

EUROPEAN SCHOOLS,  
REFORM COMMITTEE,  
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NURSERY EDUCATION

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EUROPEAN SCHOOLS -- KINDERGARTEN EDUCATION

INTRODUCTION

In preparing this document the Working Party has been strongly influenced by document 74-D-1710 and has retained much of the underlying philosophy".

The new paper will be written in four parts:-

- Part I covers the aims and philosophical background
- Part II the various aspects of the curriculum
- \* Part III some problems which have specific relevance to the European Schools
- \* Part IV lists some useful items for teacher reference

PART I

1. Aims and Objectives

In broad terms we are aiming to ensure that all our children are given the opportunity to develop their potential, physically, emotionally, socially and intellectually.

In order to achieve these a number of fundamental aspects need to be stated and understood. Some children will be able to progress and accomplish more than others. Some will be slow developers therefore a major aim is to ensure that each child achieves as much as he is capable of achieving. There can be no common level on transfer to the primary stage but there must be certain common objectives which are constantly in mind. These should include:-

- (a) the objective of encouraging children to communicate through speech. This can be achieved both through the appropriate type and timing of questions the teacher asks and by developing a questioning attitude in the children themselves.
- (b) the objective of developing social awareness e.g. we sit down to eat, we share our things with others, we do not punch and fight, we try to be polite, we keep things tidy etc. etc.
- (c) There are a whole range of skill objectives that need to be acquired e.g. how to use tools and develop manipulative skills, to match symbols to reality, to observe and listen carefully, to recognise written words and phrases
- (d) an appreciation of how a child's physical powers are developed. This covers more than physical education and dance - the handling of paint brushes, musical instruments, dressing and undressing, opening containers, pouring liquids, using construction materials etc. all provide opportunities for physical development
- (e) above all we should aim for sensitivity, spontaneity, and encourage a child to be both observant and enquiring. These things can only happen if the teacher is aware that they need to happen and makes provision in her planning to ensure they will happen.

\* to be completed

- (f) Education does not just mean the teaching of facts to a child. It involves many other important aspects of a child's development. Education is concerned with the whole of the child's intellectual and emotional growth, in which self-confidence and the ability to communicate with others plays a major rôle.

We should be encouraging pupils to develop a critical attitude to their own situation and surroundings, not just in the European Schools but in general as well. We should be aiming to stimulate the children so that they improve their ability for independent research, which is both positive and constructive. From the earliest stage in our school system, we should be encouraging and ensuring the pupil's development and understanding of different peoples and cultures. Opportunities for studying other nationalities are a natural extension of the pupil's normal social interaction in the European Schools. Such experience improve the child's ability to communicate with others, as well as developing his self-confidence.

- (g) An awareness of the vital part the child's creative powers play in both his learning and overall development. We must constantly aim to give the child encouragement to express his personal ideas in language, in the use of materials, through music and movement, indeed through all aspects of his experience and learning. A child's knowledge can only be strengthened and established when he is given the opportunities to use and interpret his skills through his own creativity.

It is through the above aims and objectives that a child gradually becomes a more accomplished person. The more the world is opened up to him the more he has to talk about, therefore his use of language is strengthened. If we give him things to observe and compare he begins to be selective and to make judgements. If he is made aware of the needs of others he will acquire social graces. If he is set challenges, he has to think, reason and use his skills. If we make an effort to point out the beauty around him and make an effort to create an aesthetically pleasing environment he is more likely to be discerning and appreciative of form, colour, shape and texture and through this appreciation we help to nurture and develop the child's creativity.

## 2. The Children we Teach

It is not possible to include in this paper all that researchers have discovered about the development of young children but it is important that those who teach them should be aware of what has been written. In Part 4 a short reading list has been included which will provide a guide to the work done by researchers in various countries.

As has already been said, children of the same age differ enormously and it is very important indeed that when planning a teaching programme account is taken of this.

We know too that young children are likely to learn more effectively from real experience than from abstract situations, therefore it is also important that they are provided with a rich environment and are taught by teachers who are aware of the learning potential that can be drawn from it.



Finally, it seems sensible to gear education of young children to their developmental age rather than their chronological age. This notion need not, except in very rare cases, influence the age of transfer to the Primary school but it does highlight the need of an appreciation, knowledge and ability by both Kindergarten and lower Primary school teachers of the ways of teaching in both departments. (See Part III Transition Kindergarten-Primary).

### 3. Teachers, Assistants and Other Adults

1. The Teachers. Teachers of young children have a vitally important rôle to play in establishing the foundations of the child's educational life. In addition to dedication, patience and love of children, they require to have far ranging teaching skills and knowledge of children. Initial and in-service training of the right quality are essential and every effort should be made by those administering the European Schools to ensure that training opportunities are available. The teacher with her assistant has the overall responsibility for organising the teaching programme and supervising its implementation. They need to know the children as individuals and not only be aware of their needs but also to have the knowledge, skill and determination to meet them. Basically the teacher's job with support from and in partnership with her assistant covers the following areas:-
  - (a) Preparation of teaching programme and ensuring that educational opportunity is matched with ability.
  - (b) The creation in the school of a stimulating, attractive, well arranged learning environment.
  - (c) Monitoring progress of the children and using the monitoring system in determining future planning. This requires further thought in order to achieve the most appropriate system of assessment and of recording.
  - (d) Awareness of outside school agencies which play an important part in both the welfare and education of children, and to know how to make the best use of such links. These include parents, the social and medical advisers and a host of other educational contacts that might be available locally.
2. The Nursery Assistant. To enable the assistant to successfully undertake her very important rôle of supporting the teacher it is important that she is appropriately trained. Essentially the assistant works in a complementary capacity aiding the implementation of the policy and decision making initiated by the teacher. Her rôle also includes relieving the teacher of some non-pedagogical tasks but she should not be employed exclusively in this fashion. The assistant often has special skills or talents of her own, e.g. in art, craft or music and the teacher should encourage the use of such skills with the children. More generally the work of the assistant will include the supervision of groups and help to individual children who need extra activities or reassurance. She can foster communication skills by joining in organised play activities, asking the right question at the right time. She can assist with listening skills and the child's awareness of the world around him. She can also help in directing and channelling children's play into purposeful activity. Finally she is above all an extremely useful second pair of ears, eyes and hands helping to support and extend all the activities of the school day.

3. The Parents. Every opportunity should be taken to establish close links with the parents. Not only do they have knowledge and often skills which are invaluable to our teaching, they also have a right to be kept informed about their children. Harmony between home and school is an essential ingredient of successful child development.

In general terms it can be agreed that if parents are helped to have an interest and knowledge of how their children live and work in school they are better able to match home and school attitudes and rules as well as to give specific help at home on the work their children are covering with their teachers. There are several specific ways in which schools can establish fruitful relationships.

A pre-school policy should be drawn up which includes visits by parents with children to see the school at work. There should also be an agreed exchange of written information. On the school's part an information sheet should be sent to all new parents giving them some idea of what happens in school and what is required of them to help their children to settle down happily. A convenient system is also required of collecting information from parents which will alert teachers to problems and help them to understand and know children more readily. Such information would include a note of any pre-school experience e.g. attendance at a childminding centre, relevant medical history (poor eyesight, or hearing, speech problems etc). Contact information in the event of emergency and any other important or useful matters. It is strongly recommended that an agreed proforma is drawn up for use in the European Schools.

Home visiting by teachers should be considered if other contacts fail. Parents often feel less inhibited in their own surroundings and visits to the home can be invaluable in some cases in getting essential background information.

When the child actually starts school, liaison must be maintained. Meetings must have a purpose otherwise interest will flag. Broadly speaking, meetings fall into the following categories:-

- (a) Informative - to give parents either information about their children or about the materials and apparatus used in the classes. There should also be a meeting concerned with transfer from Kindergarten.
- (b) Educational - these should if possible include some practical involvement as well as discussion. The topics are far ranging, involving the actual use by parents of materials used by children, talking about and handling books, talks on educational topics e.g. child health, children's outside school interests and experiences, TV. etc. etc.
- (d) Working Parties. Parents are usually pleased to help in school and working parties are useful not only as a result of the practical benefits but also as another way of improving parent/teacher relationships. The type of involvement can include such things as covering and repairing books, making apparatus, repairing toys and helping on outings.

In some countries parents are actively involved in classroom activities, reading to children, helping with cookery, needlecraft, music etc. Often parents with special interests, hobbies and jobs share their skills and knowledge with the children. Perhaps in the future this could also become a feature of our European Schools.

The school has a duty to make parents feel they have a rôle to play and to keep them well informed. Good parent/teacher relationships always benefit the child. It must of course be up to the individual teacher and the school to decide how far they are prepared to go to develop those relationships. At a minimum however all schools should meet parents to discuss progress of children and invite parents into the school for various fêtes and other events. Parents for their part should be prepared to help their children and the school by ensuring the school is aware of problems if they exist and to cooperate fully when the school asks children to bring materials to school for projects and other work.

#### 4. The Importance of Environment.

A child not only learns from the things he sees about him, he is stimulated by those things into wanting to learn. He wants to explore the world around him and this urge for discovery becomes the driving force in his education. In addition a child is greatly influenced by the quality of the things which surround him therefore it is important that care is taken by the teacher to aim for quality in her presentation of materials e.g. the well arranged bowl of flowers, the pottery that has a pleasing shape and texture, the picture that is carefully mounted etc.

In thinking about the environment thought must be given to those things which immediately surround the child - the classroom, the school and its grounds, as well as the use of the wider environment beyond the school site

1) The Classroom. What is displayed within the room should be thought of from three different standpoints (i) the display of quality i.e. children's own work, pictures and works of art likely to appeal to young children, collections of things chosen for colour, shape and texture that children can enjoy (ii) things to refer to e.g. words, phrases, numbers, colours, birds, trees, people who work for us etc. (iii) Initiating displays, e.g. things to do and find out about - sinking, floating - growing things - keeping pets etc.

Each of these types of display should be given a share of the space available - one should not dominate more than the others.

In addition the room itself should be arranged to provide various work/activity areas. These should include:-

- (a) The Home corner. The materials for "home play" should be far ranging always bearing in mind the most useful are those which encourage the children to be both imaginative and creative.  
The home corner principle can be applied to other situations e.g. a hospital corner, a shop, a bus, a submarine, an Aladdin's cave etc.
- (b) The Library corner. This in addition to collections of books attractively displayed and readily available, should be suitably furnished with carpet, table and chairs or scatter cushions.
- (c) Art & Craft corner. At this stage children should have experience of a wide range of materials. Clay, fabrics, wood, paint etc plus a collection of junk material for model making should be available. It is important to have a range of tools to work with and appropriate surfaces to work on. The easy availability of tools and material is also vital.

- (d) Observation & Investigation corner. There should always be an interest table of some kind. On occasions the materials might be natural e.g. plants, stones etc. At others man made - an old watch and other mechanical items, a display of dolls, or things we measure with. Generally the items should be things the children can handle as well as observe.
- (e) Music corner. This should have sound making items of all kinds, some home made, some commercially produced. Many children given the opportunity are able to create their own sound patterns just as successfully as they can use paint and other creative materials.
- (f) Construction corner. Children need experience of putting things together. There is a wide range of constructional toys on the market (jigsaws, blocks, lego etc). Use also should be made of non-commercial materials as these often make greater demands on a child's instinct and imagination.
- (g) A Mathematics Table. Can include a range of apparatus for counting, matching and measuring. Water and sand are two of the most important materials. Much which is mathematical is also scientific so opportunities for scientific development should be looked for - cooking is an example of this.
- (h) Personal Space. A child needs to be encouraged to look after his possessions and have somewhere to keep them. Within the classroom each child should be provided with an area of personal space e.g. a drawer or a box.

Above all the teacher should be making the classroom interesting and orientated to things for children to be involved in. Dressing up clothes and make-up, toys of all kinds, transparencies and viewers, records, tapes, radio and TV can all play a part in classroom work.

## 2) The School and its Grounds.

It is equally important to make the school and its grounds as stimulating and attractive as classrooms themselves, both can and should provide excellent learning and teaching opportunities. If space permits work of the different language sections can be displayed for others to see and perhaps as a means of spreading good practice. There could also be displays of materials to initiate project work across the school as a whole. Pictures, charts, bowls of flowers, interesting and colourful textiles, various ceramics etc can help to foster an appreciation of beauty.

The immediate outside area can be used in a variety of ways made easier if each classroom has ready access to the out of doors facilities and large windows for easy observation. Things can be grown, birds, plants and weather observed, large scale buildings erected, e.g. a wigwam, a log cabin etc., a sand pit dug and a climbing frame built.

The playground itself provides the space and surface for a range of suitable activities. Here children can develop their physical coordination and skills, running, skipping, hopping, catching etc. They can learn to play games together, master the use of large toys such as pedal cars and scooters and learn in safety the highway code. The playground with the addition of lines drawn on the surface and a few 3D objects can become an area of fantasy - a ship on water, a railway track, a large house etc.



Gardens and gardening are also invaluable in nursery education. The children should be encouraged to plant and sow and observe and measure the stages of growth. They will also learn how to care for a garden, the need to work with each other and handle tools in the right way. In a garden too there are opportunities to see at first hand other living creatures, those that live in the soil, under stones, on the foliage etc. Nesting boxes, a bird table, a butterfly garden are specific ways of encouraging wild life to show itself and widen the children's knowledge of the natural world.

The sheer joy of being outdoors with space to move and play should not be underestimated as a beneficial experience in its own right. A grassed area on which to sit and listen to stories, to play games and dance, trees and bushes to hide behind, places to climb and act out fantasies, are all important outdoor facilities which add a dimension to the child's educational development.

### 3) The Wider Environment

The wider environment should also be utilised. Within the school itself there are ancillary services such as the kitchen and the buildings outside the Kindergarten in which there are new and exciting things to see and learn about. Visits to the zoo, places where man works; in the town, on the farm, the railway station, the airport, the fire station etc. are rich sources of wider experience. Through these experiences a child's eyes are opened to the world in which he lives. Not only does he experience the wonder of nature at first hand as he walks through a forest and the reality of the need to take care as a busy road is crossed but he is being given the opportunities to broaden his interest and knowledge which then provide other ways for the teacher to extend his language, and give him a deeper understanding and appreciation of size, colour, shape and the properties of materials.

Additionally it would with the help of parents be possible for a class to spend a short period away from home on a trip outside the immediate environment. The important aim is to awaken through the environment a new range of educational experience.

## 5. Organisation and Management.

It is vital to ensure that there is sufficient structure in the planning, organisation and supervision of work to enable children to learn and widen their experience. It is necessary to relate this structure to the types of activity covered, and to the materials needed to cover them. We need to think also about planning on a short time scale e.g. for a single day and the longer term planning over a month or several months.

The range of the actual content of the Kindergarten curriculum is contained in Part II of this document. Here we are only concerned with the ways we put the curriculum into operation. Similarly the importance of the environment has already been stressed in relation to what should be included but not on how the materials used are managed, and why they are there.

A rich environment is only useful if the teacher directs it to specific objectives. One objective might be to set a standard of excellence of presentation that will hopefully be reflected in the care the children themselves take in doing their own work. A second objective could be to stimulate thought and ideas but a teacher needs to be clear on what kind of thoughts and ideas she is aiming for. The aim might be to widen the child's knowledge and experience or to heighten observational powers etc. etc. Much can be achieved by posing the right kind of questions e.g. What happens if...? How many ways can you do....? Why do you think.....?

In planning work one must be clear on the types of learning situations we intend to employ and what needs to be done to ensure success. Young children learn through the following situations:-

- (a) Free play
- (b) Interpretative learning
- (c) Directed learning

1. Free Play. This learning situation is recognised as being the most important at the Kindergarten stage. However, unless the teacher is aware how best to manage free play activities, much of its value can be lost and even result in time wasting and loss of class control.

Play activities must be organised. The organisation might involve no more than ensuring that the right materials or apparatus is available or the number of children who can play happily and comfortably in a particular space is not exceeded. Free play covers a whole range of situations and activities too numerous to list but from them we should be expecting to achieve the following developmental aspects:-

- (a) Learning to respect others e.g. helping each other, taking turns, sharing etc.
- (b) Developing language exchange. The teacher must ensure that conversation is arising and this is best done by providing the materials and situations that demand the use of words.
- (c) Developing physical skills by providing things to handle or things to climb, jump over etc.
- (d) Developing spatial skills
- (e) Developing creative skills - materials to build with or mould to a desired shape.

2. Interpretative Learning.

This aspect of learning involves greater teacher influence than the free play situation. Interpretative learning is based on the setting up of a series of challenges which are to be done or interpreted by the children at their level of understanding and ability. This type of learning involves both creative and investigational activities. The learning itself arises from the teacher focussing the child's attention on a given range of materials or situations and asking open ended questions such as "how many ways can you find?", "tell me what happens if?", "why do you think this or that happens?", "can you show me how?" etc. etc.

Such situations can be related to physical, constructional, musical, mathematical, scientific and artistic activities. The important feature of all such situations is the encouraging of children to put their own interpretation on the learning.

3. Directed Learning.

In the Kindergarten programme there must be an element (at all stages) of work which is initiated and directed by the teacher and this will include the acquisition of certain skills. There will be times when the teacher decides what will be done and how; just as there will be times when the ideas come from the children themselves. Directed work is greater as the child matures. Examples of directed work include such things as listening to set pieces e.g. stories, poems, rhymes, music etc., to follow instructions for a game, a dance, or making a cake; to do a particular piece of art or other work e.g. paint a picture of your mummy, make a rocket, build a tower collect autumn leaves; doing classroom chores e.g. feeding the animals, giving out materials, collecting things in and tidying up. Then there are the skills to be learned which enable a child to be creative and express

his ideas, thoughts and develop his abilities. Much of Kindergarten work is rightly concerned with the preparation for skill learning rather than the learning of the skills themselves. However it must be recognised that for some children it would be wrong to delay. We must ensure fundamental skill objectives are kept in mind. For example, children require to develop:-

- (a) language skills in speech and pre-reading and pre-writing activities.
- (b) observational skills
- (c) Manipulative skills
- (d) discriminatory skills (relating to colour, sound, smell, touch)
- (e) greater social awareness
- (f) Physical skills
- (g) mathematical skills of counting, matching, conservation etc.

#### Grouping

It is important to be aware of the reasons for grouping children and for what purposes or activity one form of grouping is more productive than another. When is it appropriate to deal with the class as a whole? Listening to stories and music are good examples of this. Grouping is undertaken for many reasons. It may be just to ensure that certain scarce materials or apparatus are used effectively. However it is also done to give teachers opportunities to give more concentrated attention to those aspects of learning requiring close supervision. There is little to be gained from having four different activities if all four cannot operate without the teacher's presence and attention. Therefore in considering grouping it is first necessary to think about the organisation on the following lines:-

- (a) From a list of things we are going to teach, group the programme into those which fall into the categories of:-
  - (i) class activities
  - (ii) group activities
  - (iii) individual activities
- (b) Sub-divide the group and individual activities into types requiring:-
  - (i) little or no immediate supervision
  - (ii) the teacher's support and intervention.
- (c) Finally the teacher has to decide on the balance she can cope with of groups able to progress with little direct help and groups which will require her intervention.

#### Organisation of the Day.

The fundamental requirement of all Kindergarten work is that at all times during the day children know exactly what is available to them and are never in the position of not knowing what they can do. First thing in the morning they often arrive at different times so they need to have a choice of activities to do.

It is desirable when all are present to draw the class together for a time to give opportunities to talk, listen and discuss. This time might be used to exchange the children's own news items, or for the teacher to introduce material of her own.

A similar drawing together should take place at the end of the day, perhaps to hear a story or listen to music or poetry.

These two set times of having the class as a whole with the teacher does not preclude other occasions of class activity. Several times a week the class should have PE/movement or free use of outdoor apparatus. It might also be appropriate to introduce a class topic on occasions.

The remainder of the day will be planned on group and individual activities. (see previous paragraph on Grouping).

Other points to take into consideration in planning the day are:-

- (a) The rôle of the assistant
- (b) The need for "rest" time for some children but not necessarily all.

Finally, organisation is often dependent on long term planning. Topics and themes may involve planning for several weeks ahead.

#### Keeping and Using Records.

There are bound to be wide differences of intellectual ability, physical prowess and social/emotional development among the children. It is helpful for the teacher to keep an individual record of the global development for each child and pass on the appropriate information when the child transfers to the Primary School. The relationship between primary and kindergarten teachers should be such that the passing on of formally written records should not be necessary. It is important however that the information passed on should include references to the following:-

- (a) How the child has progressed in his work in the Kindergarten especially with regard to language development and mathematics.
- (b) Reference to any special problems which might hinder a child's normal progress.
- (c) If any test material has been used a note of the findings.

## PART II

### The Curriculum

Introduction. It is impossible to list all the things that might be included in the Kindergarten curriculum as the whole range of life's rich experience is new and exciting to the children we teach. One day they might be fired by rockets to the moon, the next by the beauty of a snowflake melting on the hand. The basic aim is to encourage the children to be more aware of life around them and help to unfold the wonder of it. As teachers, we can help the process by making ourselves:-

- (a) more aware of the sources available
- (b) more aware of the children's own interests and experiences
- (c) think about the environment we can create to stimulate and provoke interest and excitement.

In order to plan the implementation of the curriculum the following breakdown of broad areas of learning is necessary:-

1. Creative learning i.e. Art & Craft, Creative Language, Drama and Self Expression, Music and Dance.
2. Investigational learning i.e. Natural Science, Science related to the inanimate, mathematics, man's life in the world. Topics.
3. The preparation for skill acquisition in language, mathematics and physical control.

Alongside this broad programme emphasis should also be given to the child's social development e.g. cooperation with others, respect for people, things and oneself (cleanliness etc).

Some guidelines of the separate areas of the curriculum are listed below but as will be appreciated there are bound to be areas of integration and overlap.

1. Creative Learning

(a) Drama and Self Expression. The activities should include rôle playing and fantasy games. Most Kindergartens have a 'home corner' where children assume various rôles. In addition to home play, a corner can be arranged to represent other situations e.g. a space rocket, a garage, a shop, an underwater craft, a hospital ward etc. The possibilities are endless for imaginative play.

Puppets and puppet theatres; flannelgraphs or magnetic boards; model farms, railway stations, streets, also provide a range of possibilities for rôle play.

Movement and mime with or without music give opportunities to use the body expressively, to interpret stories or to create imaginary situations. Such activities can also develop observational powers by encouraging children to watch or respond to the actions of others.

Dressing-up clothes, face paints, puppets and masks are essential items of equipment for rôle playing as are percussion instruments, tapes and gramophone records etc for sound stimuli.

(b) Music and Dance. It is important that children should have opportunities to make their own music as well as listening to and performing pieces written by musicians. Creative music arises from play and experimentation with sounds made on both commercially produced instruments and improvised ones. Simple sounds can be made from everyday natural and man-made objects e.g. stones, wood, flower pots, bottles, seeds, sand or gravel in tin boxes etc.

Moving to music freely or to set dances helps both coordination of body movement and appreciation of rhythm patterns. In addition children hear and get to know a repertoire of their own and other countries' folk and dance music.

Every room should have a music activity corner with a collection of sound making objects and simply operated tape player. Music as a subject in its own right is covered in greater detail on pages 20/21 of this document.

(c) Creative Language. It is essential that in addition to acquiring the skill of language communication children should be encouraged and stimulated to use their Mother Tongue in a creative way.

As well as singing games and rhymes, children can improvise their own songs and jingles.

Description is an important activity and every opportunity should be given to provide ways in which children can respond to a given situation or object. This links very closely with observational development and making use of the child's own interests and experiences. Imagination also provides a rich source for language development. The children's own stories can be recorded on tape and then made into simple books - illustrated by the child as a permanent record for retelling to the class or sending home.



(d) Art and Craft. The handling of materials and making things plays a large part in both physical and imaginative development. The field of opportunity is very wide indeed and includes such techniques as painting, collage, printmaking, modelling, constructing etc. and involves materials such as wood, threads, fabrics, clay, paper etc. etc. All kinds of other natural materials found in the environment can also be used creatively - stones, shells, seeds, twigs, leaves etc. etc.

At least one or two specific art activities should be available to the children throughout each school day. In addition art and craft is likely to feature frequently in other areas of the curriculum. With young children it is the most fruitful way other than spoken language of expressing their ideas. It has the advantage too of being both an individual activity and one in which a group can work together to contribute to a picture or display.

It is important to have the right tools and materials available. These should take account of both large and small scale work. Each class should have storage boxes containing junk materials, wools, fabrics, wood etc.

Appreciation of colour, texture, form and beauty should be aimed for. At all times it is helpful to have an attractively arranged display set up by the teacher and added to by the children to develop these senses of appreciation.

## 2. Investigational Learning

In the learning situation it is more likely that creative and investigational activities will be interwoven and it is only to highlight the characteristics of each that they are separated in this document. Children growing up are naturally curious and it is important to satisfy this curiosity and place them in situations which develop their powers of investigation and lead to personal discoveries and recording.

At the Kindergarten stage the main areas of the curriculum which lend themselves to an investigational approach are Mathematics, Science and History/Geography (Man's Life in the World).

(a) Mathematics. In mathematics an appreciation of language is the starting point for the development of investigation. It is only through the first hand experiences of everyday situations in the child's environment that it is possible to come to an understanding of abstraction. Therefore before introducing the children to abstract numbers and measures the teacher must ensure wide experience is gained of the 'hidden' mathematics that is to be found in the classroom, in the school, the town, the countryside etc.

Involvement and the possibility of understanding through investigation can only happen if the teacher herself is aware of:-

- (a) The source materials and situations which lend themselves to mathematical discovery
- (b) The ways in which she can assist the child in making these discoveries.

**Materials and Situations:**

Sand, water, wool, wood, flour, stones, containers etc provide the types of material which will involve the children in measuring, counting, matching, comparing, sorting and classifying. From such materials and others both natural and man made which children use and see in the normal course of living arises a wealth of mathematical language, e.g. relating to size, shape, weight, position etc. Questions arise concerned with conservation of quantity, how much, how many, bigger, smaller, in front of, behind, up, down etc. An appreciation of similarity and difference leading into groupings will also be involved.

Materials linked specifically with play situations such as the class shop, the home corner etc. is another way of leading children into mathematical activity. Other potentially useful mathematical experience emerges from growing things, keeping animals, observing the weather. In fact almost every kind of activity the children are involved in both in and out of school has possibilities for mathematical reference.

The success or failure to use real life situations to develop mathematical awareness depends on the teacher's ability to encourage the children to make the best use of their experiences. This at its most simple may be initially by the right choice of materials and how they are organised for use. Secondly it is important when necessary to ask the right questions at the right time. Children can and do learn a great deal when given the freedom to make discoveries for themselves but intervention by the teacher when appropriate sharpens and widens the understanding and experience.

(b) Science. Science in the Kindergarten is concerned with observation and investigation. Science does not have to be a separate part of the work and more often than not it overlaps with other areas of the curriculum. Almost any topic work will contain some basic science. Stated simply science uses the natural curiosity of children to further skills of communication and knowledge and by doing so leads them to be more aware and sensitive to the world that surrounds them. Awareness and sensitivity are heightened through the encouragement of careful observation which arouses wonder and stimulates the child to ask questions to make comparisons and by experimentation to seek and find solutions.

There are a number of ways in which teachers can ensure that scientific thinking is developed in the Kindergarten. Firstly they must be clear from which aspects of the curriculum and from what type of situations science can arise. Obvious activities which include scientific potential are:-

- (a) Cooking
- (b) Looking after plants and animals
- (c) Sand and Water Play
- (d) Observation and discussion of natural phenomena  
e.g. the weather
- (e) Constructional activities
- (f) The investigation and use of things mechanical.

In addition there are a host of incidental opportunities which can be used to encourage questioning and investigation in a scientific way. For example, various opportunities can arise from the painting table relating to mixing paint, ways of applying paint to prevent peeling. What happens when paint is applied to different materials and surfaces.

Above all the teacher must prepare the way for success by ensuring the right kind of equipment and materials are available, that the opportunities for observation and the time to carry out observation and experiment is there. If the young child is really going to look at things in great detail, he must be given the time to do so.

The following notes extract some of the scientific opportunities that might be followed from the children's normal activities. It must be stressed these are only a few of the possibilities and in no way are they intended to represent a suggested syllabus.

- (a) Cooking. Measuring temperatures (hot/cold/freezing/boiling). Weighing and investigating ingredients - liquids, solids, dissolving, mixing etc. Also through cookery children begin to learn about health and hygiene and food values.
- (b) Using Natural Phenomena. Direct observation of plants and trees in their natural environment. Growing plants in the classroom and collecting plant material (twigs, cones, leaves, flowers, seeds etc) for classroom display and observation. Simple experiments with plants e.g. what plants need for growth, germination, how plants reproduce. Things we get from plants. Animal life can also be observed both inside and outside the classroom. It is important if living creatures are brought inside that high standards of caring are observed. Children can discover at first hand how creatures reproduce, the food they need for growth, how they move etc. Visits to farms or zoos give further opportunities for first hand observation.
- (c) The Weather is always a constant area for widening a child's scientific awareness. Recording observations is commonplace but the aim should always be to encourage questions and to devise experiments and investigations to answer questions. Simple methods should be devised to observe and record e.g. containers to collect rain, thermometers for recording temperatures, instruments to test for wind (e.g. feathers, bubbles, flags etc) The following are some suggested starting points for discovery work.

<u>Wind</u>	Can the wind push things along?	} How do these happen?
	Hold things back?	
	Lift things?	
	What does wind feel like? How do we know when it's windy?	

Rain Where does it come from? What does it feel and look like?  
Is it warm or cold, clean or dirty? Where does it go to?

Snow and ice can arouse similar questions.

- (d) Sand and Water Play. All children should have access to sand and water as well as a range of other inanimate materials. Not only can the children discover things from the materials themselves (e.g. the behaviour of sand when it is wet and dry) other trains of thought and lines of investigation might develop e.g. water as a source of power, the use of building materials etc etc.
- (e) Construction. Through play with constructional materials and toys children gain their first insight into science and technology. Thus provide the children with problems to be solved and the opportunities to discover solutions.
- (f) Mechanical. The classroom should contain familiar and unfamiliar objects for children to explore and take apart such as old watches and clocks, odds and ends of electrical equipment an old telephone, a lock and key, indeed any kind of item which man uses which is mechanical.

Use of tools, magnifying glasses to emphasise observation will be associated with such experiences.

Finally children should be shown at first hand the excitement of science and technology around them. Visits to the fire station, the school kitchen, a farm etc. will enable them to see familiar and unfamiliar machinery in use.

What is important is the rôle of teacher in helping the children to gain fully from their experiences. It is not enough to provide the right opportunities. The right questions must also be asked to help children extend their thoughts and ideas. e.g. can you make it move along? - - - go up a hill - - - lift something heavy? What do you think this does etc.

#### (c) Man's Life in the World

An awareness of the ways in which man has lived in the past and how he lives today can be established from an early age. Stories of happenings from the past is one source of interesting material. A topic or centre of interest approach which might include first hand investigation is another. Already on page 7 reference has been made to the educational value which comes from using the child's immediate and wider environment. This section expands that reference and aims to give some specific examples of how the work might be developed.

- (i) Man in the Past. It would be pretentious to claim that young children learn something called history. At this early age they would have considerable difficulty in appreciating time scale or acquiring a sense of chronological order. However children do enjoy hearing about things that happened a long time ago even if the passage of time lacks understanding and meaning. Legends and true stories about life in other times are enjoyed at this age and can often stimulate dramatic play, painting, modelling and new language. Seeing things from the past in museums, old buildings, arouses interest and excitement if these things are related to everyday items they know today

e.g. the toys children played with, the clothes people wore, the way people travelled etc. Recollections of things mummy or grandma did when they were small is another means of revealing something of the past. Collection of things such as old photographs, a candle holder, and other everyday things in use in the recent past will help them to appreciate change.

- (ii) Man's Life in the World today. This offers a wide source of learning experience. Themes such as "The Family", "The School", "Holidays", "Children in other Countries", "People who work for us", are titles that readily relate to direct experience and can be investigated in several ways by young children.

A topic on the family can start with the people in and associated with the family - parents, grandparents, brothers, sisters, relations and friends. It can lead to the house in which we live and the various activities within the house and in the garden. Comparison of domestic animals with wild animals could be a further development or a comparison of town living compared with living in the country. Indeed with a little thought the possibilities for learning based on a family theme are endless.

Special occasions on the calendar gives further opportunities for learning about people and their way of life. These would include festival days such as Christmas, Easter, birthdays, mother and fathers' day.

Holidays open up possibilities for comparison of environments. Mountainous country, the seaside, farmland. Wooded areas etc. Also the transport used to reach our destinations, boats, aircraft, trains and cars.

Jobs people do is another extensive theme which can have elements of first hand involvement and observation. For example visits can be made to the police station, the fire station, a bakery, a farm etc. A topic on people who care for us could be linked with the hospital, the work of doctors and nurses.

Children's way of life in other countries provides the platform for comparison of customs, food that is eaten, clothes that are worn.

The value of this type of work arises from how the starting points are used to further the child's understanding and learning alongside the value of the actual experiences. As Kindergarten teachers it is important to look beyond the experience and channel the interest into art work, rôle play, mathematical understanding, widening of vocabulary etc. In these ways we are furthering the child's ability to communicate his ideas as well as developing a knowledge and understanding of man's life in the world.



### 3. Skill Acquisition

Most of the writing on the curriculum in this section has emphasised the need to stimulate the enthusiasm and interests of children and the various ways children should be encouraged to communicate and record their ideas.

In order to become proficient in communicating and controlling body movement, it is necessary as the need arises to master certain skills. It is true that many skills are acquired from the actual involvement in the experiences themselves. It is also true that the teaching of skills in isolation or prematurely is not in the best interests of the child and it must rest with the individual teachers to decide when the child is ready for skill acquisition. However, it is important at the kindergarten stage to ensure that no child is handicapped in his progress through failure to equip him with the necessary skills at the appropriate time.

The range of skills to be acquired in the early years of life is very wide indeed, but in this working paper attention is given to three main groups: (a) the skills associated with the development and communication of language. (b) the skills related to the understanding of mathematical concepts. (c) the physical skills related to movement and the handling of tools and other artefacts.

#### (a) Development and Communication of Language

It is futile to force a child too early into formal reading and writing but because of the wide differences in the innate abilities of children there are likely to be some children before transfer to the primary stage who are both able and ready to read and write. Even with linguistically more able children, care must be taken not to introduce reading and writing prematurely. However, it is fundamentally wrong to deny children the value and experience of those activities which pave the way for successful reading and writing achievement.

The major language development emphasis at this stage is oral - spoken language must be given priority but success will depend on some specific practice. The practice should not be dull and unduly repetitive. Learning and saying rhymes and jingles, using a toy telephone, talking through puppets, telling stories from a sequence of pictures are a few examples of a more structured approach to oral work. In cases where children have specific difficulties in articulating, it may be necessary to give remedial help through set exercises. The most important thing to aim for is the stimulating of conversation through the richness of the children's experiences. A valuable aid to speech development is the tape recorder from which good and accurate patterns of speech can be heard and opportunities given for children to hear their own voices.

It is also vital to establish the value and the excitement of books. Good quality picture books, interesting story books for reading to the children, a range of simple books of reference, some poetry books, all have an essential place in every classroom. However, the primer or set reader is unlikely to enter into the child's experience until the primary stage. There is much that can and should be done in the Kindergarten to prepare the way for formal reading and writing. This includes activities to develop a child's ability to discriminate visually and aurally, the recognition of symbols, the development of spatial relationships and correct eye movement - there is a range of apparatus on the market to develop these skills. In a child's day to day life, he is surrounded by symbols - road signs, prices of goods, printed words on the TV screen, in the shops, on buses etc. The teacher can heighten this awareness in the classroom by using words and symbols for labelling and for those who are ready, the teacher might also introduce picture and word matching games, writing simple accounts of interesting activities and experiences, thus preparing the way for the formal reading of books at a later stage.

(b) Number work

in number work the experience of handling real materials and working from real life situations should predominate. Children are at superficial level able to deal with abstractions long before they have acquired the real notion of numbers. It is of no value whatsoever to carry out mechanical processes before understanding has been established. Children require to learn from practical situations the language of mathematics, to have plenty of practice in sorting and classifying in order to establish notions of position, size, shape, sets and sub sets. They need to work with water, sand and containers to test for themselves conservation of quantities. Ideally it would be valuable if with the help of a kindergarten teacher with an interest in mathematics a manual could be prepared to complement the new Euro-Math schemes for use in all kindergarten sections.

**Physical Skills:**

The physical development cannot be separated from the intellectual as a child needs to have control of his body movement in order to manipulate the things which aid his learning. It could be said that young children to a great degree think and develop with their bodies.

The main aim should be to enable the child to develop his physical skills in order to use them fully and widely to express himself in all that he does.

The following skills need to be acquired:-

- (i) The development of a sense of direction.
- (ii) The development of a sense of balance.
- (iii) The ability to imitate and identify types of movement.
- (iv) To acquire coordination.
- (v) To relate and collaborate with others in physical situations.

Many of the physical skills can be acquired through the day to day activities in the classroom, others require more space and special apparatus. For the latter an indoor hall or the playground with a range of fixed equipment will be used.

The development of physical skills relates to every aspect of a child's education as well as helping to keep him fit and healthy.

The Organised Physical Education Lesson

Each day children should have opportunities to be actively involved in physical situations. Such activities should involve a balance of vigorous movement and those which have elements of greater sensitivity. They will include movement with music and drama, opportunities to run, climb, roll, crawl, jump, hop etc. and to acquire the skills of throwing, catching, and using all kinds of small apparatus such as balls, quoits, bats and ropes. Individual exercises and working in pairs and groups should be included to enable children to work with each other. Time too should be found to highlight those aspects of hygiene and body care which help to keep us healthy.

Physical Development related to other aspects of the Curriculum

Through all our teaching it is necessary to be aware of the ways in which children can be helped to acquire greater physical control. The use of pencils, crayons, scissors, needles, brushes and other tools are skills to be acquired to enable the children to achieve success in their work. Modelling with clay and other plastic materials cutting wood, playing with blocks, beads, and doing puzzles are all part and parcel of physical experience.

In addition to manual dexterity and the development of the sense of touch, we need to heighten the other senses. Sight and hearing for example can be heightened by helping the child to be more aware of the sounds about us and to be trained to observe things carefully. This can be done both incidentally and through specific activities such as listening to music, recognising patterns in mathematics, playing games, matching words with pictures etc. In a similar fashion situations should be introduced to heighten the senses of smell and taste.

From all sense development activities the opportunities should be taken to widen language, mathematical and other knowledge. As with all kindergarten education the acquisition of one group of skills is invariably intertwined with other aspects of learning.

4. Other Learning Experiences.

- (a) Literature. Through literature, both modern and traditional, children gain a sense of their own culture and sometimes cultures of other nations. Familiarity with stories that often reflect a way of life and the ethics and values of a society give the children a sense of belonging. It is important that literature of high quality is selected by the teacher.

Through stories and poems children are able to broaden and enrich the experience of the wider world and through their own imagination to come to terms with fears and other emotions which they are unable to cope with in reality. They are able to experience the emotions of joy, fear, anticipation, excitement, even love and hate in the secure knowledge that they can return easily and at any time to their normal situation. They can also identify with characters in stories and for a time at any rate assume the characteristics of the person they would like to be. These opportunities to step into other situations and other times help them to cope with their own growing emotional awareness and can raise questions for discussion about the moral values accepted within society.

At a more practical level good literature introduces children to the rhythms, inflections and patterns of their language in a natural and enjoyable way and leads to the enrichment of vocabulary. By fostering a more active imagination it can also help them to express themselves more creatively and eloquently. Both poetry and stories can be used directly as starting points for art work, music, drama, movement, and in their own spoken and later written language.

Our aims as teachers should be to bring children towards and appreciation of literature and its pleasures which will in the longer term motivate them to read for themselves. The reading process will be less arduous if they are already familiar with those traditional stories which often form the basis of first reading experiences.

In understanding and responding to literature children learn that it can be an enjoyable two way communication experience -- the author with the reader or listener -- and not merely a passive one.

(b)

#### Music.

##### (i) Introduction

At the Kindergarten stage we should aim to give opportunities for the active participation in the making and hearing of music.

In the beginning the responses will be physical i.e. to sing, to play an instrument, to move or dance -- these responses will be made both by individuals and in groups.

In order to provide adequately for music it is desirable to have teachers who are sensitive to the need to make music with their children. Essentially this requires (a) a willingness to sing to and with children (b) some ability to play the guitar or piano (c) some rudimentary knowledge of simple keys and scales which will help in the making of classroom instruments. In addition it is vital to provide a musical environment to encourage musical awareness. There should be a range of pitched and unpitched percussion instruments, an autoharp, etc. The music corner should also include song books for children to browse through, pictures of instruments and instrumentalists, record sleeves and a collection of home made sound making objects.

Fundamentally the musical experiences we give to children should aim to achieve the following:-

- (a) enable them to discover and develop individual responses and enjoyment.
- (b) develop through listening greater accuracy and powers of discrimination
- (c) develop an awareness of the concepts of pitch, rhythm, timbre and intensity which provide the basis for the acquisition of more specific musical skills.

The activities to achieve the above include singing, using instruments and listening. These activities should be associated with both creative work and some work which is more structured and directed. Sometimes it will be linked with movement and dance and other areas of the curriculum (e.g. science and craft) and at others in aspects that are exclusively musical (songs, playing instruments, listening to music being played etc.)

##### (ii) Singing

Singing is the most fundamental musical activity and should take place for the sheer enjoyment it gives. The widest possible range of both traditional and modern songs should be explored. The songs themselves should be chosen with care with melodies and words appropriate to the children's interests and experiences. Songs for example which tell a story or illustrate how people lived and worked can further the children's knowledge and understanding of life in the world around them. As children build up a repertoire they should be given the opportunity to choose the songs they wish to sing.

The quality of singing can be improved by the teacher herself singing to the children as at this age learning is primarily through imitation. Drawing attention to how melodies that move up and down the scale, how sounds vary in level and length, and choosing pieces with distinctive rhythms and speech patterns help to develop a sound base for musical appreciation. Children should be enabled and



encouraged to sing in small groups because they have a much better chance of hearing themselves than in a normal class sized group. The opportunity of creating their own songs should also be included so long as the themes are kept to a simple level.

(iii) Using instruments.

At first opportunities must be given to discover for themselves the various sounds instruments can make. Musical "play" is as essential as play with sand, water and clay - it is the basis on which future creative work is developed. Instruments should include both those which are manufactured (e.g. Orff) and the homemade variety. Instrumental music making can be both exploratory and creative as well as formal and directed. The latter could include the accompanying of set pieces which require a certain amount of training and discipline. Creative work should be thought of as sound patterns and textures which the children make up themselves. These can be entirely abstract or linked with stories or with movement and dance. It must be remembered that creative work also requires a measure of teacher intervention - the children must be trained to respect the instruments encouraged to listen to each other, to wait their turn and work together.

(iv) Listening.

Listening carefully is essential in all musical experience but the attention span of young children is very short and it is unreasonable to expect them to sit and listen to lengthy recordings. Of course in a technological age the tape recorder, the radio, the television are part of the young child's life and must not be ignored. Much can be gained from selective listening but the passive must not be allowed to dominate to the detriment of active involvement.

Listening and movement are closely allied. Even very young children respond to sound in a spontaneous way. Certainly at the Kindergarten stage children are able to relate movement and dance to sound and can do so both creatively and through traditional dances. The capacity of the human ear to distinguish and respond to various sounds and to remember and recall these sounds are the basis for the "enjoyment" of music.

(v) Music with Movement

Moving to a sound stimulus helps a child to appreciate variations in pace, the intensity and range of sound, and the differences in rhythm patterns. It also helps to develop the child's motor control e.g. sense of direction, development of light sensitive movements, large scale movements, the skills of running, leaping, galloping, skipping etc. It also gives the child the opportunity to work within his own capabilities, to develop his personal interpretation and inventiveness and above all to gain autonomy, self confidence as well as learning to cooperate and work with his peers.

As with drama and literature music with movement helps children to come to terms with their emotions. They are able to play out their fears, their aggression and to assume the characteristics of other personalities - the princess, the witch, the hero etc. etc.

(c) Social and Moral Training

It is not an overstatement to say that the social and moral training of children should be given attention throughout every day. It is in the main something to be caught rather than taught but it does require awareness and sensitivity from the teacher to ensure that opportunities are not missed to encourage children to become good members of a community and this encouragement is not marred by loss of dignity for the individual.

Children coming to school for the first time have usually come from an environment in which contact with their peers has been limited and attention given to the requirements of the individual exclusive. One of the most difficult problems to solve is the acceptance by the child that he is now a member of a group and in order to achieve harmony and pleasure he will need to consider the needs of others and relate to them.

It is not desirable to draw up a specific training programme as the learning is associated with all aspects of school life and cannot be satisfactorily isolated as something to be taught at a particular time in the day. However it is possible to identify some main issues which should be kept in mind by the teacher and her assistant throughout their contact with the children. Alongside the generalities are likely to be some basic rules but these should be kept to a minimum and in the main be established to ensure that children are not at risk e.g. walking not running in certain areas or certain times. In general the following issues should receive consideration:-

- (i) The acceptance and understanding of other children who may not talk the same language, have the same colour skin, always behave in an acceptable way.  
  
The aims of living and working with others should include such notions as helpfulness, sharing; waiting ones turn to speak or use a particular piece of equipment; accepting the fact that sometimes one has to relinquish something etc. etc.
- (ii) To ensure that the needs of group harmony does not violate the personal development of the individual. It is important to give opportunities to express personal opinion, to be able at times to withdraw from the group and work alone and to give scope for the development of his own fantasy and imagination.
- (iii) To learn that some of the less attractive, more mundane and more restrictive aspects of life have to be accepted in order that life in general can operate more smoothly and efficiently e.g. manners at table, toilet training and general hygiene, respecting equipment, plants and animals, tidying things up and putting them away, good manners and courtesy etc.

Finally, it is important to instil in the children certain moral issues, but again not in a formal way. It is a lengthy business trying to establish right from wrong. Teacher example plays a large part and in particular her own attitude to matters of a moral nature. From the school curriculum itself examples will arise naturally - from the literature we choose to read to the children - from contact with our environment and seeing first hand how man uses it - from the way we care for animals etc.

The example set by adults and the care and understanding we give to children form the foundation of sound social and moral training.