	6%	.03
All right	67%	94%	89%	
Poorly	33%	0%	6%	
Contribute to household expenses (N=42)	14%	33%	23%	-
Activities				
Participate in sports				
Often	17%	50%	44%	.02
Sometimes	28%	44%	28%	
Never	56%	6%	28%	
In recent weeks, have read				
A book (N=49)	31%	69%	59%	.09
A newspaper	67%	89%	72%	-
A magazine (N=53)	44%	41%	72%	-
Ever done volunteer work	22%	28%	28%	-
School behavior and attitudes				
Appointed to an office or job in school (N=53)	0%	12%	33%	.02
Personal education plans (N=36)				
Postsecondary	50%	77%	64%	-
High school	42%	23%	36%	
Drop out	8%	0%	0%	

Appendix. 5b.

Consequences of Three Pre-School Curriculum Models

DELINQUENT ACTS REPORTED AT AGE 15 BY CURRICULUM GROUPS

Variables	Distar	High/Scope	Nursery-School	p
Delinquency scale 18 items, alpha=.83	12.83 (12.33)	5.44 (5.15)	6.94 (8.01)	.04
Personal violence subscale	2.28 (3.30)	0.88 (1.11)	1.17 (1.92)	-
Hit an instructor/supervisor	.39	.06	.00	-
Serious fight in school or at work	.72	.28	.56	-
In a group fight	.44	.22	.11	-
Seriously injured someone	.50	.28	.50	-
Used a weapon to get something[b]	.22	.00	.00	-
Property damage subscale	1.72 (2.89)	.28 (0.57)	.39 (1.14)	.04
Committed arson	.44	.00	.00	.06
Purposely damaged school property	.83	.29	.39	-
Purposely damaged work property	.22	.00	.06	-
Stealing subscale	3.06 (4.18)	1.72 (2.44)	2.22 (3.04)	-
Stolen something worth under $50	1.17	.72	.89	-
Stolen something worth over $50	.44	.11	.17	-
Stolen something from a store	1.00	.83	1.00	-
Stolen a car	.00	.06	.06	-
Stolen part of a car	.28	.00	.11	-
Used a weapon to get something[b]	.22	.00	.00	-
Drug abuse subscale	3.17 (3.22)	1.06 (1.43)	1.89 (2.85)	.06
Smoked marijuana	2.06	.78	1.39	-
Used other illegal drugs	1.11	.28	.50	-
Status offenses subscale	3.04 (2.71)	1.56 (2.04)	1.22 (1.73)	.04
Argued or fought with parents	1.94	1.11	1.00	-
Ran away from home	.38	.17	0.00	.02
Trespassed	.72	.28	.22	-

Note. N=54, 18 per group. Group differences on these variables were tested by analysis of variance; p-values are reported if less than .10. Standard deviations on summary scales are included in parentheses.

[a] Scales are sums of item scores; items are responses to the question, "Have you ever...?" scored: 0 to 2 = as indicated, 3 = 3 or 4 times, 4 = 5 or more times.

[b] Weapon use included on both personal violence and stealing subscales.

Appendix. 6a.

Profile of the two Nursery Schools.

Percentage of 600 minutes at each centre.

		NS1		NS2	
Size of centre		Large		Large	
Task Structure		Low		High	
Temporal Structure		Free		Free	
Social grouping					
Passive adult led group		23%		41%	
Child group		17%		9%	
Adult/child interacting pair		4%		4%	
Child/child pair		32%		21%	
% of Cognitive Challenge in selected activities.	High	16%		25%	
	Low	84%		75%	
% of time in 'goal'structured activities.		17%		32%	
		Challenging	/ Ordinary.	Challenging	/ Ordinary.
Adult directed manipulation.		0	4%	0	9%
Large scale construction.		0	0	0	0
Small scale construction.		0	0	2%	3%
Art.		0	4%	4%	2%
Structured materials.		1%	2%	3%	2%
3R'S.		5	2%	5%	1%
Problem solving.		0	0	1%	0
% of time in 'loosely' structured activites.		57%		45%	
Large muscle movement.		0	19%	0	10%
Pretend.		1%	10%	2%	3%
Music		0	0	0	0
Manipulation		6%	5%	4%	10%
Examination.		3%	0	0	0
Scale version toys.		0	0	1%	1%
Informal games.		0	1%	0	6%
Social interaction not play.		1	9%	3%	4%
% of time in 'passive/non-engaged' activities.		8%		18%	
Passive adult led group activities.		3%		7%	
Aimles wander or gaze.		1%		2%	
Watching.		3%		6%	
Cruise.		0		1%	
Waiting.		1%		2%	
Distress behaviour.		0		0	
% of time in 'other' structured activities.		10%		17%	
Domestic activities.		9%		14%	
Purposeful movement.		1%		2%	
Games with rules.		0		2%	

Appendix. 6b.

Profile of the two Nursery Units.

Percentage of 600 minutes at each centre.

		NU1		NU2	
Size of centre		Medium		Medium	
Task Structure		High		Low	
Temporal Structure		Free		Free	
Social grouping					
Passive adult led group		33%		30%	
Child group		20%		25%	
Adult/child interacting pair		6%		5%	
Child/child pair		17%		18%	
% of Cognitive Challenge in selected activities.	High	43%		28%	
	Low	57%		72%	
% of time in 'goal'structured activities.		44%		23%	
		Challenging	Ordinary.	Challenging	Ordinary.
Adult directed manipulation.		5%	7%	0%	2%
Large scale construction.		3%	2%	1%	0
Small scale construction.		1%	1%	0%	0%
Art.		0%	0%	4%	3%
Structured materials.		11%	4%	3%	1%
3R'S.		10%	4%	3%	1%
Problem solving.		0%	0%	0%	1%
% of time in 'loosely' structured activites.		38%		52%	
Large muscle movement.		0	6%	0	7%
Pretend.		3%	6%	5%	20%
Music		0	3%	3%	1%
Manipulation		8%	5%	5%	5%
Examination.		1%	0	0	0
Scale version toys.		2%	0%	1%	0
Informal games		0	3%	0	3%
Social interaction not play.		0	0%	1%	1%
% of time in 'passive/non-engaged' activities.		12%		11%	
Passive adult led group activities.		8%		6%	
Aimles wander or gaze.		11%		1%	
Watching		0%		4%	
Cruise.		3%		0	
Waiting.		3%		0	
Distress behaviour.		0		0	
% of time in 'other' structured activities.		8%		14%	
Domestic activities.		8%		9%	
Purposeful movement.		1		3%	
Games with rules.		0		2%	

Appendix. 6c.

Profile of the two Nursery Classes

Percentage of 600 minutes at each centre.

		NC1		NC2	
Size of centre		Small		Small	
Task Structure		High		Low	
Temporal Structure		Fixed		Fixed	
Social grouping					
Passive adult led group		44%		81%	
Child group		20%		1%	
Adult/child interacting pair		9%		1%	
Child/child pair		9%		10%	
% of Cognitive Challenge in selected activities.	High	29%		4%	
	Low	31%		96%	
% of time in 'goal'structured activities.		17%		28%	
		Challenging	Ordinary.	Challenging	Ordinary.
Adult directed manipulation.		2%	5%	0%	5%
Large scale construction.		0	0	0	0
Small scale construction.		0	0	2%	2%
Art.		3%	1%	0	1%
Structured materials.		3%	1%	1%	2%
3R'S.		1%	1%	1%	14%
Problem solving.		0%	0%	0%	0%
% of time in 'loosely' structured activites.		40%		12%	
Large muscle movement.		0	7%	0	4%
Pretend.		9%	6%	0	1%
Music		0	0	0	0
Manipulation		4%	4%	0	5%
Examination.		0	0	0	0
Scale version toys.		6%	1%	0	0
Informal games		0	0	0	2
Social interaction not play.		0	2%	0	0
% of time in 'passive/non-engaged' activities.		24%		44%	
Passive adult led group activities.		17%		34%	
Aimles wander or gaze.		1%		2%	
Watching		2%		7%	
Cruise.		0		0	
Waiting.		3%		0	
Distress behaviour.		0		0	
% of time in 'other' structured activities.		23%		15%	
Domestic activities.		18%		13%	
Purposeful movement.		0		1%	
Games with rules.		5% (1% Ch)		1%	

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