AN EDUCATIONAL PSYCHOLOGY FOR SCHOOLS IN AFRICA

AL BEHR
B Sc (Hons), BA, B Ed, M Ed, D Ed, D Ed (hc)
Emeritus Professor of Psychology of Education at the University of Durban-Westville

VI CHERIAN
B Sc, M Ed, MA, Fellow of the Royal Academy of Preceptors, London
Acting Director of the Educational Research Bureau, University of the Transkei

TS MWAMWENDA
BA, MA, D Phil
Associate Professor of Educational Psychology at the University of the Transkei

EP NDABA
BA, B Ed, M Ed, D Ed
Deputy Director for the Natal Region, Department of Education and Training

A RAMPHAL
BA (Hons), B Ed, M Ed, D Ed
Professor and Head of the Department of Educational Psychology, University of Durban-Westville

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Preface

This book addresses itself primarily to the issues relating to Educational Psychology in the context of schools in Africa, but not exclusively so. In compiling the text, extensive use has been made of theoretical constructs and research findings of psychologists and educationalists the world over.

The text has been written for students engaged in teacher training in our colleges of education and university departments of education. The book is essentially an introductory text. For students who wish to make a more detailed study of the topics mentioned, an extensive bibliography is included.

At the end of each chapter revision questions, which it is hoped will ensure lively class discussion, are provided.

Comments from colleagues would be much appreciated.

THE AUTHORS
Durban
September 1986

Chapter 1

The nature and scope of Educational Psychology and its relevance for teacher training

1.1 Introduction

The future citizens of the world are shaped and educated in millions of class-rooms all over the world in which teachers are the key figures. Not only do teachers guide children in their physical, emotional, social, mental and moral development towards adulthood, but they also provide them with knowledge. The way in which knowledge is taught to children determines how they will learn it and use it to solve problems. Put differently, the education a child receives determines the kind of adult he will be. Furthermore, education is actualised through teaching.

To be an effective teacher demands certain competencies. These include the ability to create a positive learning climate; to arouse and sustain motivation; to gear instruction to the needs, aptitude and ability of individual pupils; to assess pupils' progress; to discipline pupils when the need arises; and to evaluate instructional outcomes.

In order to teach well, it is essential for teachers to understand their own behaviour, their pupils' behaviour and the interaction between the two. Understanding human behaviour in relation to the problems involved in educating children comprises Educational Psychology.

The areas of concern to Educational Psychology are the following:

(a) *The learner* – his growth and development, his needs, his individual characteristics, his abilities and achievements, his nutritional state and the child-rearing approaches adopted by his parents.

(b) *The learning situation* – the size and structure of the class-room and the school buildings. A child is not likely to learn adequately if the class-room is badly ventilated, too hot or too cold, or lacks proper equipment such as proper seating, books, black-board, etc.

(c) *The learning process* – the methods employed by the teacher, his personality, his understanding of his pupils' behaviour and his responses thereto will determine to a large extent how well they will learn.

1.2 Terminology

The term 'Educational Psychology' was first used in the USA in a booklet published in 1886, but became established with the publication in 1903 of a book under that title by EL Thorndike, a world-renowned scholar.

Although the terms 'Psychopedagogics', 'Psychology of Education' and 'Psychological Pedagogy' have been used to designate the field of study that we are concerned with in this book, the term 'Educational Psychology' is generally preferred.

Psychology is the study of human behaviour. Educational Psychology is the science which utilises the theories, research findings, methods and instruments of psychology for educational purposes (Johnson 1979: 4). According to Child (1981: 3), 'educational psychology has endeavoured to apply the findings of general, social and child psychology to assist in a better understanding of the learning process'. Cronbach (1977: 17) states that psychologists can help teachers to clarify the goals of their educational programmes. Psychological research has shown, for example, that the ability to repeat a fact from a textbook may not imply the ability to use the fact, and that the ability to solve a problem explained in class does not guarantee success in solving other problems involving the same principle.

1.3 The nature of Educational Psychology as a science

The association between psychology and education has resulted in Educational Psychology becoming a science in its own right. But it is not a science in the same sense as are Biology, Chemistry and Physics.

As a result of experimentation and observation, in the biological and physical sciences the nature of occurrences can be predicted with certainty and laws of behaviour can be derived. Thus, we know for sure that an iron rod or a copper wire will expand on heating, and the law that metals expand when heated is derived.

In Educational Psychology behaviour is observed and attempts are made to find laws that will enable one to predict behaviour, the assumption being that there is consistency of behaviour. However, consistency of behaviour is not as clear-cut as in the natural sciences (as indicated above). We cannot state with certainty which particular students who did well in their matriculation examination at school will do well at college or university. However, observation has shown that there is a relationship between success at school and success at university.

A physical phenomenon can be explained in terms of cause and effect relationships. Psychological phenomena cannot be explained in terms of single causes.

While overt behaviour can be observed, mental processes cannot. How, then, are mental processes dealt with? The teacher or researcher makes inferences on the basis of what the child says and does. These inferences are assumptions intended to summarize what goes on in the other person's mind in that situation and under the circumstances observed. Statements such as 'This child is unhappy' and 'That boy is bored' are inferences.

Consider the following example: John is a 10-year-old who is presenting a problem in the class-room. He talks almost constantly, but, on the whole, does good work. He frequently becomes involved in fights on the playground, especially when other children tease him about being overweight. John steals things from other pupils and then lies to cover up his actions. In order to understand his behaviour we make inferences about his problems and moral dilemmas based on psychological theories of personality.

There are certain characteristics inherent in Educational Psychology, as indeed in all social sciences, which make it difficult to draw conclusions on the basis of certain facts, which is what one would do in the natural sciences. Behr (1985: 3-4) points out that when generalisations are made it should be

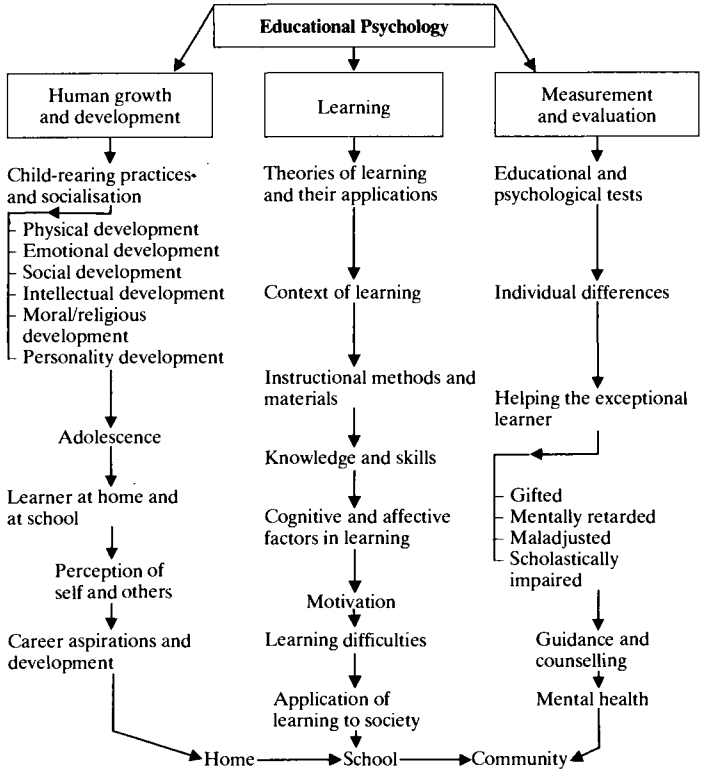
borne in mind that every person manifests unique personal characteristics and that no two units comprising class and teacher are alike or capable of being duplicated. A child's behaviour should always be interpreted in relation to the total situation in which he finds himself. Predictions about an individual's behaviour cannot be made with the same degree of accuracy as predictions about the behaviour of a homogeneous group. Furthermore, individuals may vary from day to day as far as their feelings or quality of performance are concerned. Thus, the data provided by Educational Psychology must always be interpreted with due caution, the prevailing conditions, the age of the child and the emotional ties between child and adult being taken into account.

Nevertheless, teachers can gain much from a study of Educational Psychology and such a study can be of immeasurable help in solving teaching problems.

1.4 The scope of Educational Psychology

In discussing the scope of Educational Psychology for understanding learning processes, for making teaching more effective by setting meaningful educational goals that are capable of being achieved, and for providing curriculum changes which may be necessary to make learning more relevant, Durojaiye (1983: 6) proposed a model, an adapted form of which is depicted in figure 1.1.

Fig 1.1 Diagram depicting the scope of Educational Psychology



A scrutiny of the diagram shows that Educational Psychology is a field of study that is very wide in scope. It uses data obtained from Anthropology and Sociology, from Physiology and Neurology, and indeed from all of the behavioural sciences in so far as they help us in our understanding of the learner, the context of learning and the learning processes.

Educational Psychology must take into account the fact that the attitudes, experiences and upbringing prevalent in many homes differ markedly from those that are emphasised at school. Parents recognise the need to send their children to school and expect them to achieve well, but in many cases do not provide facilities and opportunities at home for them to do their homework. Whilst the school may encourage interaction between adults and children, the home may require children to associate only with peers, and whilst the school may encourage talking, the exchange of ideas and questioning, the home may put a premium on being seen but not heard as a hallmark of good behaviour. In many homes the supporting experiences for learning (books, newspapers, radio and television) are absent. The rich rural and close-to-nature experiences which many children have are not related to the teaching and learning processes and are not incorporated in curriculum design.

1.5 The relevance of Educational Psychology to the teacher training curriculum

1.5.1 The curriculum for teacher training

The curriculum for teacher training comprises many subjects, including Principles or Theory of Education, Didactics or Method of Teaching, Educational Psychology, Practice Teaching, Arts and Crafts, Physical Education, and so on. The first three are academic subjects and the remainder professional. All the subjects taught and the experiences gained in the lecture room, library, laboratory, workshop, class-room and playground, and during the numerous informal contacts that the teacher-in-training has with his lecturers, pupils in the schools and peers, are designed to help him become a mature, well-balanced personality.

Principles or Theory of Education is concerned with the aims and purposes of education, ie *why* and *what* we should teach. *Didactics or Method of Teaching* is concerned with *how* we should teach, whereas *Educational Psychology* is concerned with *how children learn.* Teaching and learning go hand in hand, and if we do not know how learning occurs, we cannot devise teaching procedures that will facilitate learning. Furthermore, if we do not know what children are capable of learning at different age levels, we cannot decide on the content and depth of subject matter to be taught in the different standards.

1.5.2 The school curriculum, syllabus, methods and materials

In order to determine the relevance of Educational Psychology to teacher training, we ought to know what is meant by the terms curriculum, syllabus, teaching methods and materials.

Curriculum is defined as the range of compulsory and optional activities (subjects) formally planned for an individual pupil by a school. In most countries the curriculum is laid down by a central authority such as the

Ministry of Education. It is only in Britain that the decision about what the curriculum should be for a particular school is made by the principal of the school. The absence of a curriculum laid down by the central government stems from a long-established conviction in Britain that a school has a professional responsibility to decide for itself what the 'special educational experiences that are appropriate to that district, that age group and that particular pupil' ought to be (Tunmer 1981: 30-39). Nevertheless, every school in that country has a core curriculum.

The core curriculum for primary schools in Britain has remained more or less unchanged since the turn of the century. The countries in Southern Africa have adopted a similar curriculum, as table 1.1 shows.

Table 1.1 Comparison of the British primary school curriculum with the curriculum current in Southern Africa

Great Britain		Southern Africa
1905 ('Suggestions')*	1967 (Plowden)**	1985
Religious Instruction	Religious Education	Religious Instruction
English	English	Home Language/English
Arithmetic	Mathematics	Mathematics
History	History	History
Nature Study	Science	Elementary Science
Geography	Geography	Geography
Physical Training	Physical Education	Physical Education
Art/Craft/Needlework	Art/Craft	Art/Manual Training
Music	Music	Music
	Foreign Language	

* 'Handbook of suggestions for the consideration of teachers . . . in public elementary schools' (1905)

** Plowden Report on the English Primary School (1967)

Syllabus is defined as a detailed indication of what aspects of a subject or an area of knowledge should be presented to the learner.

Teaching method and materials are closely linked with syllabuses. *Methods of teaching are dependent on syllabuses*, while teaching materials are often no more than a textbook built 'painfully and carefully around a prescribed syllabus'.

Up until fairly recently, and before the advent of 'child-centred' education (which came about as a result of the development of Educational Psychology as a science), teachers concentrated on drilling young children in what they considered to be essential knowledge; for these teachers education was literally a process of 'knocking facts into empty heads' (Smith 1962: 17). Aldous Huxley (1927: 97), writing about the schools of the 1920s, drew a grim picture of the child of that time in his class-room. He said: 'Passively, with his forty or fifty dissimilar and unique companions, he sits at his desk while the teacher pumps and mechanically repumps information into his mental receptacle'.

As a result of the scientific study of children we have acquired new ideas about their stages of growth and development, their differences, and their

characteristics at different age levels. Our knowledge of the bodily growth of children has made it part of the business of education to see to it that children receive nourishing meals and that physical education is not merely drill, but includes exercise in muscular co-ordination and graceful movement. Our attitude to mental development is not unlike our attitude to physical development. The modern teacher thinks of the child as learning best when actively pursuing some problem or project, and not as a passive recipient of imparted knowledge. Formal teaching still prevails, especially in later childhood and adolescence, but is designed to make the learner understand, think and reason. Brubacher (1950: 50) says of the learning child: 'The immaturity of the learner, far from being a void which needs to be filled, is a positive capacity or potentiality for growth'. The curriculum should be thought of in terms of activity and experience rather than of knowledge to be acquired and facts to be stored.

Besides developing the pupil's intellect, the school must also develop his personality and train his character. Sir Cyril Norwood (1929: 243) stated that the strong emphasis on character training which is a feature of British education 'is not the monopoly of any type of school, or of any class in (any) community'. Character can be built in any school by allowing boys and girls to work together in community projects and thus to gain experience of leadership roles and service in a microcosm of the greater society in which they will subsequently live as citizens. Character is associated with moral and ethical values. Some psychologists regard character as a special part of personality. The fact that a child has moral ideals and religious beliefs is very important to a study of his personality (Behr 1985: 126). A pupil's scholastic performance is as much a function of his personality as of his intellect.

1.5.3 The role of Educational Psychology in getting the teacher to understand the problems which children experience in understanding and learning the subjects of the curriculum

Every subject which a pupil has to learn contains many facts, concepts and principles. Facts can be learnt by rote, but concepts and principles require understanding. However, once specific concepts and principles are understood they can be applied to the solution of problems.

Educational Psychology provides explanations of what concepts and principles are and what difficulties pupils experience in grasping concepts and principles. However, before dealing with some examples from a few subjects (it is outside the scope of this book to deal with all subjects), it is necessary to explain what is meant by a *concept* and by a *principle.*

Concept is the name we give to a group of objects, ideas, or phenomena which have a *similar* or *common attribute*. Once a concept has been formed, we have a means of considering other objects, ideas, etc as examples or non-examples of the concept in question. Consider a chair, a table, a cupboard, a wardrobe and a settee. These objects, although very different from each other, can be considered to belong to a single class or to have a common attribute by being called 'furniture'. The word 'furniture' is a concept. A knife, a spoon and a fork, although also found in a house, are not included in the concept 'furniture', but form a concept of their own,

namely 'cutlery' or 'eating utensils'. The formation or creation of concepts involves thinking.

Concepts depend upon mental structures called *schemas* for their formation. How a schema functions will become clear from a study of the following examples:

(a) Puppy, dog; kitten, cat; calf, cow.

The six words considered together as a collection can be classified by the concept 'animals'. Considered as pairs, they can be connected by the concept (or idea) 'is the young of'.

(b) $^1/_2$; $^5/_{10}$; 0,5; 50%.

The above can be considered either as 'fractions', or as 'equivalent fractions'.

In concept formation our mental schema creates new connections which we call transformations (Behr 1985: 62). Some concepts are very complex and require intricate reasoning in order to arrive at them.

Principles are concerned with rules. Examples of principles are the following: 'round things roll'; 'the water cycle in nature'; 'metals expand on heating'; 'crime does not pay', etc. Principles are derived from observation.

Let us now turn to a consideration of certain concepts and principles in some of the subjects of the school curriculum and of what Educational Psychology has brought to light concerning them.

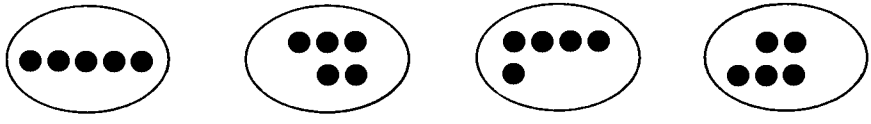
1.5.3.1 Mathematics

Piaget (1896 – 1980), the famous Swiss psychologist, pointed out that a child's ability to do elementary arithmetic depends upon his grasp of concepts such as *conservation, reversibility, class inclusion* and *seriation.* These concepts are acquired by most children between the ages of seven to 11 years with the development of concrete operational thought. The stages of intellectual development espoused by Piaget will be dealt with in a later chapter. Here we shall confine ourselves to their implication for the didactics of Elementary Mathematics.

Conservation is the realisation that, for example, six beads spread out on a desk represent the same quantity as six beads clustered together in one's hand. Reversibility is the ability to grasp the idea that, for example, a volume of water does not change when poured from a glass tumbler into a basin and then back into the glass tumbler. Class inclusion is the thought process which occurs when two classes (groups) are combined to make one comprehensive class, for example wooden white beads plus wooden red beads equals wooden beads. The ability to arrange sets in the correct order is known as seriation.

A pupil who is able to state that the cards in figure 1.2 all contain the same number of counters (ie five) has grasped the concept of conservation.

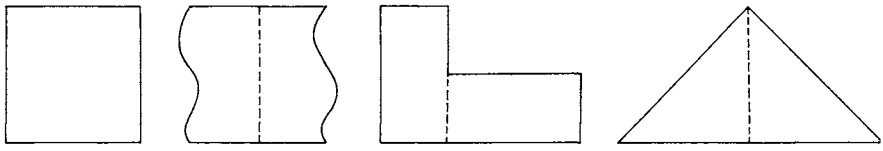
Fig 1.2 A test designed to test the conservation concept



A child who has grasped the conservation concept in respect of numbers may not necessarily be able to apply it in respect of area. Piaget found that children below nine years of age did not grasp conservation of area.

Research conducted by Behr (1972: 127) showed that many children in the upper classes at primary school tended to think of 4 cm^2 not as an area, but as a square of sides 2 cm long. In order to clarify the idea of conservation in respect of area for them, pupils had to be given several paper or cardboard squares, each of sides 2 cm long, and then made to fold, cut, tear and arrange them as shown in figure 1.3.

Fig 1.3 Each of the figures has an area 4 cm^2



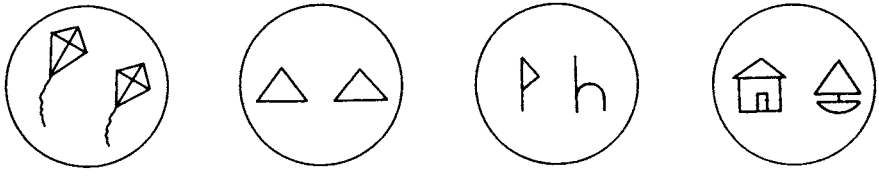
The pupil who knows that $4 + 8 = 8 + 4$, or that $2 \times 5 = 5 \times 2$ has an idea of the concept of reversibility, but will have a full grasp of it only if he can look at the multiplication computation below and then answer the questions alongside mentally, ie without using pencil and paper:

424	(a) $15\,264 \div 424$	=
$\times$ 36	(b) 36×424	=
2 544	(c) $15\,264 \div 36$	=
12 720		
15 264		

Sorting and classifying objects provide pupils with the experiences that enable them to grasp concepts. Pupils confronted with articles such as a spoon, a knife, a fork, a cup, a plate, a bucket, a spade, sand and a brick and asked to arrange them in sets discover, by appropriate questioning, that the first five, although different from one another, have a common relationship. They all belong to the category of articles used for meals. The next four also have a common relationship, since they are associated with building.

Arithmetical concepts can be developed through diagrams of similar and dissimilar objects, as in figure 1.4.

Fig 1.4 What is the property common to all of these groups (or sets)?

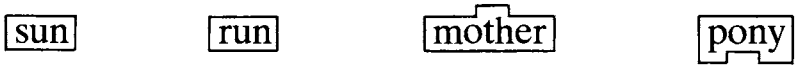


1.5.3.2 Reading

Reading depends on *perception* and *cognition.* What we mean by these two psychological processes will be discussed in detail in a subsequent chapter.

Words are recognised by their shapes or contours, as in the examples in figure 1.5.

Fig 1.5 The shape or contours help in the recognition of words

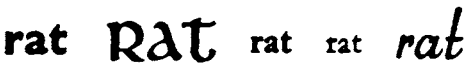


Where the visual patterns of words are similar, as in 'sun' and 'run', confusion can arise. But reading a word involves more than the visual discrimination of a string of letters; the letters are *perceived* as a whole as words, and the words are *cognised* as having specific meaning. Furthermore, the words are cognised as complying with certain grammatical rules – in the examples above 'sun' is cognised as a noun and 'run' as a verb. The combination of the letters 'ksetba', 'kestab', or 'kseatb', for example, may well be pronounceable, but they will be perceived as a word only in the combination 'basket'.

However, reading a continuous text in order to understand its meaning is a much more complex procedure than recognising consecutive words one by one. The reader must have a good knowledge of the structure of the language and of its most probable sequence of words. Experiments have shown that fluent readers do not attend to all the words in a phrase or a sentence. They attend only to those parts which are necessary to identify the whole.

It must also be pointed out that once a child has learned to read properly, he will recognise the words irrespective of the type-face in which they are presented. Thus the word in figure 1.6 will be read without much difficulty in each of the type-faces. (Behr 1977: 54).

Fig 1.6 A word set in different type faces



From experimental studies on reading we have discovered that there are two main methods that can be successfully employed to teach reading to beginners. These are the global method and the phonic method. In the global method the child is required to recognise whole words and sentences that are meaningful to him by 'look and say'. The phonic method, on the other hand, requires the child to combine the sounds of the printed letters into a single word. A teacher using the phonic method begins by teaching his pupils the sounds of single letters which are then blended together to form short regular words, or the introduction may be through whole words which are later analysed into separate sounds. The phonic method poses problems when beginner readers of English are confronted with words such as 'cake' and 'house'.

1.5.3.3. History

History is taught in all schools, since it satisfies a basic need. Even in the most primitive societies the young are told stories which purport to show the origins of the race or tribe. The social need to establish origins is like the personal need to know one's parents and grandparents. A society is held together by the things its members have in common, and history is one of the most important unifiers. If properly taught, says Burgess (1970: 84), History could help to make mankind feel like one race.

History is the construction of a narrative of human events on the basis of evidence that has survived, eg archeological findings, architecture, documents and artefacts in museums. The objectives of the teaching of History are to select and organise information into theories, eg the development of modern farming methods, or the development of transport; to produce explanations for the occurrence of certain events, eg the outbreak of the Second World War; to make generalisations about the course of historical events, eg the rise of nationalism, socialism, equality, liberty, etc; and to inculcate basic values such as human rights, loyalty, moral judgement, religious freedom and other concepts.

The learning and understanding of History requires the skills of deductive reasoning such as the weighing up of evidence and making of inferences, as well as critical thinking. Educational Psychology deals *inter alia* with the processes of thinking and reasoning (which will be discussed in a subsequent chapter) and will assist us in our teaching of History.

Piaget has shown that the development of thinking in children passes through a number of consecutive stages. In order to learn History, children should be at the concrete operational and formal operational stages of intellectual development. (The different stages of intellectual development postulated by Piaget will be dealt with in another chapter of this book.) In order to teach History to children who are at the concrete operational thinking stage (about 7 – 11 years of age), one would start with concrete situations within the environment and move on to generalisations. In a lesson on religion, the teacher would first take his pupils to several churches in the environment and point out that they are frequented by worshippers of different denominations with different interpretations of the gospel and different forms of worship and ritual. He would then discuss (with reference to pictures, etc) the diversity of religions in our country and elsewhere (eg Protestantism, Roman Catholicism, Hinduism, Mohammedanism, Judaism), and finally deal with the concept of religious freedom.

In a lesson on trade, the teacher would begin with the shops in the environment, the clientéle, the articles they buy and their methods of getting to the shops and transporting their purchases. This would lead to a discussion on where the shops obtain their goods, the transportation of merchandise from different centres in this country and abroad, and then to the concepts of trade and free enterprise. The latter, which involves economics, might have to be deferred until the children are at the formal operational stage of intellectual development.

1.5.3.4 Health care

In many developing countries health standards are low, mortality rates, especially amongst children, high, and life expectancy relatively short. In

these countries (especially Third World Countries) there is what Oscar Lewis (1966: 19-25) has described as the culture of poverty. Shanty towns are common and these are at best only marginally suitable as human habitats. Many of the people are squatters, there is usually no clean water, no sanitation and no electricity, and the 'homes' (if such a term can be used) are primitive and inadequate. Unemployment is chronic and high, families are unstable and violence and alcoholism are common. Illiteracy and population rates are high, and children form a large proportion of the population. Childhood (as Lewis points out) is not cherished as a prolonged and especially protected period of the life-cycle. Children show strong feelings of fatalism, dependency and inferiority. The head of the household adopts an authoritarian style of ruling.

A report of the World Health Organisation (WHO) in 1984 estimated that throughout the world 40 million people are afflicted with severe forms of mental disorder (schizophrenia, dementia, etc), 20 million with epilepsy, 200 million with less severe psychological conditions (neurosis, mental retardation, etc) and many others with drug-related problems secondary to physical disease (Connolly 1985: 253). Although the primary focus of medicine in the developing countries is on cure, the emphasis ought to be on prevention. People's psychological and social needs have been completely neglected.

The school has a role to play in health care education and the contribution of Educational Psychology to community mental health is an important one. The problems common to many African countries, namely poverty, famine, drought and chronic ill-health, exhaust people physically and deplete them psychologically. They become what Connolly (1985: 253) calls 'depressed communities' which lack the will to change. These communities need advice on nutrition, family planning, sanitation and self-help skills that will contribute to independence and self-reliance and be perceived by them as a community creation. The educational level achieved by young mothers can be raised to provide them with a whole range of social assets which have advantages for their children. Bennett & Watangia (1983) and Young *et al* (1983) have shown that these have psychological effects in respect of styles of child care, feeding practices and the early identification of children with developmental lags, and result in social structures that provide individuals with reassurance and confidence.

1.6 The role of Educational Psychology in solving problems encountered in teaching

The teacher encounters many problems in the class-room which require an understanding of the individual, his home circumstances, his needs and his motives. Durojaiye (1983: 10) has listed a number of problems for the solution or amelioration of which a knowledge of Educational Psychology is very useful. Only a few of these will be mentioned:

(a) How does one treat a child who is always late for school because his parents require him to help with the household chores before he goes to school?
(b) What does one say to the parents of a child who comes to school hungry and as a result performs poorly in his studies?
(c) How does one deal with a child who is always tired and falls asleep

during lessons, probably because of inadequate arrangements for sleep and rest at home?

(d) How does one handle a parent who insists that administering corporal punishment will help the child to learn better?

(e) How does one go about discussing sex with a group of adolescent pupils?

(f) How does one handle pupils who are insolent in class or resort to unruly behaviour?

(g) When one knows that a child's home conditions are educationally inadequate, how does one ensure that he does his homework?

The problems listed above have bearing on child-rearing practices applicable in some communities. Some traditional patterns of child-rearing are more successful than others in the way they facilitate learning at school. A few will be considered.

1.6.1 The extended family

An extended family is one in which the child, his parents and his brothers and sisters live together with other relatives in one home. The nuclear family is one in which the child, his parents and siblings live together in one home apart from other relatives.

In many communities, especially in the rural areas, the extended family has the advantage of 'multiple parenthood', that is the child is confronted with many adults. The child identifies himself with more than one adult and builds up divided loyalties. Although the extended family system provides the child with some security, Durojaiye contends that it is 'less favourable for emotional and academic well-being' than the nuclear family.

1.6.2. Home discipline

In many homes rigid discipline is enforced; children are expected to obey their parents and elders without question and are always told what to do. Parents often use physical measures of punishment, including flogging. It has been found that the children of such parents show little curiosity and tend to lack originality and initiative. Furthermore, psychologists have shown that these children either develop excessive anxiety, which makes it difficult for them to learn effectively, or tend to become aggressive, with a desire to punish or bully other children, especially those younger than themselves.

1.6.3 Parent-child interaction

Interaction between parents and children is important to the latter's personal well-being and school performance. Parents who are affectionate towards their children, question them about their school work, regularly converse with them about their problems and constantly encourage them will develop in their children a high level of aspiration or achievement motivation. Children with achievement motivation tend to work hard at school, even in the absence of any external reward or demand. In research carried out at Ibadan, it was found that 86% of children who were described by teachers as 'lazy' and 'unwilling to work' were children whose parents expressed no desire for them to be involved in new undertakings and did not praise success.

Revision

A Multiple-choice questions

Underline the *correct alternative* in each of the questions below, and state reasons for your rejection of the other alternative statements.

1 Educational Psychology is oriented towards
   (a) the study of the peculiarities of individual children
   (b) the application of the principles and techniques of psychology to the solution of the problems in the class-room
   (c) the formulation of theories relating to educational practice
   (d) discovering techniques for effective teaching and learning
   (e) defining the goals for which education (pedagogy) is to strive.

2 Educational Psychology should provide prospective teachers with
   (a) insights into the various aspects of modern education
   (b) principles, insights and attitudes as points of departure for effective teaching
   (c) research procedures by means of which to evaluate current teaching methods
   (d) rules of thumb to deal with everyday class-room situations
   (e) information about children and not adults.

B Discussion questions

1 What are the main ways in which Educational Psychology is relevant to your profession?

2 Why can't generalisations be made about observations of people in the same way as they can about natural phenomena?

3 What are some of the basic difficulties which children experience in (a) reading and (b) arithmetic, for which a knowledge of Educational Psychology could be helpful?

4 In what way is a knowledge of Educational Psychology useful in health care?

5 Are juvenile delinquents inherently bad, or are they the victims of their environment?

6 A child performs poorly at school. What does Educational Psychology suggest as some of the possible reasons for this?

Chapter 2
Research methods in Educational Psychology

2.1 Introduction

Educational Psychology has its own research methods. Much of the research in the so-called 'pure sciences' such as Botany, Chemistry and Physics is carried out in the laboratory under objectively controlled conditions. Although some educational research is conducted in the laboratory, more comprehensive investigations dealing with the psychology of teaching-learning relationships must be carried out in class-room situations. Whatever research method is employed in Educational Psychology, it must yield objective data.

2.2 The observation method

This method consists of observing a child and his responses to certain events and situations according to a planned schedule. The observer is briefed or trained beforehand and knows the importance of attending to all details. He records all of the reactions made by the individual being observed, regardless of how unimportant or trivial they may seem. He writes down accurately what he has observed *during* the period of observation. The record may take the form of marking items on a checklist or writing down statements. Nowadays events are recorded on videotape and replayed on a television set. This enables one to see the child in action and to listen to what he says. Since video equipment is expensive, some researchers use cassette recorders, which enable them to keep a record of what the child says along with the written record of what the child does. Sometimes children are observed at play or in a learning situation in special observation rooms. These rooms have special one-way mirrors in the walls so that the children can be observed without being disturbed or being aware of the fact that they are being observed.

The observation method has been used to obtain information on the behaviour of children at different stages in their development.

Either the *longitudinal* or the *cross-sectional* approach is used to obtain information about the developmental stages of children by observation. In the *longitudinal* method, the same child or group of children is studied over a period of years so that their developmental progress as they grow older can be observed and recorded. A teacher who remains in one school for a number of years might observe the growth and development of a group of children as they progress through the different standards of the school.

In the USA, a group of gifted individuals were studied during their pre-school years, through their school years and into adulthood – in total over a period exceeding 30 years (Terman and Oden 1959).

In England a longitudinal study of some 16 000 children was undertaken

from their birth in 1958 and lasted until 1965, when they were in primary school. In 1969 a further follow-up study was conducted. This research, known as the *National Child Development Study,* was conducted by Dr ML Kellmer Pringle. The purpose of the study was to determine how these children made out and what underlying factors affected their progress at school. The study produced some interesting findings. For example, it established that infants who talk at a very early age are no more likely to be especially fluent in speech when they are older, and that babies who walk at ten months are no more likely to be good athletes than those who do not begin to walk until they are 15 or 18 months old. However, *gross* retardation in development, for example marked backwardness in speech or failure to respond normally to people, usually indicates the possibility of mental retardation.

The value of longitudinal studies is that they enable us to know what earlier factors in a child's development have made him what he is now. Their disadvantages are that they are time-consuming, that some children are lost due to migration to other schools, and that the researchers' interest cannot always be sustained over many years (Behr 1973: 18).

In the *cross-sectional* method, the developmental patterns of behaviour of representative samples drawn from different age groups are observed and compared, for example the behaviour of five-, six- and seven-year-olds might be studied. A great advantage of the cross-sectional approach is the relative speed with which patterns of development may be obtained. However, in a study of this kind care must be taken to ensure that the various age group samples selected are representative of the various age groups of the total population under investigation. The sample must, therefore, be drawn from as wide an area as possible and be representative of all of the cultural and socio-economic sections of the community under investigation.

Table 2.1 Developmental progress of young children (Sheridan 1960: 10)

	Posture and large movements	Vision and fine movements
Age 5 years	Runs lightly on toes Skips on alternate feet Dances to music Can hop on one foot for 8 – 10 seconds Can hop 2 – 3 metres forward on each foot separately Grips strongly with either hand	Builds tower with six cubes from model Copies square and triangle and also letters Writes a few letters spontaneously Draws recognisable man with head, trunk, legs, arms and features Draws simple house with door, windows, roof Counts fingers on one hand

One of the most important contributions conducted by cross-sectional observation was carried out by Mary D Sheridan (1960). She uncovered the general stages of development from the age of one month to five years and

compiled a chart depicting the 'milestones' of development in several areas such as movement, social behaviour, speech, play, etc. The purpose of the chart is to offer, in tabulated form, 'information' (derived from many years of observation of children) helpful to parents 'in assessing the progress of normal children and the early detection of physical disability, mental retardation and social maladjustment'. Table 2.1 is an extract from the Sheridan Chart.

2.3 Experimentation

The purpose of an experiment in Educational Psychology is to test a belief or opinion (ie *a hypothesis*) concerning human behaviour in a given situation under carefully controlled conditions.

Consider, for example, that a teacher believes that pupils remember more facts if they are given a passage, asked to read it themselves and then questioned on it, than if they have to listen to the passage read to them by the teacher and are then questioned on it. *The teacher's hypothesis is that reading facilitates (aids) recall better than mere listening.* The teacher selects two groups of pupils – an *experimental group* and a *control group*. Both groups must, as far as is possible, be equal in all respects. There must be an equal number of boys and girls in each group, they must be in the same standard, and they must be matched for intelligence, auditory and visual acuity, motivation and age. The attributes for which they are matched are called *variables*. If there are differences in the variables of the two groups then they are not matched groups and differences in the test results of the two groups may be due not to the experiment itself, but to inherent differences in the two groups. For example, if one group is more intelligent than the other the better performance in the recall test may be due to intelligence and not to the method of learning.

To ensure that the two groups are equally matched in respect of variables is not an easy matter, because individuals differ so much one from another. The inability to obtain an experimental group that is the same as the control group in attributes could invalidate the experiment. The experiment described above is called an *equivalent group* experiment.

In some experiments a single class or group is subjected to different treatments and the resultant changes are measured.

Suppose, for example, that a teacher of eight-year-olds wishes to test the effectiveness of a new method of teaching spelling against a traditional method. The experimenter selects a sample group from some larger population of eight-year-olds. This group is given a pre-test and the mean (average) achievement (m_1) is determined. The group is then subjected to the traditional method of teaching (A) for a predetermined period and given a post-test in order that the mean (average) achievement (m_2) may be measured. A period of transition follows. The group is given another pre-test and the mean achievement (M_1) is determined. Then the group is subjected to the new method of teaching (B) for a specific period and given a post-test, and the mean achievement (M_2) is determined.

The results of such an experiment are summarised in table 2.2.

If $(m_2 - m_1) < (M_2 - M_1)$, it can be assumed that the new method (B) produces better results than the traditional method. If $(m_2 - m_1) > (M_2 - M_1)$, the reverse is true.

Table 2.2 Tabulation of results in a single-group experiment

Group	Pre-test mean	Post-test mean	Difference
Method A	m_1	m_2	$m_2 - m_1$
Method B	M_1	M_2	$M_2 - M_1$

In this type of experiment it is assumed that the learning acquired by the traditional method (A) does not interfere with and thus impede the learning which occurs as a result of the changeover to the new method (B). The effect of such interference (called the transfer effect), if great, could invalidate the conclusions derived from our findings.

The single-group experiment is used only when there is little chance of a transfer effect occurring as a result of the group changing over from one method of teaching to the other. However, the impact of the first method on the subsequent performance of the children cannot be obliterated and its effect is, to some extent, lasting.

Conclusions derived from single-group experiments must always be treated with caution.

2.4 The case study method

Case studies are concerned mainly with the investigation and interpretation of certain attributes and behavioural patterns of individual children. Occasionally, a family or a small group of pupils is used as a unit for the purpose of a case study.

Case studies are carried out on individuals in child guidance centres, career counselling units and psychiatric clinics in order to diagnose a particular condition with a view to recommending guidance or therapy. The individual is studied as a unique personality rather than as a representative sample.

When a case study of an individual child is made, data have to be gathered about his home background, school achievement, health record, intelligence, special abilities and disabilities, personal qualities, interests, relationships with peers, siblings and teachers, and so on. In the carrying out of a case study psychometric tests may have to be given and careful observations of the child's behaviour and his responses to questioning and to other imposed tasks may have to be recorded. Behr (1983: 104) comments: 'Whereas a detailed study of a single child based on observation, interviewing and testing (ie a case study) is a useful exercise for any person who has to work with children, the mere gathering of facts is not research. It becomes research only when there is a comprehensive interpretation of the child's responses in the total situation'.

A few examples of case studies follow.

Case 1: Accident A nine-year-old boy who received a blow on the head when he fell from a swing developed spells of unconsciousness. The child appeared to be very shy and mentally retarded. There were no signs of medical physical illness.

The administering of an intelligence test revealed that the child was of average intelligence and there was no significant difference between his responses to the verbal and performance (hand-eye co-ordination) parts of

the test, suggesting that there was no brain damage. His achievements in reading, spelling and arithmetic were consistent with his intellectual ability. The child's performance on these measures did not indicate any serious repercussions from the accident. It was recommended that he be seen by a medical doctor to ascertain the causes for his periodic spells of unconsciousness.

Case 2: Poor school record A girl aged ten-and-a-half was doing rather badly at school and was very babyish in her behaviour.

An IQ test revealed that she had an IQ of 59, which falls within the mentally defective range. There was no discrepancy between the verbal and performance parts of the test. She was quite co-operative during the testing, which she seemed to enjoy. She was pleasant and chatty and liked to tell stories about her family and her activities at home.

The child is not likely to do well in academic work at school, and it was recommended that she be placed in a special class in which she will be given training in housework skills which will enable her to live a useful community life within the limits of her intellectual potential.

Case 3: Difficult behaviour A seven-year-old child, the elder of two children, became increasingly irritable and awkward to handle, extremely jealous of her younger brother, and demanded attention from her parents all the time. She cried constantly and threw temper tantrums.

A psychometric assessment showed that she was of normal intelligence and a personality test showed that she was emotionally mature, exceptionally confident for her age and without nervous tension. She was extraverted with dominant tendencies. It was recommended that the parents should adopt a rather firm, consistent, but loving programme of discipline and that they should diminish sibling rivalry by treating the children the same by giving them attention on an equal basis.

2.5 The questionnaire method

The questionnaire method is used extensively in Educational Psychology. A questionnaire consists of a number of structured questions or statements which require the respondent (usually the teacher) to provide information about himself or about pupils in his class. Most of the questionnaires currently used consist of questions or statements requiring the respondent to place a tick or cross next to one of several possible answers. Sometimes the respondent has to *rank* a number of statements in order of preference or to *rate* statements, for example in terms of 'doesn't apply', 'applies somewhat', or 'certainly applies', or in terms of one of the following categories: 'strongly agree', 'agree', 'undecided', 'disagree', 'strongly disagree'. The latter type of evaluative questions are referred to as Likert-type questions.

Questionnaires can be used to obtain data about individual children or groups of children. A few examples of questionnaires are discussed below.

(a) Rutter's Children's Behaviour Questionnaire

M Rutter (1967) produced a Children's Behaviour Questionnaire (CBQ) to ascertain a pupil's degree of maladjustment. For details see chapter 12, section 12.5.4, table 12.3.

(b) A questionnaire on Career Preferences (Behr 1981: 28)

For details on this questionnaire, see chapter 10, section 10.3.4.2, table 10.2.

(c) Survey questionnaires

The survey questionnaire is often used to obtain information about aspects of education from many respondents and widely spread sources.

One of the best-known research studies in which a survey questionnaire was used was the Isle of Wight Study. This research was carried out between 1964 and 1968 to ascertain what percentage of school-going children in that British county required special education and the nature of the special educational needs.

The Isle of Wight, an island off the south coast of England, was chosen because the percentage of the population aged five to 14 at the time was exactly the same as that of England and Wales as a whole, viz 15,2%. The area is representative of a typical prosperous English rural county comprising communities of small towns and villages and without the severe social and educational problems of the great metropolitan cities.

The survey revealed that 7,9% of the pupils at primary school were backward in reading, 5,4% were maladjusted and 2,7% had chronic physical handicaps which were of educational concern. Furthermore, the survey showed that *13,9% (or one child in seven) had one or more handicaps of moderate or severe intensity that interfered with their school work* (Rutter, Tizard and Whitmore 1970).

From this survey research one can only conclude that in African countries, which have limited educational resources, higher pupil to teacher ratios, a shortage of well-qualified teachers, etc, the percentage of children with learning problems and requiring special education must be very much higher and a matter of great concern.

Survey questionnaires are often used on a more restricted scale, for example to ascertain the leisure time activities of high school pupils in a particular school, etc. Table 2.3 contains two items from a questionnaire on leisure time activities which was completed by pupils in the senior class of a particular school.

Table 2.3 Items from a questionnaire on leisure time activities

Tick the appropriate block.

B Sport

When you attend matches as a spectator, do you go:

(a) Alone? ☐
(b) With your friend(s)? ☐
(c) With your parents? ☐
(d) With your friends and parents? ☐
(e) Not applicable ☐

C Radio

How many hours *per day* do you usually listen to the radio?

(a) Not at all ☐
(b) Less than ½ hour ☐
(c) ½ hour to 1 hour ☐
(d) 1 hour to 2 hours ☐
(e) 2 hours to 3 hours ☐
(f) More than 3 hours ☐

Revision

1 Which of the following questions would lend themselves to research?

(a) Does truancy lead to juvenile delinquency?
(b) Are juvenile delinquents inherently bad, or are they the victims of their environment?
(c) Does eating fish increase intelligence?
(d) Should corporal punishment be abolished?
(e) Does lack of sleep influence the speed with which complex material can be learned?

In the case of those which lend themselves to research, describe the method you would use, and how you would set about applying it.

Chapter 3
Developmental psychology

3.1 Introduction

Developmental psychology focusses on human development from conception to the natural end of life. It is a study that examines how the child changes over time from a neonate to a fully developed adolescent or adult. Teachers need to understand, as far as can be ascertained, what happens to the individual from conception to the time that he leaves high school. They are better able to plan class-room programmes when they understand how children of any given age learn best.

Ideally our discussion would extend through the entire span of life, but since this is impracticable in the present situation, it will suffice to deal with what have come to be known as the 'growing years', with only brief references to the 'older years' where necessary.

3.2 Conception to birth

3.2.1 Conception and heredity

Unlike an animal, whose pattern of life is determined by instincts, man is a moral being who is conscious of right and wrong, that is, he has a conscience. He lives according to the norms and values of his society. He belongs to a *family* which is the nucleus of society. A child is born into and brought up by a family. Teachers and prospective teachers need to comprehend the concept of human conception and birth and its implications for the family and society.

A cardinal question is 'How does life begin?' Life begins at the moment of conception, that is, at the time when a female reproductive cell, the *ovum* (plural *ova*), is fertilised by a male productive cell, the *spermatozoon* (plural *spermatozoa*). This split second event occurs approximately 280 days or roughly nine months before birth. The one-celled organism resulting from the union of sperm and egg is called a *zygote* until it begins to grow through cell division. The eggs and sperms are known as *gametes* or sex cells.

As the zygote subdivides to form a complex human being, it gradually differentiates into billions of cells specialising in hundreds of different functions. Every one of these cells has the same hereditary information. Each cell has 46 chromosomes, each of which contains about 20 000 segments strung out on it lengthwise like beads. These segments are the *genes* which are the carriers of hereditary traits (Papalia & Olds 1978: 37).

The most important conditions occurring at the time of conception, when the ovum is fertilised by the spermatozoon, is the determination of the newly created individual's hereditary endowment. Everything the newly conceived individual will ever inherit from its parents, grandparents and other remote ancestors is fixed at this critical moment. At conception every man and every woman receives 23 chromosomes from each parent (or 46

altogether). These 46 chromosomes comprise everything that determines the heredity of the child.

3.2.2 Pre-natal development

The unborn baby is referred to as a *foetus* and the pear-shaped muscular organ in which the fertilised egg develops is a *uterus* or *womb*. The uterus is the unborn child's 'home' until birth. The unborn baby is in a symbiotic relationship with its mother.

The new life in the womb goes through three stages of development. These are the following:

(a) The *germinal* stage, which is characterised by rapid cell division and increased complexity of the organism. It constitutes the period from fertilisation to two weeks.

(b) The *embryonic* stage, which is characterised by rapid growth and differentiation of major body systems (respiratory, alimentary, nervous) and organs. It forms the phase two to eight weeks.

(c) The *foetal* stage, which is characterised by rapid growth and changes in body form. It occurs during the phase eight weeks to birth.

3.2.3 The pre-natal environment

The environment in which the child lives before birth (the mother's uterus) determines whether the foetus will follow Nature's timetable. Under normal circumstances conditions within the uterus are ideal for the development of a healthy child. On the other hand, any injurious agent introduced through the placental bloodstream can disturb the uterine environment and adversely affect the normal development of the child. Adverse conditions include maternal nutrition (diet), vitamin deficiency, maternal health, drugs, X-ray and radium, tobacco, alcohol, severe and prolonged maternal stress, excessive physical exertion, etc. It is important to note that the pre-natal environment links up with the post-natal environment. The newborn baby has lived for approximately nine months before joining the family. In the ensuing paragraphs we describe the developmental phases for the growing child.

3.2.4 Post-natal development

It must be stressed from the outset that in this text human development is divided into 'phases' (physical, emotional, intellectual, etc) merely for the sake of convenience. In reality the child behaves, feels and thinks as a total being. Human beings do not jump from one stage to another as a cocoon develops into a butterfly. All growth is integrated and no one segment or phase – for example the intellectual, with which the teacher is most directly concerned – is understandable apart from the total pattern. We must realise at all times that it is the total child who is growing and developing.

3.3 Physical development

3.3.1 The pre-school years

The pre-school years are perhaps the most important stage of growth. At birth the baby seems small and helpless, but all his senses function and his body is capable of considerable activity, including reflex actions like crying,

grasping, blinking and those associated with feeding. During the first two years he will triple his birthweight and learn to respond much more specifically to the messages received by his senses than he did at birth.

As the child grows older, the rate of his increase in size and weight slows down. At the age of three the child will have reached about half his adult height. The changes during early childhood (2 – 6 years) are more dramatic. The child gains control over his body so that he learns to run, jump and throw and to control his eyes so that he can concentrate them on small objects. Because of rapid physical growth, the child has a lot of energy which is utilised in play. Play is necessary for the developing muscles. This period sees the development of muscular control and co-ordination of movement. The child is busy exploring the physical world.

3.3.2 The primary school years

These years constitute a period of steady growth in height and weight. School children between the ages of six and 12 look very different from their pre-school brothers and sisters. They are much taller and thinner; most are fairly wiry, although girls generally retain more fatty tissue than boys and continue to do so throughout adulthood. There is very little difference in weight and height between younger boys and girls, although boys are generally slightly heavier and taller. However, girls reach their pubescent growth spurt before boys, and tend to be larger at this stage. Normal children of the same age show a wide range in height, reflecting the wide variations among individuals in all aspects of development. At this age children have much keener vision and sight than they did earlier, because their organ systems are more mature. Children under six years of age tend to be farsighted, since their eyes have not fully matured and are different in shape from those of adults. By six years their binocular co-ordination is well-developed, enabling them to focus their eyes better. Brain development is virtually complete.

It is astonishing to see how much progress school children make in terms of getting their bodies to do what they want. They keep getting stronger, faster and better co-ordinated, and they derive great pleasure from testing their bodies and achieving new skills.

Greater motor skill, an increase in physical strength and greater resistance to tiredness contribute to the children's ability to take part in activities which require the use of the smaller muscles and more delicate motor skills for much longer periods than was previously possible. An educational programme must provide activities which make high demands on the child's more specialised physical skills, but planned guidance is essential to prevent the child from attempting activities of which he is still physically incapable.

3.3.3 The adolescent years

The term 'adolescence' is derived from the Latin verb *adolescere*, which means 'to ripen', 'to grow to maturity'. Adolescence, the long period between childhood and adulthood, begins at about 12 years of age and ends at 18 years of age, when most adolescents graduate from high school and are able to take up and accept the responsibilities of adulthood, for example exercising the parliamentary vote in democratic countries (cf Fischer & Lazerson 1984: 610).

A clear distinction must be made between *puberty* and *adolescence.* Puberty refers to the collection of physical changes which result in reproductive or sexual maturity. It begins with the secretion of hormones from the pituitary gland. These hormones stimulate other glands to produce hormones that stimulate growth of the body and development of sexual characteristics. During this period of hormonal activity the legs lengthen, the body broadens, and the trunk develops, causing most of the increase in height noticed at this stage, the stage of 'puberty spurts'. Thus body proportions change drastically during puberty.

All adolescents experience a *growth spurt*, a period of a year or more during which they grow about twice as fast as they did during childhood. The age at which this growth spurt occurs varies greatly from individual to individual, but, on average, girls experience it two years earlier than boys (Fischer & Lazerson 1984: 610).

It should be noted that along with physical changes, pubescents undergo intellectual or cognitive changes as well.

From this brief review of growth and development it is apparent that children differ greatly in their rate of physical growth and maturation, whether these are measured by height, weight or developmental milestones, or by physical and physiological evidence of endocrinal changes during puberty.

An understanding of his pupils' physical growth and development is of practical everyday use to the teacher. Recognition of the problems experienced by late developers or early maturers can make learning much easier for the children concerned. The teacher who can recognise individual differences in the physical growth and development of his pupils will be able to provide them with suitable activities and will be more able to relate his plans for their education to their individual differences and to forestall possible disciplinary problems in his school.

3.4 Emotional development

It is correct to say that the teacher cannot influence the physical development of a child, but he can do so in respect of emotional development. Because emotions play such an important role in life it is essential to know how they develop and how they affect personal and social adjustments.

The term 'emotion' refers to a state of arousal which involves extensive visceral changes and feeling tones of varying degrees of pleasure or annoyance (Behr 1985: 32). Emotions are part of the human behavioural repertoire. In fact, emotional development is a major part of our personality development.

Emotions are essentially reactions to situations or objects, and manifest themselves from early infancy throughout life. Examples of emotions are joy, sadness, fear, anger and grief. The first-named is pleasant, and the last-named unpleasant. For normal development a child must enjoy security and love.

A fundamental aspect of emotional development during infancy is security, which bears a direct relationship to future ability to adjust to life situations. A sense of security is developed by parental love, affection, care, interest and understanding, which leads to recognition by the child of his

personal worth as an individual who is accepted by and belongs within the family group, and ultimately to the development of self-confidence. Lack of security breeds anxiety, fear and maladjustment, whereas the conditions of security and love give rise to contentment and happiness. Infants' emotions are intense but fleeting (change quickly). An infant who is crying one minute may laugh the next. The child's emotions also begin to be organised into sentiments, and strong sentiments form, first about his own body and self (the self-regarding sentiment) and later about his mother and father.

Research studies have shown that *all* emotions, not just the pleasant ones, play a vital role in the child's life and that each contributes to the kind of personal and social adjustments he makes. The benefits or hazards to children's personal and social adjustments may be physical or psychological, or both.

The most important effects of children's emotions on their adjustments are explained below (Hurlock 1978: 193).

(a) *Emotions add pleasure to everyday experiences* Even such emotions as anger and fear add pleasure to life by giving children some excitement. Their enjoyment comes primarily from the pleasant after-effects of the emotions.

(b) *Emotions prepare the body for action* The more intense the emotion, the more it upsets homeostasis to prepare the body for action. If this preparation is not needed, it will make children nervous and edgy.

(c) *Emotional tension disrupts motor skills* Bodily preparation for action plays havoc with motor skills, causing children to become awkward and clumsy and leading to such speech disorders as slurring and stuttering.

(d) *Emotions serve as a form of communication* Through the facial and bodily changes that accompany the emotions, children can communicate their feelings to others and determine what the feelings of others are.

(e) *Emotions interfere with mental activities* Because concentration, recall, reasoning, and other mental activities are severely affected by strong emotions, children perform below their intellectual potentials when emotionally disturbed.

(f) *Emotions act as sources of social and self-evaluation* People evaluate children in terms of both how they express their emotions and what their dominant emotions are. The way in which they treat children, based on their evaluations, serves as the basis of the children's self-evaluations.

(g) *Emotions colour children's outlooks on life* The way in which children view their roles in life and their position in the social group is markedly influenced by whether they are shy, frightened, aggressive, curious, or happy.

(h) *Emotions affect social interactions* All emotions, pleasant and unpleasant, encourage social interaction. From interactions children learn how to modify their behaviour to conform to social expectations and standards.

(i) *Emotions leave their mark on facial expressions* Pleasant emotions improve children's looks, while unpleasant emotions distort the face and make children less attractive than they are. Because people are

attracted or repelled by facial expressions, the emotions play an important role in social acceptance.

(j) *Emotions affect the psychological climate* In the home, the school, the neighbourhood, or the play group, children's emotions affect the psychological climate and, in turn, it affects them. A childish temper tantrum annoys and embarrasses others, charging the emotional climate with anger and resentment. This makes children feel unloved and unwanted.

(k) *Emotional responses, when repeated, develop into habits* Any emotional expression that gives children satisfaction will be repeated and, in time, develop into a habit. If, as they grow older, children find that social reactions to their emotional expressions are unfavourable, they will find it difficult, if not impossible, to break their habits.

The importance of an understanding of emotional development in so far as the teacher is concerned is that he should recognise that not all of the children in his class are alike: some are bold and confident and can stand a rebuke, while others are sensitive and shy. A child's learning ability is influenced by his emotional state. A happy child is more receptive to learning than one who is emotionally upset.

3.5 Social development

The process whereby the infant is turned into a human being is called *socialisation*. In all societies the main purpose of socialisation is to teach people to live as members of a group, because it is only in groups that human beings can maintain mastery over their environment. Thus, every society has the same basic goals in socialising its young. Each individual must learn

- to fulfil physical needs in appropriate ways
- to control aggression
- to master the physical environment
- to master the social environment
- to perform essential skills
- to behave in accordance with the society's moral values
- to prepare for the future
- to be both an effective individual and an effective member of the group.

Although these goals are universal, the norms and roles that are created to achieve them may differ sharply from society to society. (Fischer & Lazerson 1984: 382, 383).

Social development during infancy is slight. The social developments that lead to the emergence of the self begin towards the end of the first year, when an infant is learning to focus his demands on his parents. There is an expanding awareness of other people as separate from himself and a widening interest beyond himself. This involves the learning of attitudes and the formation of habits of response. The infant grows up in a social environment which has a fairly uniform pattern of behaviour among its members, because they adhere to certain principles and standards of conduct, etiquette and custom. So long as these are the only standards which he has an opportunity to see and experience, he is very likely to accept them as his own.

The infant is concerned primarily with himself, but plays in the company of others. However, from the age of three the child starts to make close friends outside his family. He joins playmates in their activities and adjusts himself to the presence of others. This interaction with other children through association with them in play marks the beginnings of group activity, a widening field of experiences, and the beginnings of co-operative behaviour. Although the pre-school child cannot read, he has a keen interest in hearing stories which feature sense impressions and actions, and which are characterised by rhythm and repetition.

The family continues to be the main socialising agency for the child during the crucial period eight to 13 years. Parental styles for socialising children vary. Rearing practices in the family determine the growing child's personality make-up. The earliest lessons on how to live with others are given by parents.

Fischer and Lazerson (1984: 410) state that numerous studies on the systematic relationship between parental styles and a child's personality characteristics have brought some consistent correlations to light. Three parental styles are mentioned by Diana Baumrind (cf Fischer & Lazerson 1984: 414):

(a) *Permissive* parents, compared to others in her study, exercised less control over their children's behaviour. They demanded less achievement and accepted behaviour that was relatively unsocialised. They also tended to be warm and loving.

(b) *Authoritarian-restrictive* parents were cooler, more detached, and highly controlling.

(c) *Authoritative* parents, although they firmly enforced rules and demanded high levels of achievement, were warm, rational, and receptive to their children's questions or comments. They seemed to have confidence in themselves as parents.

More specifically, Baumrind proposes that the following characteristics of parental style relate to independence and competence in children:

(a) Parents who provide a rich early environment, such as interesting toys and rich social interactions, are more likely to have children with good cognitive skills. Possession of those skills increases a child's self-esteem and leads to competence.

(b) Parents who explain why they are delivering punishments or reinforcements are more likely to have competent children. Such explanations improve a child's understanding of social rules. The children of authoritarian-restrictive parents, who do not use reason and explanations, are more likely to be dependent and submissive or passively resistant and less competent. That is, they follow the rules while their parents are around, but are inclined to disobey when they think they can get away with it.

(c) Authoritative parents, who stress the values of individuality and self-expression, are likely to have independent children.

(d) Authoritative parents' firm control of their children's behaviour does not restrict the development of independence as long as the parents give their children plenty of opportunity to experiment and make their own decisions within the limits defined.

The influence of the family decreases gradually during adolescence. This is a natural development which could be referred to as *emancipation* or *disengagement*, that is the process of breaking away from the family and establishing oneself as an independent person in the psychological sense. At school the child encounters two new socialising agents, namely his peers and his teachers.

Various facets of an adolescent's relations with his peers are important for self-actualisation and the development of his self-image. During different phases of adolescence, peers serve different functions. Three phases can be noted in this connection (cf Fischer & Lazerson 1984: 636):

(a) At the beginning of adolescence is the *shared-activity phase* of friendship, during which the focus is on concrete activity rather than on identity and personality. At this stage friendship means doing things together.

(b) Middle adolescence ushers in the *shared-identity phase* of friendship, which is characterised by increased ability to think more abstractly about human relationships, the desire for emotional support and understanding, the sharing of intimate secrets, and the formation of cliques or groups based on shared attitudes and interests.

(c) Late adolescence brings in a third phase, the *individuality phase*, which focusses on what young people value in their friends and on appreciation of the friend's own personality and talents. At this stage the young person has a better sense of personal identity and begins to value friends for their individuality, for what they can contribute to the friendship in the way of interest and stimulation.

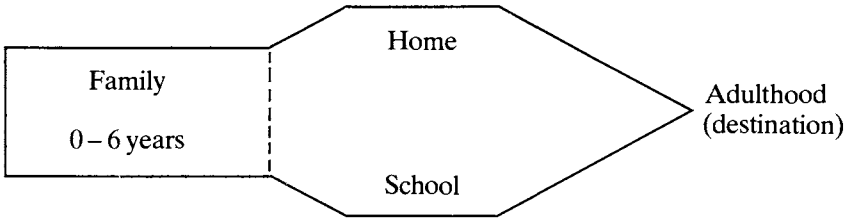
We mentioned earlier on that teachers, along with peers, are new socialising agents. Teachers play the role of parents while children are in their care. They should note that the 'whole child' comes to school. That is, he comes from a family, a community, a society, and a deep understanding of what he is up to that point in time is very important.

In its broadest sense, education means the transmission of culture from one generation to the next generation in order to maintain continuity of a way of life of a people. This is the universal function of education. In this sense all peoples in all ages are subject to education. Education bestows on man his *humanity;* without education he cannot be man or human.

The function of informal and formal education should remain essentially the same, namely to guide the non-adult on his way to adulthood. The route through school is an unavoidable part of the child's way to adulthood. Schools were established *for children* by adults and each child is obliged to attend it at a particular age. At home education remains informal and non-systematic until the child enters school and teachers take the parent's place in order to establish a formal educational situation in which systematic education is given, but in which that which is pedagogical remains fundamental.

It should be pointed out, however, that although the child has been sent to school, his education should still remain a *joint effort* by parents and teachers. After all, the latter have the child for only five hours, five days per week, but for the rest of the time the child is with his parents. This thought may be illustrated as in figure 3.1.

Fig 3.1



Therefore, it is important that what is taught at school should not be at variance with the community's needs and aspirations. The material of formal instruction (ie the selected aspects of reality) must not be merely the subject-matter of the schools, isolated from the subject-matter of life-experience. If the said isolation obtains, the permanent social interests are likely to be lost from view.

In fact, the school has two curricula, the academic curriculum and the social curriculum – the norms for class-room behaviour which should relate to the outer society. Teachers have a vital role to play in shaping the lives of children entrusted to them.

3.6 Moral development

3.6.1 The meaning of moral behaviour and moral concepts

It is an indisputable fact that the system of rules that makes social life possible is embodied in a culture's morality. One's culture contains moral, religious, social and other norms deriving from the corresponding values esteemed by the community concerned. Education implies bringing the child to a point where he supports his society's norms from personal conviction.

Moral behaviour means behaviour which conforms to the moral code of the social group. 'Moral' comes from the Latin word *mores*, which means manners, customs and folkways. Moral behaviour is controlled by moral concepts, meaning the rules of behaviour to which the members of a culture have become accustomed and which determine the expected behavioural patterns of all group members (Hurlock 1978: 386).

3.6.2 How morality is learned: the role of attitudes and values

The child is not born with morality or a conscience, or a scale of values, or attitudes. These are acquired through socialisation in the context of the community concerned.

Morgan and King (1971: 725) define an attitude as 'a tendency to respond either positively or negatively to certain persons, objects or situations'. Attitudes are learned and developed as accompaniments to our experiences. Thus children will develop attitudes, for example towards school, church or members of other population groups.

Mention must also be made of the role of values in this connection. Value denotes 'worth' or 'desirability'. Values refer to those things or ideas which matter most to the individual and represent broad directives for action.

Some values transcend cultural boundaries and stand out as eternal or universal values, eg goodness, beauty and truth. Such unchangeable values serve as a vital force in man and provide authentic directives to guide him in all his actions, attitudes and conduct. In other words, they determine his whole behaviour. Thus values play an important role in the development and organisation of the individual's attitudes.

Learning to behave in a socially approved manner is a long, slow process which extends into adolescence. The child learns from an early age that certain forms of conduct are acceptable and others prohibited, for example these dichotomies: truth – lies; honesty – stealing; obedience – disobedience; clean speech – vulgar language; sobriety – drunkenness.

Before childhood is over, children are expected to develop a scale of values and a conscience to guide them when they must make a moral decision. Thus the acquisition of ethical norms and a scale of values is an important developmental task of childhood.

The development of moral awareness is characterised by four essential elements, as indicated below (Hurlock 1978: 387):

(a) *Learning what the social group expects of its members as spelt out in laws, customs and rules* Gradually, children learn the rules set by the different groups in the community, namely home, school, church and neighbourhood. These form the basis of their knowledge of what the different groups expect of them. They also learn the social sanctions attached to transgression of these rules.

(b) *Developing a conscience* One of the important developmental tasks of the childhood years is that every child must not only learn what is right and wrong, but also use the conscience as a control over behaviour. The acquisition of an internalised standard of conduct is too complex for young children. Hence, their behaviour must be controlled mainly by environmental restrictions initially. There should be a gradual shift from environmental to internalised controls. This transition should be complete by the time children reach legal maturity.

(c) *Learning to experience guilt and shame when one's behaviour fails to conform to the expectations of the group* The development of feelings of guilt and shame is the mark of a moral person. The expression 'guilty conscience' is applicable in this connection. Children who have developed a conscience will feel guilty, ashamed, or both if their behaviour does not come up to the standard set by their conscience. In true morality, guilt must be present. The individual must conform to the mores of the group through inner-directed standards rather than outer-directed standards.

An unusual incident of guilt and shame can be cited here. A student teacher in one of the colleges of education wrote the 1985 final year departmental examinations. She passed her examinations and qualified as a teacher. However, she returned her results to the Department concerned, together with the crib material which she had taken into the examination hall. She confessed all. Naturally her certificate was cancelled. Such is the power of the voice of conscience in some people.

(d) *Having opportunities for social interactions to learn what members of the group expect* The fourth element for learning to be a moral person is

having opportunities for interactions with members of the social group. Social interactions play an important role in moral development

- by providing children with standards of socially approved behaviour and
- by providing them with a source of motivation, through social approval and disapproval, to conform to these standards. Without interaction with others, children would not know what socially approved behaviour is, nor would they have a source of motivation to behave in any way except as they wished.

As social interactions with peers increase, so does peer influence. When there is a discrepancy between the moral standards maintained at home and those maintained by the peer group, children often accept the standards of the peer group and reject those of the family group. In contrast, children whose social interactions are with other children whose moral codes conform to those of the home, the school, and the community at large will be laying foundations for moral behaviour that will lead to good personal and social adjustments as they grow older. That is why the type of companions a child has is very important for his moral development.

3.6.3 A cognitive-developmental approach to moral judgement

A view adopted in this text is that moral development is linked up with intellectual development (cf Hurlock 1978, Fischer & Lazerson 1984, Papalia & Olds 1978, Vrey 1979). A growing number of psychologists and educationists agree with Piaget and Kohlberg that the development of moral values is a rational process which coincides with cognitive development. According to this point of view, children cannot make moral judgements until they achieve a certain level of cognitive maturity and can shed egocentric thinking. A brief description of the two theories is given below.

3.6.3.1 Piaget's stages of moral development

Piaget's theory of moral development in children can be summarised by dividing children's moral thinking into two major sequential stages (Piaget 1932).

The first stage covers the pre-school period and is called *heteronomy;* the stage of 'moral realism' or 'morality by constraint'. Heteronomous morality is based on rules prescribed by others. Automatic obedience to these rules occurs without reasoning or judgement. At this stage young children accept instructions and orders at face value. Parental justice and fair play are not questioned. Parents and all adults in authority are regarded as omnipotent. At this stage the child deals with moral concepts in a rigid way.

In the second stage of moral development moral flexibility replaces the moral rigidity of the first stage. Now children judge behaviour in terms of its underlying intent. Whereas the first stage is referred to as heteronomy, the second stage is that of *autonomy*. There is a gradual transition from heteronomous to autonomous moral judgement, which is based on personal convictions. This phase usually begins between seven or eight years of age and extends until children are 12 years old and older. The adolescent with autonomous moral judgement understands principles underlying norms. The spirit and letter of the law are observed through conviction, not through coercion or threats. Because he understands moral concepts, he can

transcend the morality based on rules and achieve a morality based on principles. He can question and challenge injustice and foul play. He has developed from blind obedience to responsibility, that is from heteronomy to autonomy. He is in Piaget's 'stage of formal operations'.

3.6.3.2 Kohlberg's stages of moral development

Kohlberg has extended Piaget's research and has elaborated on his theory to include three levels of moral development instead of two. Each of Kohlberg's three levels includes two stages. (Hurlock 1978: 391; Fischer & Lazerson 1984: 535 – 538). The three levels are called the preconventional level, the conventional level and the principled level or post-conventional level. The two stages at each level are characterised by the same general type of moral judgement, but in two different forms.

(a) *The preconventional level* (roughly 4 – 9 years) In 'Preconventional Morality' the child's behaviour is subject to external controls. In the first stage of this level, the child is obedience and punishment oriented and the morality of an act is judged in terms of its physical consequences. In the second stage of this level, children conform to social expectations to gain rewards. There is some evidence of reciprocity and sharing, but it is based on swopping rather than on a real sense of justice.

(b) *The conventional level* (roughly ages 9 – 15 years) This is the level of 'Conventional Morality', or morality of conventional rules and conformity. In the first stage of this level, 'Good Girl or Good Boy Morality', the child conforms to rules to win the approval of others and to maintain good relations with them. In the second stage of this level children believe that if the social group accepts rules as appropriate for all group members, they should conform to them to avoid social disapproval and censure.

(c) *The principled level* (age 16 to adulthood) This level is referred to as 'Post-conventional Morality', or morality of self-accepted principles. In the first stage of this level the child believes that there should be a flexibility in moral beliefs that makes it possible to modify and change moral standards if this will prove to be advantageous to group members. In the second stage of this level people conform to both social standards and internalised ideals to avoid self-condemnation rather than to avoid social censure. It is morality based on respect for others rather than on personal desires. The individual's behaviour is consistent and is guided by self-chosen ethical principles.

According to the two theories described above, moral development proceeds according to a series of psychological stages forming a hierarchy. This means that the emergence of each stage of moral development conforms to a fixed maturational timetable. In other words, the formal sequence of understanding and developing moral judgement is limited by developmental age and stage (Behr 1978: 41).

3.6.4 The role of discipline in moral development

The term 'discipline' is derived from the Latin word *discipulus*, a follower or adherent of a leader. In the Oxford dictionary discipline is defined as 'mental and moral training'. In this context the parents and teachers are the leaders, and the child is the 'disciple' who learns from them the ways of life

which lead to responsibility, usefulness and happiness in the society concerned. Therefore, discipline can be described as society's way of teaching the child the moral behaviour approved by the group.

Discipline is society's deliberate method of inculcating desirable norms, values and attitudes in the child. Hence it is essential to children's development, because it fulfils some of their needs. In this way it enhances their happiness and their personal and social adjustments. Some of the many needs fulfilled by discipline are explained below (Hurlock 1978: 393):

(a) Discipline gives children a feeling of security by telling them what they may and may not do.

(b) By helping children to avoid frequent feelings of guilt and shame for misbehaviour – feelings that inevitably lead to unhappiness and poor adjustment – discipline enables children to live according to standards approved by the social group, and thus to win social approval.

(c) Through discipline children learn to behave in a way that leads to praise that they interpret as indicative of love and acceptance – which are essential to successful adjustment and happiness.

(d) Developmentally appropriate discipline serves as an ego-bolstering motivation which encourages children to accomplish what is required of them.

(e) Discipline helps children to develop a conscience – the 'internalized voice' that guides them in making their own decisions and controlling their own behaviour.

3.7 Intellectual development

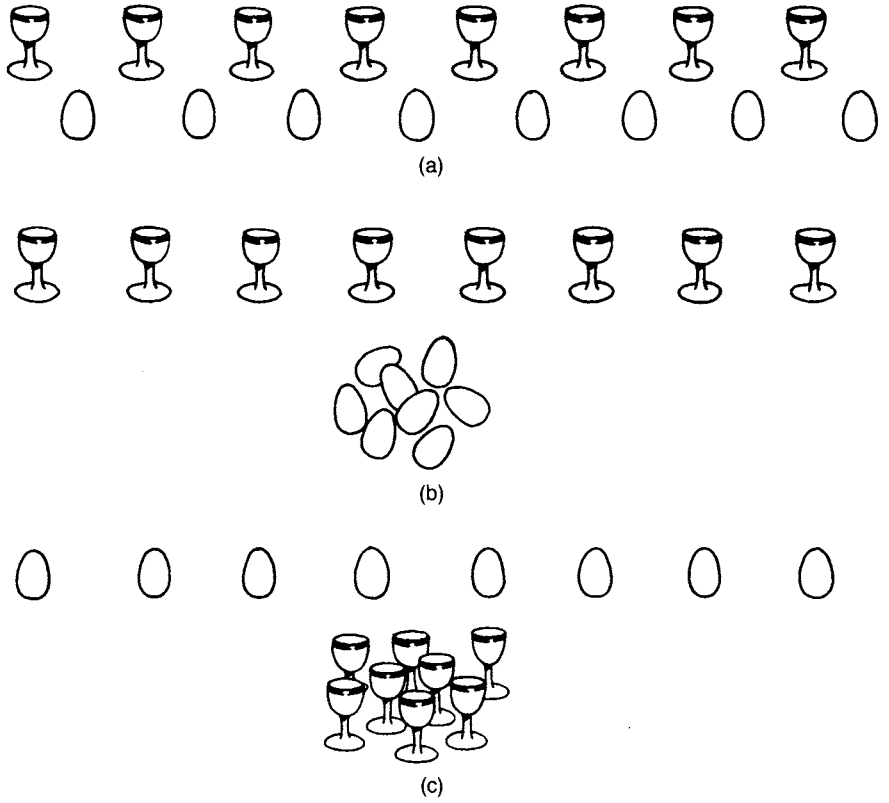
A number of psychologists, among them Piaget, have established that intellectual development comes about as a result of environmental experiences arising from experimenting with materials in the child's surroundings, for example bricks, clay, sand, water, etc.

3.7.1 Piaget's experimental method

Piaget's method of finding out how children think and reason was to present children of different ages with problems and to observe and enquire from them how they undertook the solution of these.

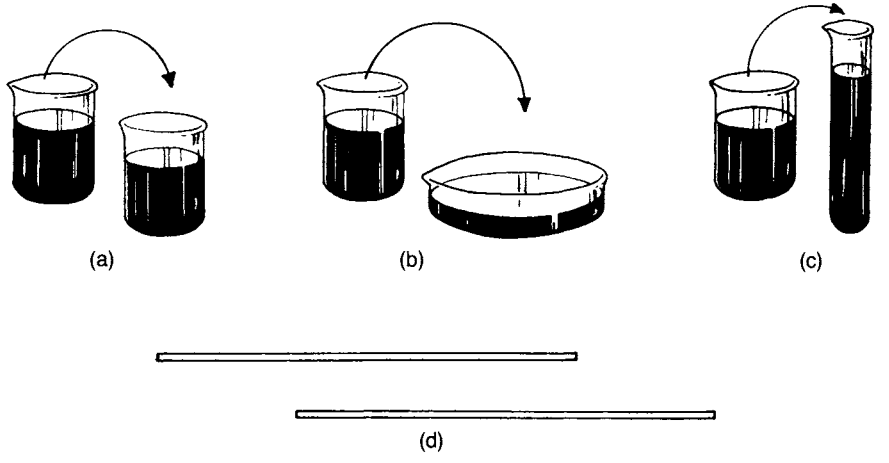
One of the problems concerns the idea of *conservation.* (See also chapter 1, section 1.5.3.1.) Piaget found that if children between five and six years of age were given a number of egg-cups, they could easily choose a corresponding number of eggs from a basket by placing one egg at a time opposite each egg-cup, as in figure 3.2 (a). When he pushed all the eggs together into a pile, but left the egg-cups in the same order (fig 3.2 (b)), they were no longer able to judge that the number of egg-cups and the number of eggs were the same. They said that there were fewer eggs than egg-cups. When the eggs were spaced and the egg-cups pushed together (fig 3.2 (c)), the children estimated that there were more eggs than egg-cups. At this age, children's concept of number is influenced by the spatial arrangement of the objects.

Fig 3.2 Conservation of number (After Inhelder 1956)



Similarly, when children of this age were given two glass jars of equal size and shape (fig 3.3 (a)) and asked to pour the liquid from the first into the second (which was empty), they would state on questioning that the second

Fig 3.3 Conservation of (a), (b), (c) volume, (d) length (After Inhelder 1956)



jar contained as much liquid as the first, in other words that the quantity of liquid had not changed as a result of the pouring. However, if the children were asked to pour the liquid into a jar of different shape (as in fig 3.3 (b) and fig 3.3 (c)), they argued that the quantity of liquid had changed to either less or more than the original quantity, depending on the shape of the vessel.

Even if the children were asked to estimate the length of two rods lying parallel to each other (as in figure 3.3 (d) above), they would claim that the two were not of equal length.

Piaget's work led him to the conclusion that intellectual development progresses through stages which are related to ages. He stated that thinking depends on the performance of a *mental operation*, which in the case above was that of *reversibility*. The child has to visualise that a situation can be reconverted into its original state. Slightly older children do not exhibit these difficulties, since they are capable of reversible mental operations.

Piaget identified five stages of intellectual development, each of which is described below. All children go through these stages, although not necessarily at the ages indicated.

3.7.2 Piaget's stages of intellectual development

3.7.2.1 The sensory-motor stage (up to 2 years)

The infant can perform motor actions only, playing with things and manipulating them in a trial and error fashion. By the age of two, the child is beginning to form the concept of the permanence of objects and to become aware that they exist even when hidden from him. He will keep on looking for a toy he has previously handled if it is placed under one of several covers and is not immediately visible to him. This represents the rudiments of the development of the conservation idea.

3.7.2.2 Pre-operational reasoning stage (2 to 4 years)

At this stage, when language is beginning to develop quickly, the child is able to represent objects that are not actually present by words or symbols in play situations. For example, the child will put a doll in a toy bed, thus demonstrating a symbolic representation of the real situation, or will simply mime the real situation in the absence of the toys. The child will also attribute living qualities to inanimate objects. At this stage thinking involves transductive reasoning, ie a kind of logic that proceeds from one particular to another. Thus, for example, a cow or sheep is called a dog, because all things with four legs, although alike in some respects, are alike in all respects.

3.7.2.3 Intuitive thinking stage (4 to 8 years)

This is the stage discussed in the experiments on conservation earlier on. This child is able to grasp only one relationship at a time, and cannot visualize the problem as a whole. He will argue that the quantity of clay in a ball of clay will become more (or less) if rolled into the form of a snake or a pancake, or that five pebbles clustered together are not equal to the same number spread out in front of him. His intuitive logic precludes him from going back to the starting point and combining various ways of looking at a

situation. It is only towards the end of this period that the child begins to show reversibility in his thinking and grasps the notion of reversibility.

3.7.2.4 Concrete operational thinking (8 to 11 years)

The child is now capable of reversibility in his thinking and is able to classify objects. He can now place things in order according to their length, etc and to grasp relationships. The child is now able to deal adequately with number and arithmetical concepts. In addition, he begins to develop the idea of order in time, ie the idea of 'before' and 'after'. However, thinking is still concrete, ie dependent on the existence of actual objects. There is, as yet, no capacity to handle abstract ideas or to combine various types of conservation. It is only by the end of this period that the child can fully understand that a piece of clay moulded into an entirely new shape conserves its matter, mass and volume. Language, which by now is well-developed, helps the child immensely in his thinking.

3.7.2.5 Formal operational thinking (11 to 14 years)

At this stage the pupil is capable of reasoning in the abstract and able to use the deductive method of the mathematician and the inductive method of the scientist. He is able to generalise and to relate facts to conclusions. He is able to explain the fallacy in reasoning such as the following: 'If a car is shiny, it is fast. This car is shiny, so it must be fast'. He is able to anticipate what will happen, for example, if two cylindrical objects of the same size (eg old torch batteries) are put in a bowl of water, one upright and the other lying on its side, and to give the reason for his statement.

3.7.3 Educational implications

Each stage is a major transformation in thought processes compared to the preceding stage – a big leap forward. It is important to remember that the individual must go through each stage in a regular sequence. It is impossible to skip or miss a stage, or to by-pass a stage. Children cannot overcome a developmental lag or speed up their movement from one stage to the next. Sprinthal and Sprinthal (1974: 105) rightly point out that children need to have sufficient experience in each stage and sufficient time to internalise that experience before they can move on. Furthermore, while each stage is delineated by major intellectual activity, aspects of other stages will also be present.

3.8 Language development

Intellectual (or cognitive) development is linked to language development. Language ensures that children are not bound to their immediate sensory environment. They start developing some mental images, and this is enhanced by the growth of vocabulary. The average two-year-old understands some 200 words, while the average five-year-old understands 2 000 words. At the age of two years the child talks in sentences of one or two words; two years later he is able to use sentences of eight to ten words which are, by and large, grammatically correct.

Table 3.1 Stages of intellectual and language development

Age	Cognitive stage	Language development
0 – 2	Sensory-motor	One or two word sentences; no grammatical form
2 – 4	Pre-operational	Longer sentences
4 – 8	Intuitive	2 000 word vocabulary; 4 – 5 word sentences
8 – 11	Concrete operational	5 000 + word vocabulary; 10 – 12 word sentences
11 +	Formal operational	10 000 word vocabulary; correct grammar

How language and intellectual development parallel each other becomes clear from a study of table 3.1.

Piaget contends that the intuitive stage is truly the most opportune period for facilitating language development. The richer the verbal environment, the better the language development will be.

Revision

A Multiple-choice questions

1 Human development is the study of
   (a) infancy
   (b) childhood
   (c) adulthood
   (d) all of the above.

2 Which of the following statements is true?
   (a) Intellectal development is closely related to physical and emotional aspects of functioning.
   (b) Physical development can be affected by social and emotional aspects of functioning.
   (c) Emotional development is related to physical and intellectual aspects of functioning.
   (d) All of the above are true.

3 Current styles of parenting described in the text were defined by
   (a) Hurlock
   (b) Fischer
   (c) Baumrind
   (d) Piaget.

4 The most self-reliant, self-controlled and happy children appear to come from homes where parents are
   (a) authoritarian
   (b) authoritative
   (c) permissive
   (d) harmonious.

5 Which of the following best characterises conscience?
   (a) self-esteem
   (b) internalised social constraints
   (c) an inborn sense of guilt and shame
   (d) socialisation.

6 The child who says: 'Don't bang a nail into the wall because the wall will get sore' is at the
   (a) sensory-motor stage
   (b) formal operational stage

(c) pre-operational stage
(d) concrete operational stage
(e) intuitive thinking stage.

B Discussion questions

1 'Today it is recognised that children need discipline if they are to be happy, well-adjusted people.'
   (a) What children's needs does discipline fulfil?
   (b) What factors are likely to hamper discipline in the school situation?

2 How do you react to the following moral dilemmas?
   (a) In Europe, a woman was near death from cancer. One drug might save her, a form of radium that a druggist in the same town had recently discovered. The druggist was charging $4 000 for the drug, ten times what it cost him to make. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could get together only about half of what it cost. He told the druggist that his wife was dying and asked him to sell it to him cheaply, or let him pay later. But the druggist said 'No'. The husband became desperate, and broke into the man's store to steal the drug for his wife. Should he have done that? Why?
   (b) A pupil from an impoverished home steals his teacher's purse in order to buy a much needed meal. How do you handle this case?
   (c) A bachelor teacher has intentions of marrying one of his pupils in the school. However, falling in love with a schoolgirl is against departmental regulations and the ethical code of the teachers' council. What should he do?

3 What would you regard as the most important effects of children's emotions on their adjustment?

4 'Parental styles for socialising children vary'. Discuss this statement fully and indicate how such styles might affect the school situation.

5 Discuss peers and teachers as socialising agents in respect of the adolescent.

6 Discuss the stage theories of Piaget and Kohlberg with regard to moral development.

7 Should learning by doing rather than by explanation be the method for teaching in the primary school? Answer this question with due consideration to the views of Piaget on intellectual development.

Chapter 4
Communication with the environment

4.1 Introduction

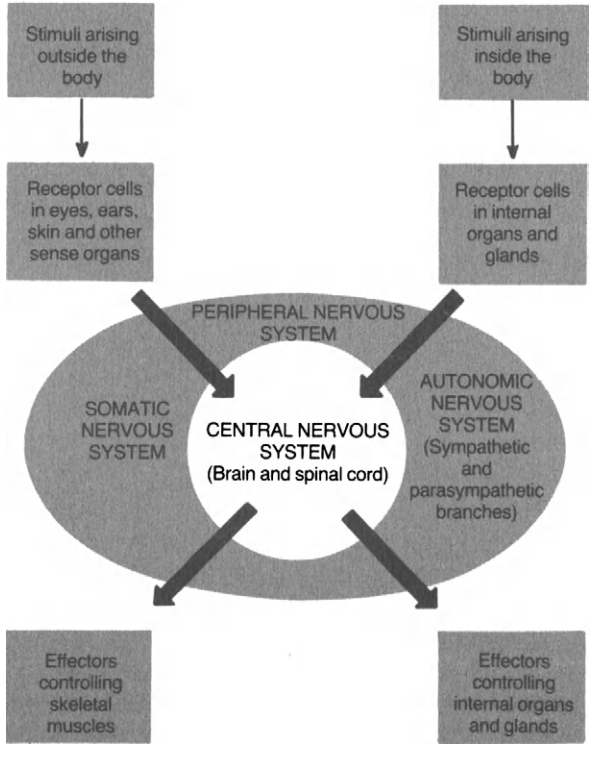
Man exists in a material environment which presents many situations which give rise to *stimuli* (singular *stimulus*) which are received and processed by the nervous system.

The nervous system is a complicated mechanism comprising many parts. These are the *central nervous system* (CNS), which is made up of the brain and the spinal cord, the *peripheral nervous system*, the *somatic nervous system*, the *autonomic nervous system*, the *receptors* (eg in the eyes and ears) and the *effectors* (eg in the muscles and glands).

4.2 The functioning of the nervous system

The functioning of the nervous system will be more easily understood if we consider figure 4.1 below.

Fig 4.1 A plan of the human nervous system (Adapted from Davidoff (1980: 94)



The CNS (through the brain and spinal cord) receives the *stimuli* (messages) arising outside the body (ie in the environment) via the *receptors* of the sense organs and the *receptors* of the internal organs and glands inside the body. The *brain* receives the messages from the receptors, integrates this information with past experience, evaluates all the data, and plans the actions the body must take. It directs vital functions such as blood circulation and breathing and controls the satisfaction of bodily needs, including those for food and sleep. The *spinal cord* is an extension of the brain, but is somewhat simpler in organisation and function. It helps to protect the body from damage by causing rapid responses, called *reflexes*, when the need arises. The withdrawal of one's hand from a hot stove is an example of a spinal reflex action.

The *effectors* control muscles, glands, or organs.

Since the receptors and effectors are located in parts of the body far removed from the CNS, 'a network of information-carrying cables or *nerves*' (Davidoff 1980: 94) connect the various parts of the body to the CNS.

The nerves are made up of *neurons*, which differ considerably in structure. A typical neuron consists of a *cell body* (filled with a substance called protoplasm), an *axon* and *dendrites*. The axon is a fibre which carries outgoing information from the cell body to neighbouring cells. This information passes along the dendrites (consisting of branching fibres) to the nearby neurons.

The *peripheral nervous system* (peripheral means 'on the border') consists of all the nerve structures bordering or lying outside the brain and the spinal cord. This system is divided into two, namely the *somatic nervous system*, which enables us to perform voluntary (ie intentional) actions, to move about and to manipulate the external environment; and the *autonomic nervous system,* which on its own controls the so-called involuntary muscles such as those that control the heart, kidneys, liver and other internal organs and glands. For example, if you have to run across the street to avoid oncoming traffic, the autonomic nervous system will speed up your heart beat and direct more blood and a greater supply of oxygen, and thus more energy, to your arms and legs without any conscious effort on your part, to enable you to make the crossing.

The autonomic nervous system is divided into two branches, namely the *sympathetic* autonomic nervous system, which acts to speed up organs when necessary, and the *parasympathetic* autonomic nervous system, which slows down or relaxes organs when necessary.

It must be pointed out that an individual's brain is active as long as he is alive. When you use language, think, solve problems, etc, your brain is working. It is also active when you are sleeping; it controls your internal organs. The brain controls what the senses (receptors) bring in – it can allow certain sensory messages access while blocking out others.

4.3 The five senses

4.3.1 Vision

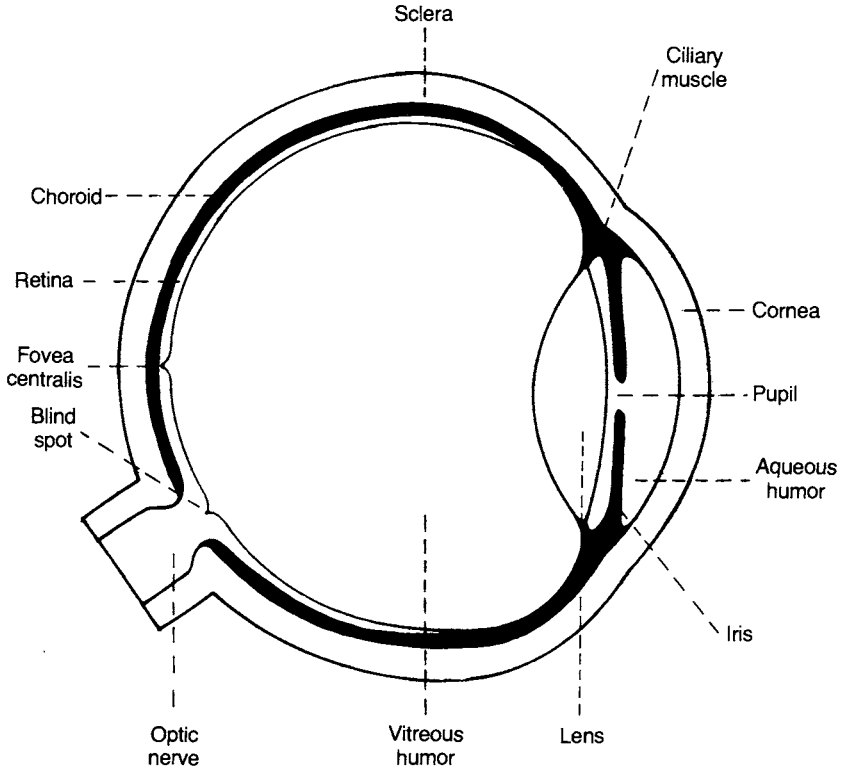
It is the function of the receptors (as was pointed out in the previous section) to keep man informed about the nature of his surroundings. Whenever any stimulus activates a sense organ (receptor), the resulting

experience is referred to as a *sensation.* The nature of the sensation will depend upon the sense organ that is activated.

The stimuli of light falling on the eye cause the sensations of vision, but these sensations are converted by the brain into *perceptions.* Visual perception involves more than sensation; it involves visual sensation plus the relationship of the individual's past experience and behaviour to the stimuli. In other words, perception involves sensation plus meaning. Thus, the eye (with the help of the brain) 'sees' a green book, a round table, etc.

Before we can consider the sense of vision further, we need to know something about the structure of the eye.

Fig 4.2 Cross-section of the human eye (Adapted from Cruze (1951: 45))



The general structure of the eye may be likened to that of a camera, but an eye is far more complicated than a camera. The eye has a tough, external protective coat called the *sclera* (or sclerotic coat), which is analogous with the camera box. A dark lining, called the *choroid,* prevents stray or reflected light rays from blurring the image. The inner sensitive layer of the eye, the *retina*, fulfils the same task as the sensitive film in the camera. At the front of the eyeball the choroid is modified to form the flat, circular, coloured part of the eye, the *iris*, a muscle that regulates the size of the opening in the centre called the *pupil.* The iris corresponds to the diaphragm of the camera and the pupil to the aperture through which the light passes when the picture is taken. Just behind the iris is the *lens* of the eye, which

corresponds to the lens of the camera. It focusses the light rays onto the retina to obtain a clear image.

The iris automatically controls the amount of light permitted to enter the eye. When the light is too bright, the pupil becomes very small. It becomes larger as the intensity of the light decreases. The *ciliary muscle* attached to the lens changes the curvature of the lens to enable both near and distant objects to be focussed with equal clarity onto the retina.

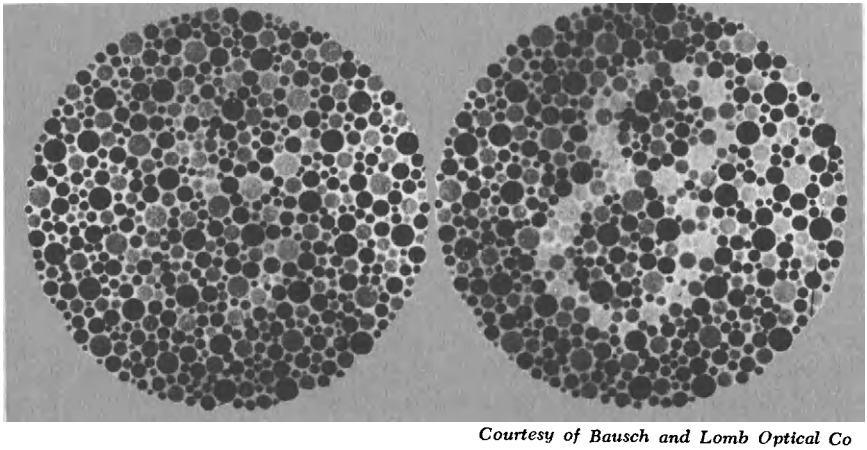
A transparent jelly-like substance, the *vitreous humor,* fills the main cavity of the eye and maintains its shape. The *aqueous humor*, a watery liquid, is found between the lens and the *cornea*, which is really the front part of the sclera. The spot of clearest vision in the eye is the *fovea*, a slight depression on the retina with many closely packed visual receptors. The *blind spot* is the centre of the area where the optic nerve leaves the eyeball. There are no visual receptors in this area.

The retina contains two types of sensitive cells, namely *rods* and *cones*. The light rays entering the eye through the cornea, pupil and lens pass through the vitreous humor, reach the retina and stimulate the rods and cones. The cones are the receptors for colour vision.

Some people (approximately 8% of males and less than 1% of females) cannot distinguish between colours and are called *colour-blind.* Colour-blindness is not a disease, but an inherited visual peculiarity. It cannot be dispelled by medicine or corrected by training. The individual with the most common form of colour-blindness, *red-green blindness*, is able to see yellow, blue, grey, black and white. He sees red or green as a dull yellow or grey and experiences difficulty distinguishing the colour of traffic lights and colours in work situations (for example in factories), where differentiation of colours is important.

A test for colour-blindness, the Ishihara test, has been devised.

Fig 4.3 A chart from the Ishihara test



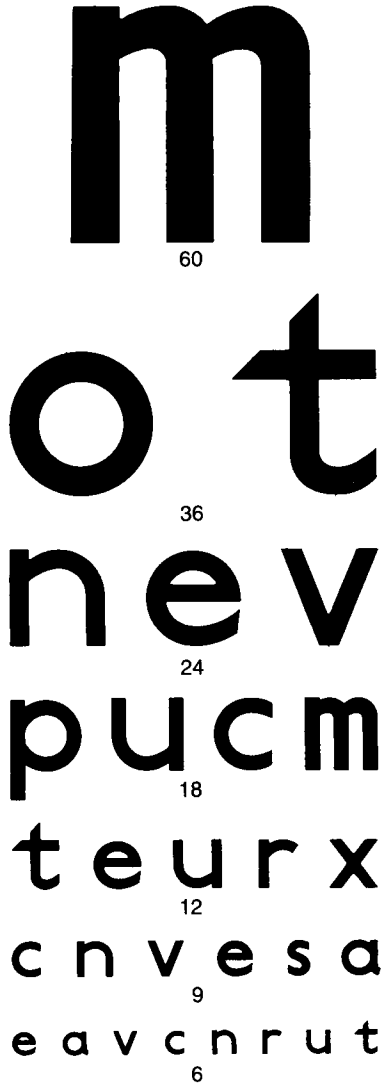
Courtesy of Bausch and Lomb Optical Co

This figure shows how the chart will appear to the colour-blind person (left) and to the normal person (right).

Some other phenomena of vision must be mentioned, the most important of these being *visual acuity* and *visual defects.*

The ability to see objects clearly at different distances is a measure of a person's *visual acuity*. Visual acuity is usually measured by means of a chart consisting of rows of letters, numerals, or symbols of different sizes. These letters, numerals, etc are supposed to be read from a certain distance under good illumination. The smallest row of letters that can be distinguished correctly provides an indication of a person's visual acuity.

Fig 4.4 Adapted Snellen's Visual Acuity Test Chart (reduced in size) (Courtesy of Clement Clarke International Ltd)



A person with normal visual acuity will be able to read the letters e a v c n r u t on the chart at a distance of six metres. His vision is 6/6. If a person can read at six metres the letters which a person with normal visual acuity can read at a distance of 36 metres, ie the letters o t on the chart, his

visual acuity is 6/36. Smaller letters would appear blurred. Teachers should ascertain the visual acuity of their pupils and ensure that those with low visual acuity sit at the front of the class-room so that they have a clear view of the writing on the blackboard and of visual matter provided on charts.

In the table 4.1 below, the effect of different fractions of visual acuity is given.

Table 4.1 Percentage of visual efficiency for various acuity fractions (Borisch 1970)

Fraction	Efficiency	Loss
6/6	100%	0%
6/9	91%	9%
6/12	84%	16%
6/18	70%	30%
6/24	58%	42%
6/36	41%	59%
6/60	20%	80%

The *visual defects* (other than poor visual acuity) most common among young people are *nearsightedness. (myopia), farsightedness (hyperopia)* and *astigmatism.*

A nearsighted person sees objects close by clearly, whilst distant objects are blurry. Farsighted persons see distant objects clearly, whilst objects close by appear blurred to them. When reading, the nearsighted person holds his book closer to his eyes than is considered normal, whilst the farsighted person holds his book farther from his eyes than the average person. Astigmatism is due to irregular curvature of the lens and the cornea and causes blurred vision. These eye defects can be corrected by means of suitable spectacles.

There is some evidence that farsightedness and astigmatism decrease from childhood to maturity. This is due to the fact that the anatomical development of the eye is not complete until the individual approaches the age of 20 (Cruze 1951: 61).

Children who have difficulty holding their books normally for reading and writing should have their eyes tested by an optician or optometrist.

A number of *eye diseases* are not uncommon among children in Africa. One of these, *trachoma,* is contagious and causes inflammation of the inner surfaces of the eyelids. Teachers should be on the look-out for children with undue watering of the eyes or other noticeable abnormalities and should have these children attended to immediately by a doctor or a nurse. If not given medical attention, eye diseases can result in blindness.

4.3.2 Hearing

Next to vision, man's most important sense is hearing. In some respects it is even more important. For example, many of our daily activities are controlled by sounds – human voices, bells, whistles, etc, especially human voices. People who are deaf or hard-of-hearing are at a disadvantage in communication, and many educationalists believe that 'deafness is a disability causing a greater educational handicap than blindness'. Hearing

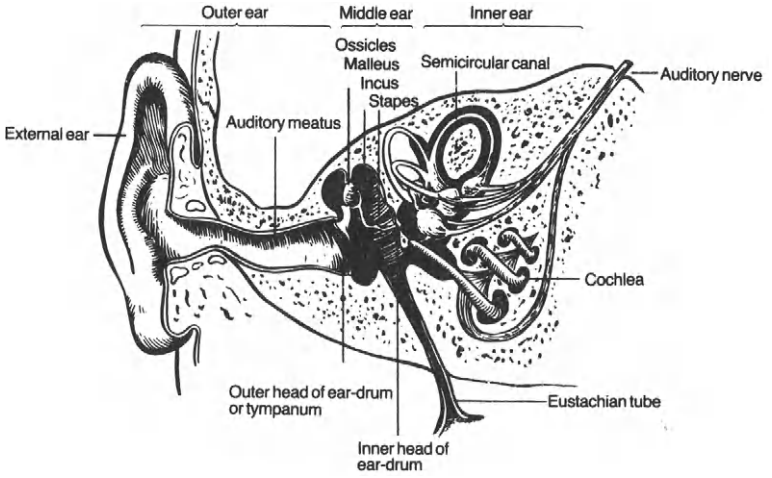
(auditory) defects in children may influence their behaviour in a number of ways.

The *ear* is the receptor for hearing. It may be divided into three parts; the outer, the middle and the inner ear. The outer ear comprises the *external ear* (or *pinna*) and the *auditory canal* (or *meatus*) through which the sound waves pass to the middle ear. The middle ear begins with the *ear-drum* (also called *tympanic membrane)*, which vibrates when sound waves strike it. In the small cavity of the middle ear are three bones (*ossicles*) – the *hammer, anvil* and *stirrup* (known also as *malleus, incus* and *stapes* in Latin). The hammer is attached to the ear-drum and is set into vibration by its movements. These vibrations are passed on to the anvil and the stirrup. The base of the stirrup is oval in shape and fits into the *oval window* of the inner ear. Vibrations are transmitted to the fluid that fills the inner ear. The inner ear, which is a highly complicated structure, comprises two systems: the semicircular canal which serves our sense of balance, ie which keeps us upright; and the *cochlea*, which is the organ of hearing. The cochlea, a spiral tube resembling the shell of a snail, is embedded in the bone. It is completely filled with fluid and has sensitive hairlike cells within it (called the organ of *Corti*) which connect with the *auditory nerve* and transmit sound impressions to the brain.

The *Eustachian tube* is a small passage from the mouth to the cavity in the middle ear which ensures that the air pressure on the membrane is equalised. When the external pressure on the ear-drum becomes so great that it pushes the membrane inward, discomfort is caused, as, for example, when going up rapidly to a high altitude in an aeroplane. The discomfort can be relieved by swallowing, which forces air through the Eustachian tube into the middle ear, thus equalising the pressure on both sides of the ear-drum and pushing the membrane back into its normal position.

The sound waves transmitted through the complicated mechanism of the ear to the brain are transformed there into auditory perceptions, enabling the hearer to recognise them as words, the singing of a bird, the ticking of a clock, the purr of a motor engine, etc.

Fig 4.5 Longitudinal section of the ear – schematic diagram (Louttit 1936: 584)



Auditory acuity is concerned with how sensitive a person's ear is to hearing. A common test of auditory acuity is the watch-ticking test. A person with normal auditory acuity should hear the ticking of a pocket watch or clock at a distance of 125 cm.

Teachers should be on the look-out for children who show signs of hearing difficulties. Such signs include discharges from ears, earache, noises in the head, frequent requests to have statements repeated, turning one ear in the direction of the speaker, unusual mistakes in diction, peculiar voice qualities, bewildered or baffled facial expressions, difficulty in gaining and holding attention to verbal instructions, and, in some children, 'personality defects in the nature of shyness, aloofness, suspicion and the like' (Louttit 1936: 590).

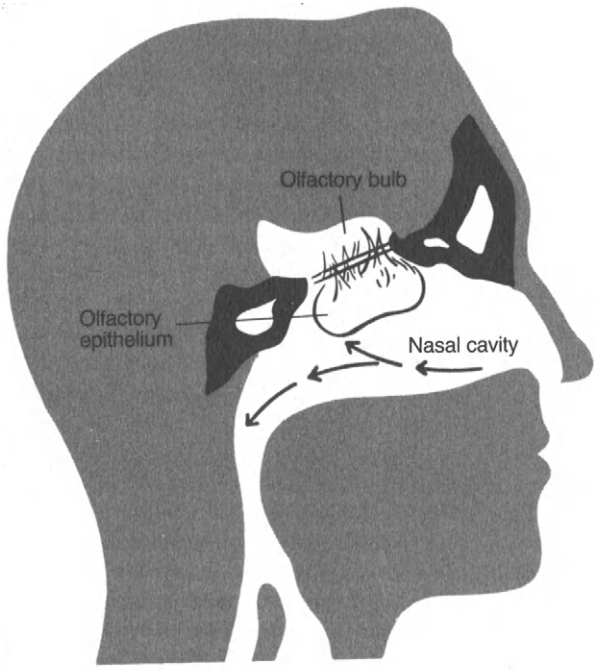
4.3.3 The sense of smell

Like vision or hearing, the sense of smell (or *olfactory sense*) often serves as a distance receptor. We can sometimes detect the characteristics of distant objects from their smell. We smell smoke or the odour of something burning long before we see the flames or hear the crackling of the burning wood and we smell petrol fumes, spoiled food, etc.

The receptors for the sense of smell are located high in each nasal cavity in a patch of tissue called the *olfactory epithelium*. Molecules carrying odours are breathed into the nasal cavities and activate the receptors in the epithelium, which in turn carry the information directly to the brain.

The location of the olfactory epithelium is shown in figure 4.6.

Fig 4.6 Nasal cavity showing the sense organ for smell (Adapted from Morris 1976: 295)

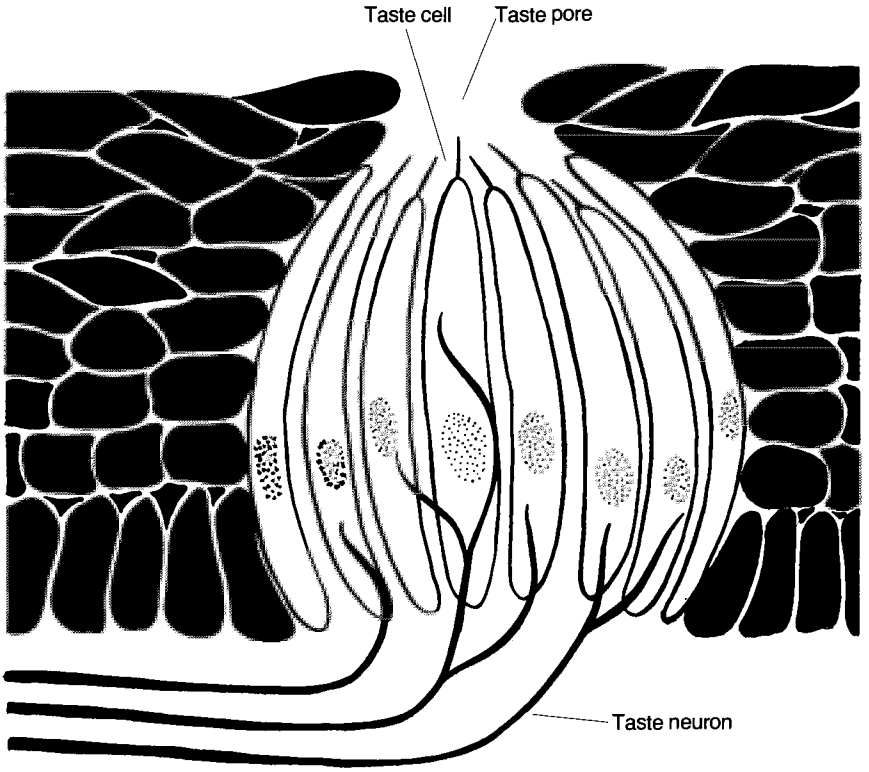


4.3.4 The sense of taste

The receptor cells for the sense of taste lie inside the *taste buds*, most of which are found on the tip, sides and back of the tongue.

Each taste bud contains numerous taste cells which are situated between the *papillae* of the tongue, ie the small bumps you can see on your tongue if you look at it in a mirror. The chemical substances of the foods we eat are dissolved in saliva and brought into contact with the taste cells and then conveyed via the taste neurons to that part of the brain that concerns itself with taste.

Fig 4.7 Diagram of a single taste cell (Adapted from Morris 1976: 298)



The taste buds can distinguish four primary taste qualities, namely bitter, salty, sour and sweet. All other tastes result from combinations of these four qualities.

4.3.5 The sense of touch

The sense of touch is made up of the sensations of cold, pain, pressure and warmth. Some areas of the skin are extremely sensitive to pressure, and others to warmth or cold or extreme heat. Some parts of the body are more sensitive than others to all of these sensations. The hands and feet and the face (especially the lips and the tongue) are much more sensitive than the back, the upper arms or the calves of the legs.

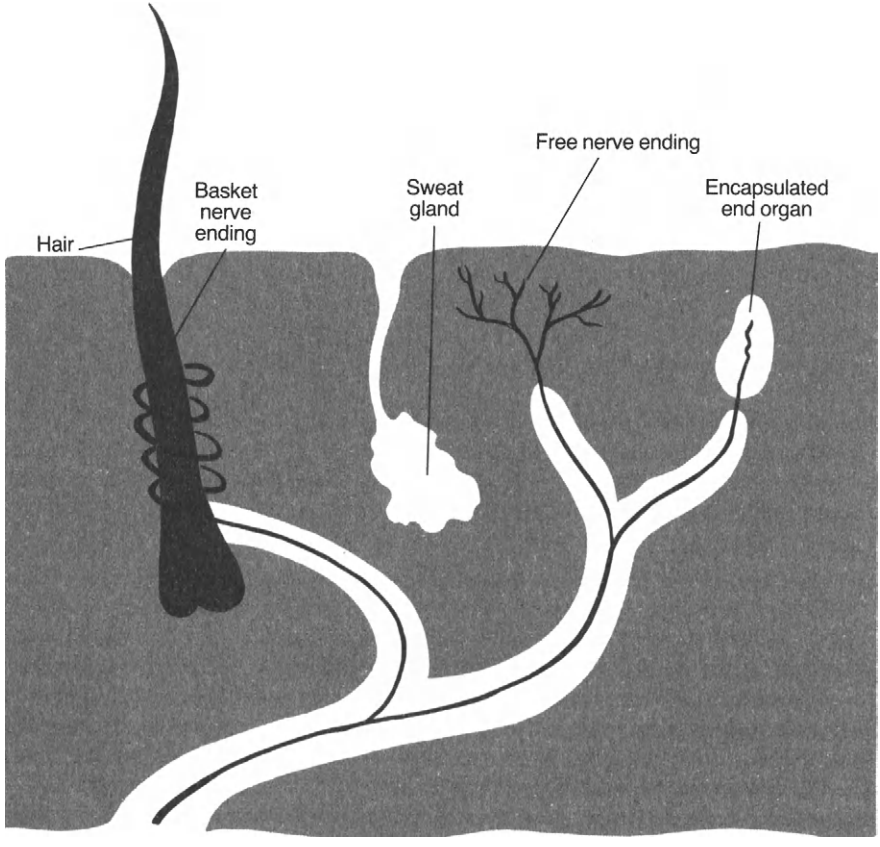
The receptors in the skin are of three kinds:

(a) *Free nerve endings* are situated just below the surface of the skin and branch out to provide just about complete coverage of the whole area of the skin. They are involved primarily in the sensation of pain, although they also play a part in the reception of the other sensations.

(b) *Basket nerve endings* wrap around the base of each of the hairs that cover about 90% of the body's surface. They respond to touch or light pressure when the hair they entwine is moved and 'fire' off a message about the intensity and direction of the touch (Morris 1976: 303). However, it must be noted that some of the areas of the body most sensitive to touch – the lips and the fingertips – have no hair at all and thus no basket nerve endings.

(c) *Encapsulated end organs* are found near the surface of the skin. They appear to be responsive to sensations of pressure, and some also to temperature.

Fig 4.8 Diagram of the three types of sensory receptors in the skin (After Morris 1976: 303)



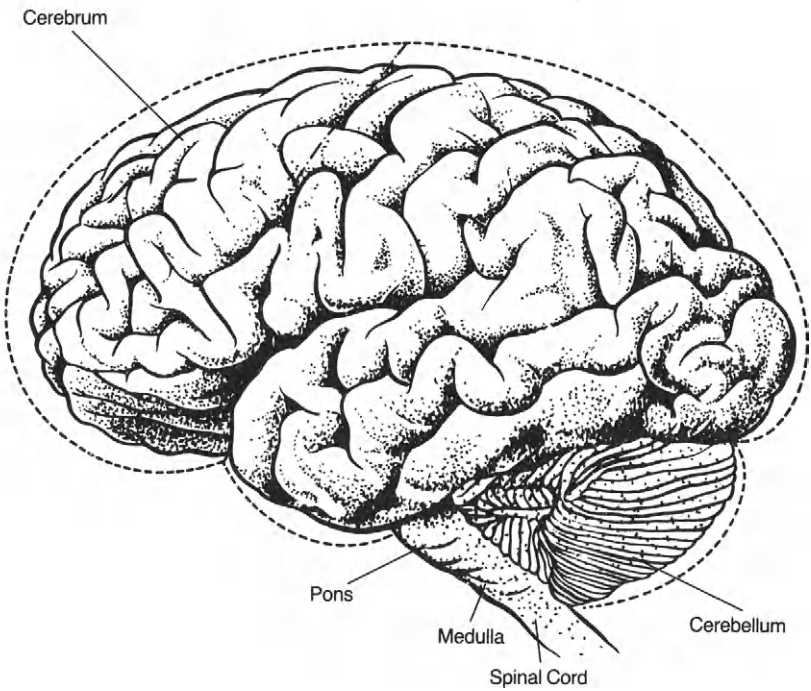
The impulses from the nerve endings of the different receptors travel to the brain through the spinal cord. All messages from the left side of the body reach the designated area on the right side of the brain, and vice versa.

4.4 The brain

The human brain, which has a mass of about one fiftieth of that of a whole person, is the master organ of the body. It is protected from injury by the skull.

The diagrams below should be studied in conjunction with the description that follows.

Fig 4.9 Lateral view of the brain (After Marx 1976: 21)



The brain consists of three major parts; the *forebrain,* the *midbrain* and the *hindbrain*. Figure 4.9 shows the *cerebrum*, which is the major part of the forebrain. Other important structures of the forebrain are the *thalamus* and the *limbic system* which, because of their interior location, are not shown. The thalamus, with its many sensory nerve tracts, acts as a sort of relay station to parts of the sensory systems, eg vision. The limbic system is a complex structure with a variety of nerve tracts and nerve centres. Its function is related to behavioural processes of an emotional nature.

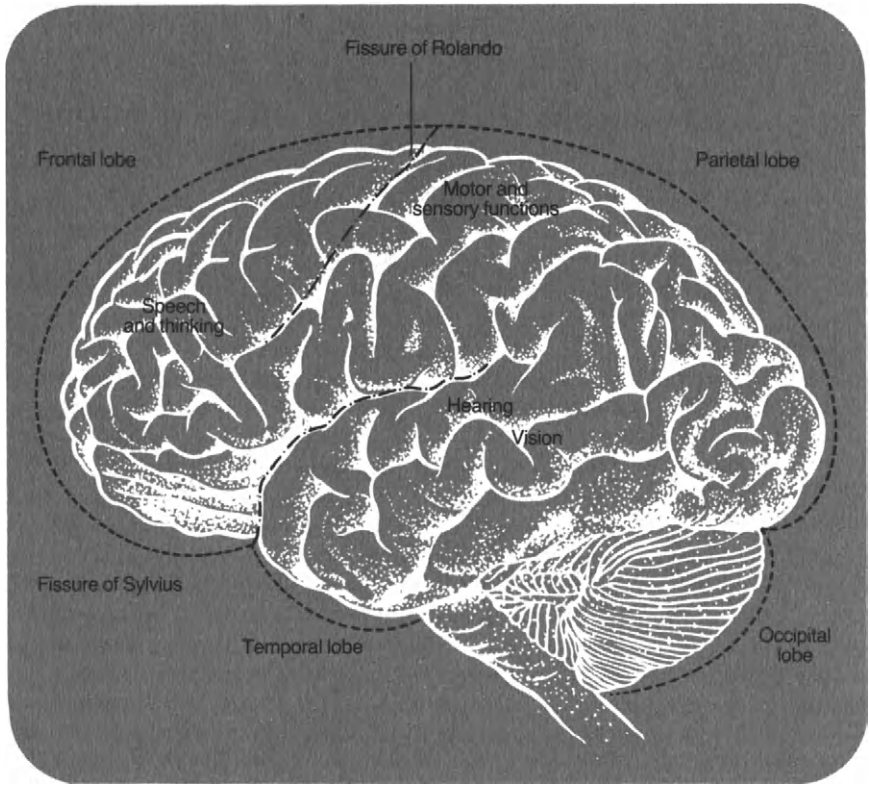
Because of its interior location, the midbrain is also not shown in the diagram. The midbrain consists mainly of a bundle of nerve tracts usually

referred to as the *reticular activating system* (RAS). The RAS serves as a kind of filter or 'gatekeeper' for incoming stimuli, controlling attention, arousal, alertness and possibly even consciousness itself. It relays sensory impulses to the higher brain centres through that part of the RAS called the *ascending reticular activating system* (ARAS).

The hindbrain consists of the *cerebellum*, the *medulla* and the *pons*, all shown in the diagram. Anatomically, the cerebellum is similar to the cerebrum, with an exterior (cortex) of grey matter and an interior of white matter. The cerebellum is the main centre for the control of motor activities (movement), as well as bodily balance and posture. It is served by the pons, which is a kind of relay station between the cerebellum and the cerebrum. The medulla, which merges into the *spinal cord*, contains the nerve centres for the control of the vital functions of breathing and heart beat; it also relays sensory impulses to the higher brain centres.

The cerebrum is divided into four lobes divided from each other by means of two fissures, a lateral (on the side) fissure called the Fissure of Sylvius and a central fissure called the Fissure of Rolando (see figure 4.10). The temporal lobe contains the major nerve centres for hearing, the occipital lobe the major centres for vision, the parietal lobe the centres for motor and sensory functions, and the frontal lobe the centres for speech and thinking.

Fig 4.10 The gross anatomy of the cerebrum (After Marx 1976: 22)

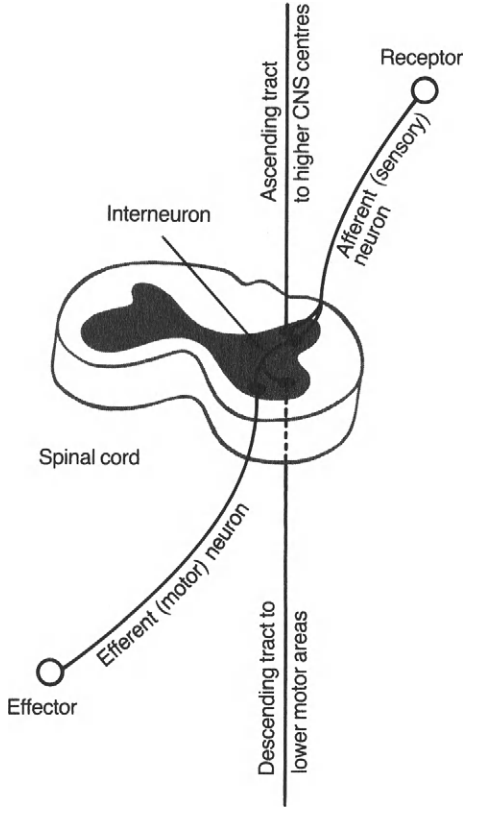


4.5 The spinal cord

The spinal cord is encased in a strong bony structure, the spinal column, which protects it from injury. Thirty-one pairs of spinal nerves connect the central nervous system, via the spinal cord, to the various parts of the body. The inner core of the spinal cord consists of cell bodies, whilst the exterior part consists of connecting neurons with their axons and dendrites.

Besides transmitting incoming stimuli to the brain, the spinal cord is also concerned with *reflex actions* which do not involve the brain. In a reflex action, for example when one touches a hot stove accidently and quickly pulls away one's hand, three nerve units (neurons) are involved: the receptor (nerve impulse from the skin), the connecting neuron in the spinal cord, and the effector (motor neuron) which conducts the nerve impulse out to a muscle.

Fig 4.11 A schematic representation of the spinal cord illustrating the nature of a reflex action (After Marx (1976: 25))

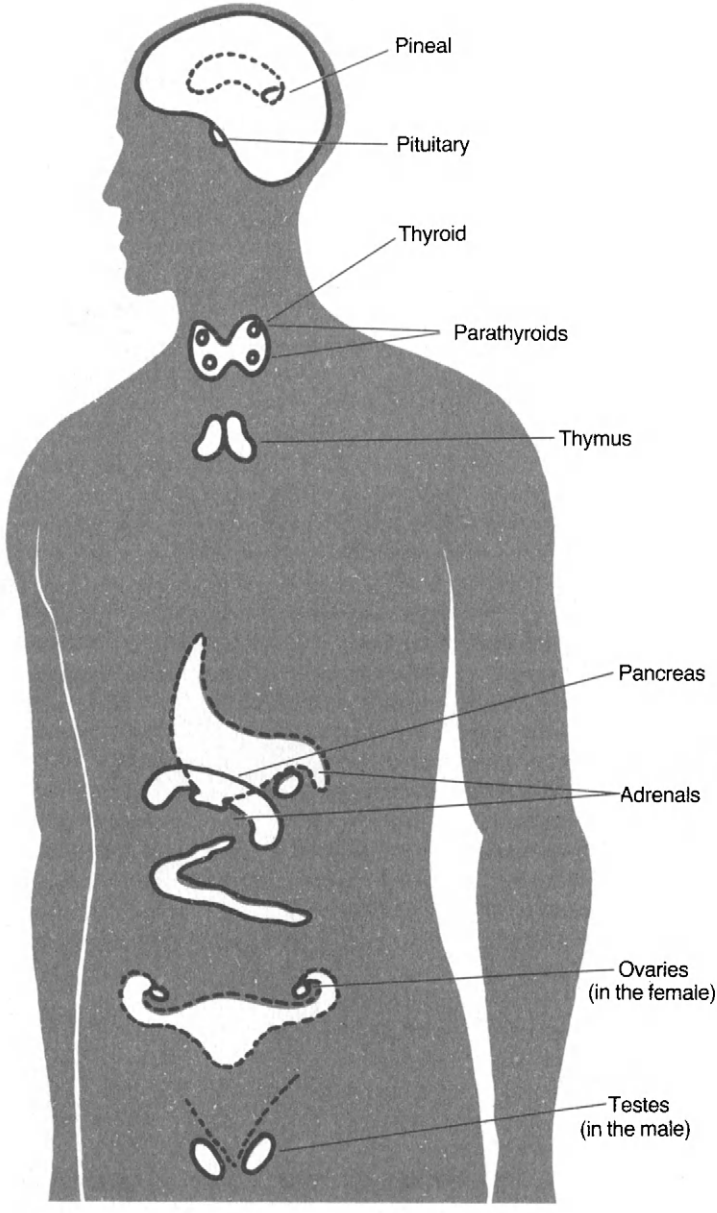


4.6 The endocrine system

The endocrine system, which is composed of ductless glands that secrete chemical substances called *hormones* directly into the bloodstream, is of great importance to the physiological and psychological well-being of a person.

Figure 4.12 illustrates the location of the endocrine glands in the body.

Fig 4.12 The location of the endocrine glands in the body (After Davidoff 1980: 115)



A brief discussion of some of the endocrine glands follows.

The *pituitary gland* is the master gland of the endocrine system. It lies at the base of the brain where the *hypothalmus* is situated and is connected to

it by a thin stalk. In conjunction with the hypothalmus, the pituitary gland regulates general bodily growth, raises blood pressure during emergencies and generally activates hormone production by glands when hormonal levels have dropped below normal. It serves the body's needs by conserving energy resources when these are not required, and thus maintains optimal internal conditions during periods of rest.

The *thyroid gland* in the neck produces the hormone thyroxin, which controls the general level of bodily activity. Persons with low levels of thyroid functioning tend to be sluggish and apathetic. Persons whose thyroid glands are overactive tend to be excitable and excessively active. The thyroid gland 'may thus have an important input into personality structure' (Marx 1976: 26).

The *parathyroid glands* are four, tiny, pea-shaped organs embedded in the thyroid gland. They secrete parathormone, which controls the level of calcium and phosphate in the blood and tissue fluids. A person who has too little of the hormone will be hypersensitive and may suffer from muscle spasms, whilst someone who has too much of the hormone may become lethargic and develop poor motor co-ordination.

The *sex glands* or *gonads* (testes in males and ovaries in females) promote and maintain the secondary sex characteristics of the individual – breasts, beard, pubic hair, change of voice, and appropriate distribution of body fat for males and females respectively.

The *adrenal glands*, located just above the kidneys, contribute to the functioning of the nerves and muscles and to the ability of the body to cope with stress. The adrenal glands secrete two hormones; one which makes the heart beat faster and seems to be released mainly when the individual is afraid, and another which seems to be released mainly when a person becomes angry.

The *pancreas*, which lies in a curve between the stomach and the small intestine, controls the level of sugar in the blood by secreting two hormones – insulin and glucagon. When the pancreas secretes too little insulin, there is too much sugar in the blood. A person with this problem suffers from diabetes and needs insulin and a special diet to keep his blood sugar level normal. Oversecretion of insulin leads to too little sugar in the blood and chronic fatigue results.

Revision

A Multiple-choice questions

1 Which are the two major divisions of the nervous system as a whole?
   (a) brain and spinal cord
   (b) peripheral and central nervous systems
   (c) autonomic and sympathetic systems
   (d) sympathetic and parasympathetic systems.

2 Which part of the nervous system plays a major part in controlling finger movements?
   (a) pons
   (b) midbrain
   (c) medulla
   (d) thalamus.

3 Which part of the brain structure serves to link the nervous system to the glandular system?
   (a) hypothalamus
   (b) thalamus
   (c) cerebrum
   (d) cerebellum.

4 Which part(s) of the cerebrum play(s) a role in touch, perception, language comprehension and vision?
   (a) frontal lobe
   (b) temporal lobe
   (c) occipital lobe
   (d) parietal lobe.

B Discussion questions

1 Which brain region is considered to be the guardian of the brain and why?

2 In what respects is the eye superior to the camera?

3 Which visual defects are encountered most frequently among the general population? How would you discover these defects in a class?

4 Describe the activity involved in hearing a sound.

5 The skin is classified as a contact receptor. Does it ever function as a distance receptor? Explain.

6 Of the senses discussed in this chapter, which is most necessary to effective personal and social adjustment? Which is the least necessary? Justify your answers.

Chapter 5
Learning

5.1 Introduction

Learning occurs in many different situations and can vary in type. A child can learn to button his coat, tie his shoe-laces, ride a bicycle, memorize a poem, copy a mannerism or solve a problem in Mathematics. Thus, learning ranges from the acquisition of simple motor skills, through the memorization of facts, to the solution of highly abstract problems.

Learning results in a change in behaviour – one knows or can do something after learning has taken place which one did not know or could not do before – and in consequence influences future performance.

Learning must not be seen as change of a cognitive (thinking) nature only. When learning takes place, affective, conative and even motor (muscular) activities are involved. Consider the following example: A young child sees an interesting object (*observes*). He stretches out his hands (*motor activity*) to get a closer look, becomes more *interested* in it, pays *attention* to it and grabs hold of it. He recognises it as something he has seen before (*perceives*), begins *thinking* about where he has seen it before, likes the feel and appearance of the object (*affective*), and desires (*conative*) to have the object for himself

5.2 Definitions of learning

Most psychologists (eg Lovell 1969: 125) generally agree that learning is a more or less permanent change in behaviour which results from activity, observation or training. The key phrase in this definition is 'permanent change in behaviour'. The words 'permanent change' are important because there are many changes which are *transient* or temporary, which have nothing to do with learning and should not be confused with it.

A feature of learning is that there must be *cumulative improvement* in the behaviour. This involves *acquisition* (of skills and knowledge) and *retention* (thereof) (Behr 1985: 45). It must be pointed out that there are changes in performance which may not be attributable to learning as such. When a child learns something new (eg a skill) over time, he may show a steady improvement in it simply because he is growing and maturing physically. It is important to separate the effects of maturation from those of learning.

A useful definition of learning for teachers is that given by Bugelski (1956: 5): 'Learning is that mental activity by means of which *knowledge* and *skills, habits, attitudes* and *ideals* are *acquired, retained* and *utilized,* resulting in the progressive adaptation and modification of conduct and behaviour'.

However, learning can also be seen from another point of view – as a change in human disposition. Gates (1963: 326) states that when the individual learns new patterns of behaviour as a means of attaining his goals, it affects his whole organism so that 'he changes as a person'.

5.3 Theories of learning

In order to enable us to understand how learning occurs in human beings, psychologists conducted experiments with animals. On the basis of these experiments two main groups of learning theories, ie the association (also called stimulus-response (S-R) theories) and the cognitive theories, have been developed. Each of these theories will be discussed.

5.3.1 The association or S-R theories

These theories fall into three categories, namely trial and error learning, respondent conditioning and operant conditioning.

5.3.1.1 Trial and error learning

EL Thorndike (1874 – 1949) of the USA was the protagonist of this theory. He devised an experiment in which a young, hungry cat was placed in a cage from which it could escape to reach food. Outside the cage was a piece of fish which was visible to the cat, but not accessible from the cage. Plenty of action on the part of the cat was observed; it bit the bars of the cage, tried to squeeze through them and pushed its claws through them. Eventually it touched the button which made the cage door swing open and could escape. When the cat was returned to the cage, it still used a 'trial and error' or random movement approach to open the cage door, but this time there were fewer actions and the door was opened sooner. With further trials the successful movements were 'stamped in' and the useless ones eliminated so that, on being placed in the cage, the cat was able to escape within a few seconds. The animal had learned to carry out the correct actions.

As a result of this experiment and many others, Thorndike formulated his three famous laws of learning. These are:

(a) *The law of exercise* The more often a successful action is carried out, the more strongly the S-R bonds or associations become engrained.

(b) *The law of effect* Actions (or responses) that result in feelings of satisfaction are likely to occur again in the same or similar situations.

(c) *The law of readiness* Whenever an individual (or animal) is ready to respond (as was the case with the hungry cat), then to do so is satisfying and not to respond is annoying. On the other hand, to be forced to respond when not ready is also annoying and does not lead to the formation of adequate S-R bonds.

The trial and error learning described above also occurs in people. Learning to ride a bicycle, to skate, to swim, etc (ie psycho-motor learning) fall into this category. However, in the case of people much of the trial and error is reduced by *coaching* (ie telling the person what to do) and *imitation* (ie trying to do the same actions as the person doing them successfully).

Thorndike's laws of learning are helpful in teaching. A pupil who gets his sums right and is rewarded by praise will feel satisfied and develop a liking for arithmetic, whereas a pupil who is punished or scolded for getting his sums wrong will develop a dislike for arithmetic (law of effect). A pupil is not ready to learn multiplication before he has mastered addition (law of readiness). On the other hand, the more they are practised the better the multiplication tables are known (law of exercise).

5.3.1.2 Respondent conditioning

IP Pavlov (1849 – 1936), a Russian physiologist, proposed the theory of learning by respondent conditioning as a result of his experiments with dogs. He found that saliva flowed from a dog's mouth not only when food was placed in it, but also when the dog heard a bell and subsequently a buzzer just before the food was brought. The ringing of the bell had to be followed by the provision of food for the saliva to flow.

Pavlov explained the process as follows: The normal flow of saliva when food is presented is a reflex action which can be summarized thus:

Unconditioned stimulus (US) → *Unconditioned response (UR)*
(food in mouth) *(flow of saliva)*

However, when the animal learns to associate the sound of the bell with food soon to be eaten, and begins to salivate before food is actually put in his mouth, the S-R association becomes:

Conditioned stimulus (CS) → *Conditioned response (CR)*
(sound of bell) *(advanced flow of saliva)*

The learning occurred because of *reinforcement*, ie because food was *always* given after the bell was rung. This is, in fact, an example of Thorndike's law of effect.

Respondent conditioning is learning which occurs when an animal learns to respond to a secondary or neutral stimulus which has become associated, over time, with a primary stimulus. Respondent conditioning is, as Lovell (1969: 127) puts it, 'learning of S-R associations by contiguity'.

Pavlov found that if the original conditioned stimulus (the bell) was replaced by another sound, eg a buzzer, a tuning fork or footsteps, the new sound also produced the conditioned response (salivation). The fact that other stimuli more or less similar to the original conditioned stimulus (CS) can bring about the conditioned response (CR) is known as *stimulus generalisation*. The dog could be made to salivate to the sounds of bells of different pitch. This is called *stimulus discrimination*.

Pavlov also found that when the experiment was continued and the CS (eg the sound of a bell or a buzzer) was presented without being paired with food, the CR which had been built up began to decline, and in time would no longer elicit saliva from the dog. This is termed *extinction*.

Learning by respondent conditioning also occurs in human beings. However, in human beings there are also what Pavlov called *second order* stimuli in the form of oral and written language which allow for generalisations and the build-up of concepts.

A very young child can be conditioned to fear a furry object (eg a cat or a dog) if a sudden, loud noise is made every time the child touches the animal. Sudden, loud noises produce unconditioned (startle) reflexes in human beings. In children these take the form of fear manifested in crying or trembling. The loud noise (US) paired with the animal results in the animal becoming the CS, so that the child becomes afraid merely at the sight of the cat or dog (CR) and this fear becomes generalised to anything with a furry appearance, for example a man clad in a woolly coat or a bearded man. Respondent conditioning can also occur when a child is suddenly confronted by a barking dog and as a result of this develops a withdrawal reaction at the sight of dogs in general, and even at the sight of

an illustration of a dog at the gate of a house. Extinction will not occur unless the child is made to see and touch a dog without being hurt by it over several trials. Another example of respondent conditioning is a child seeing a burning match (US) and touching it out of curiosity (UR). As a result of the experience the child is conditioned to refrain from touching any fire or even an unlit match.

In learning at school, the way in which respondent conditioning is used to get the child to read the word 'horse' can be explained thus:

Teacher:	Shows the word 'horse' and says 'horse' → US
Child:	Sees the word 'horse' and repeats, saying 'horse' → UR
	(After several repetitions)
Child:	Sees the word 'horse' → CS
Child:	Says 'horse' → CR

5.3.1.3 Operant conditioning

BF Skinner (1904 –) is the leading exponent of the theory of learning known as operant or instrumental conditioning. He devised experiments to find out how a study of the *behaviour* of organisms can help us discover how learning occurs and so derive laws of learning. He identified two kinds of behaviour, one kind *elicited* or caused by stimuli (as described in the previous section) and another kind, called *operant* behaviour, which occurs without being associated with any given stimulus. The word 'operant' is used to indicate that the learning of a particular response depends upon how the environment *operates* on that response once it has been emitted. Put differently, learning known as operant (or instrumental) conditioning comprises behaviour that operates on the environment to produce consequences (Behr 1985: 49). If the consequences are satisfying (rewarding) the behaviour will be repeated and strengthened, ie reinforced. If the consequences are not satisfying, ie hurtful, the behaviour will be avoided.

One of the experiments devised by Skinner consists of placing a hungry rat in a box fitted with a bar that can be depressed easily and a tray. Depressing the bar causes a food holder to release a pellet of food which falls into the tray. In the course of exploring the box the rat depresses the bar and is rewarded with a pellet of food. Thereupon the rat continues to press the bar, and does so at an increasing rate. It learns that pressing the bar, the *operant* in its environment, produces a satisfying outcome, ie a pellet of food. The food serves as a *reinforcer* of its behaviour. The pressing of the bar is repeated over and over again and at an increasing rate, and on each occasion a pellet of food is obtained.

In this example the order of events is important. First, there is the behaviour of the animal (it responds) and second, there is reinforcement and an increase in the rate of responding.

According to Skinner, the rat's behaviour is *shaped* in the sense that learning to press a bar rewards it with food.

For operant conditioning to be successful the reinforcement, ie the reward, must be immediate and continuous to ensure the shaping of the entire behavioural pattern.

The behaviour described above results in what Skinner calls *positive reinforcement.* However, if the rat is subsequently subjected to an electric

shock when the lever is pressed, it will stop pressing the lever. The punishment received, ie the electric shock, will result in *negative reinforcement.* It appears that when punishment is given at intervals it has the effect of holding an undesirable response in check, but does not necessarily eliminate the response completely.

Galloway (1978: 86) sums up the processes of operant conditioning as shown in table 5.1.

Table 5.1 The processes of operant conditioning

At present	In the future
Response emitted + reinforcement →	Response strengthened
Response emitted + no reinforcement →	Response weakened
Response emitted + punishment →	Response suppressed

The Skinner box described above can be devised so that the rat has to press the bar and then a light of a distinctive colour (eg red and not blue) for the pellet of food to be released into the tray. In this way the rat learns to execute a *chain of responses* before it obtains the reward. Several researchers *inter alia* Cowles (1937) made chimpanzees learn to press a lever to obtain discs which they had to put in a slot machine to obtain fruit. The obtaining of food is referred to as the *primary reinforcer,* and the discs as the *secondary reinforcer.*

Examples of learning by operant conditioning among human beings and in the school situation are numerous. Only a few randomly chosen examples will be mentioned. If a child in a class-room raises his hand and asks a question and, before answering, the teacher smiles at him and tells him what a good question it was, he is more likely to raise his hand and ask questions in future. The smile and verbal praise reinforce his behaviour, that is, they increase the future probability that he will attend to what the teacher says and attempt to answer questions. The pupil who does his sums, spelling or grammar correctly and receives praise from his teacher will develop a liking for schooling, whereas a pupil who is severely reprimanded or caned for getting them wrong will develop avoidance behaviour and a disinclination to do schoolwork.

Skinner has suggested that our teaching method should be *programmed* in such a way that the subject matter is broken down into small, sequentially arranged steps which the learner can master easily. The reward should be immediate and should consist of confirmation of success.

In his book *The Technology of Teaching* (1968), Skinner stresses four shortcomings of traditional teaching methods:

(a) *The lack of time between an act and reinforcement* An exercise or essay may not be handed back until days after it was written.

(b) *A lack of organisation in the teaching of complex skills* For example, a mathematics textbook or workbook may group together problems which bear little relation to each other, or it may present blocks of material that are too large for the pupil to assimilate at one time.

(c) *The relative infrequency of reinforcement* Large classes severely limit the amount of reinforcement the teacher can give by walking up and down the aisles checking pupils' written work.

(d) *A lack of understanding by some teachers that punishment can be reinforcing for some children* Chastising a child for talking in class may have the effect of making him *more* likely to talk – the chastisement is a form of attention-seeking.

5.3.1.4 Criticism of S-R theories of learning

The major criticism levelled against Skinner's theory of learning is that he puts his total emphasis on overt behaviour. Cronbach (1977: 19) puts it thus: 'He avoids reference to the mind, the feelings, or any other inner state. He speaks of 'conduct' (observable), not of 'character' (inferred). He discusses motivation in terms of actions chosen and rewards received, not of purposes or satisfactions'. He also places too much stress on aversive control (punishment). One of the undesirable side-effects of punishment is that it may result in conditioned emotional responses which may interfere with appropriate functioning. The child who is punished in the class-room, for example, may be conditioned to fear all aspects of school life and may try to avoid school altogether. In extreme cases this may lead to general anxiety or antisocial behaviour.

When using punishment to change a person's behaviour, it is worthwhile to bear the following points in mind:

- Punishment should be associated with the undesired behaviour and nothing else.
- Punishment should be administered immediately rather than later on.
- Punishment should be mild and the reasons for administering it carefully explained to the child – a frown or reprimand is better than a slap.
- Punishment should be used very sparingly on young children.

The role of rewards and punishment as incentives to learning will be dealt with more fully under 'Motivation' in section 5.6.2 of this chapter.

A major criticism of operant conditioning, and indeed of S-R theories in general, is that it regards learning as an automatic process and does not explain it in terms of understanding and insight.

S-R theories of learning cannot explain concept learning or problem solving. Learning the word 'dog' as a signal to represent 'beware of the dog' or 'look out for the dog' can be explained in S-R terms, but not if it is learned as a concept to designate a certain class of animals.

S-R theories of learning lay too much stress on primary reinforcers; in learning at school and in adult life secondary reinforcers are more important. For example, social approval and money are very powerful reinforcers for learning and acquiring patterns of behaviour at school and in work situations (Strong 1979: 37).

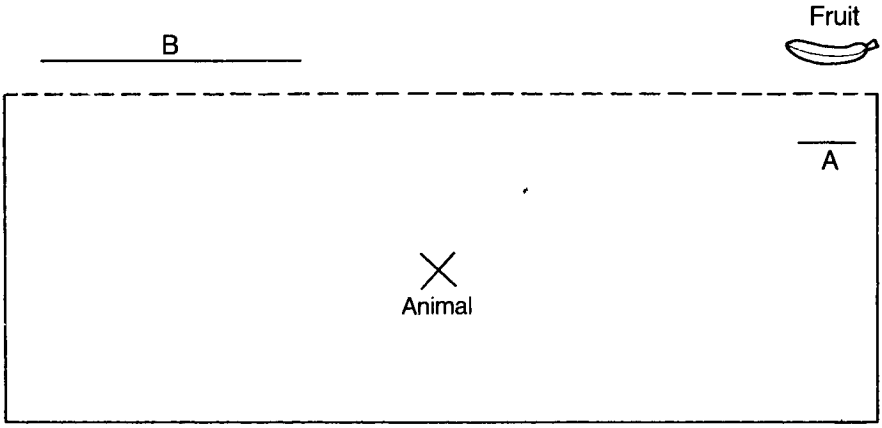
It must also be mentioned that much automated learning occurs at school in the form of S-R units *chained* or connected in a series or definite order. Much rote learning follows this pattern. 'A pupil learning a poem by rote is learning a chain of verbal responses in which one word or a group of words acts as a stimulus for the next. If the sequence is broken, prompting by supplying the next word acts as a stimulus that will set the pupil off on the chain again. The pupil, who when asked what six times eight is, has to proceed through the whole six-times table from six times one, onwards, has learned the table as an [S-R] chain' (Behr 1985: 51).

5.3.2 The cognitive theory

5.3.2.1 Nature and principles

This theory was postulated by the German Gestalt School of Psychology following experiments conducted by W Köhler (1887 – 1967) with chimpanzees. In one of his experiments, conducted as long ago as 1925, Köhler put a chimpanzee in a cage and gave it a short stick. Outside the cage and out of reach of the stick was a banana. Also outside the cage, but within reach of the short stick, was a longer stick. After a few ineffectual attempts to reach the banana with the short stick, Köhler's chimpanzee gave up and appeared to 'think' about the problem for some time. Then suddenly he made the response (which to us would be obvious) of drawing in the long stick with the short one and using the former to draw in the banana. Afterwards the chimpanzee had no difficulty in repeating the response when confronted with the same problem. The animal apparently learned the solution of the problem in one attempt. This form of learning to solve problems was called learning by *insight* by the Gestalt psychologists.

Fig 5.1 Köhler's experiment – the animal had to use the short stick A to pull in the long stick B, and then to use the latter to obtain the fruit

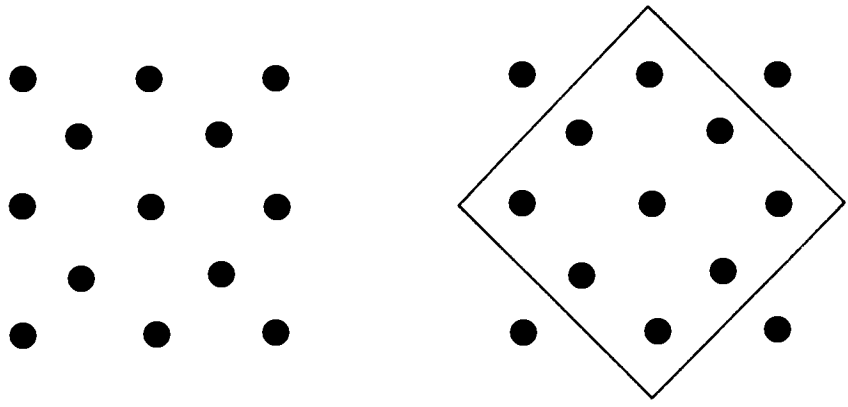


According to Gestalt theory, learning is a process of seeing (or apprehending) meaningful relationships in a situation as a unified whole or *Gestalt* (the German word *Gestalt* means 'whole'). The learner perceives the relationships between the parts which constitute the whole and then reorganises or restructures them accordingly. This reorganising depends upon the acquisition of *insight,* or 'seeing the point' so to speak. Put differently, according to Gestalt psychology learning is a cognitive (thinking) process which takes place because of the natural tendency to give organisation to perceived data.

Cognitive (or Gestalt) learning theory emphasises the importance of promoting understanding in teaching by getting pupils to *structure* the material to be learned in meaningful wholes by explaining.

In Figure 5.2, for example, counting the dots in A and understanding addition can be facilitated by the teacher changing the structure of the given material as in B, ie 9 + 4 = 13.

Fig 5.2 Counting the dots in A becomes easier if the pattern is restructured as in B



If parallel diagonal lines are drawn the pattern can be restructured to $1 + 3 + 5 + 3 + 1 = 13$, and if the pattern is changed to sets of triangles, we get $4 \times 3 + 1 = 13$, etc.

Here are a few further examples to show how '*seeing*' *the structure or pattern* provides insight into the given problems (Behr 1972: 10).

(a)	$1 \times 8 + 1 = 9$	(b)	$99 \times 2 = 198$	(c)	$37 \times 3 = 111$
	$12 \times 8 + 2 = 98$		$99 \times 3 = 297$		$37 \times 6 = 222$
	$123 \times 8 + 3 = 987$		$99 \times 4 = 396$		$37 \times 9 = 333$
	$? \times ? + 7 = ?$		$? \times 8 = ?$		$? \times ? = 999$

The missing numbers should be found from the pattern and then checked by ordinary computation.

Problem solving by *changing the structure through regrouping* can be illustrated by means of the following example (also drawn from Mathematics):

Add: 3, 7, 11, 15, 19, 23, 27, 31, 35, 39, 43, 47, 51, 55, 59, 63.

The usual way of obtaining the total is to add from left to right, or right to left. However, a famous mathematician, Gauss, observed that a better way of doing the calculation was to take the numbers (terms) in pairs, beginning with the extremes ($3 + 63 = 66$) and to work inwards ($7 + 59 = 66$; $11 + 55 = 66$; and so on). Each of the pairs totals 66, so the sum of the series is 66 multiplied by the number of pairs. Since there are eight pairs, the sum is $66 \times 8 = 528$. The procedure explained above can be applied to any arithmetical series in which there is a constant (ie the same) difference between successive numbers (terms), and the following formula can be used to find the total:

Total = n (F + L), where n is the number of *pairs*, F the first and L the last term.

For verbal and auditory material, understanding is best achieved by *restructuring in the form of a shift in emphasis.*

Consider, for example, the following sentence: 'So this is your child!' The meaning will change as the emphasis changes from one word to another, particularly the words 'this', 'is' and 'your'.

Restructuring by rearrangement may be necessary to avoid ambiguity. In the example taken from an advertisement: 'For sale – bulldog; will eat anything; fond of children', the ambiguity is overcome if the last two phrases (part sentences) are interchanged.

Cognitive learning theory has shown how important it is for the teacher to provide the pupil with a *cue* which will facilitate the latter's restructuring of the material to enable him to understand it through insight. Cues can take the form of *regrouping, rearranging* and *changing the emphasis* in the case of verbal and auditory material, and *drawing attention to the pattern or background* in the case of visual material (Thyne 1963: 137-155).

5.3.2.2 Importance in the school situation

Cognitive learning theory stresses the importance of meaningful learning. All learning material is *potentially* meaningful. However, it is only when the child is able to grasp what the material is all about by relating it to what he already knows that insight and real meaningfulness occurs. DP Ausubel (1968) points out that there are two ways in which a child can extend his existing knowledge, namely through *meaningful learning* and through *rote learning*. The former involves structuring and restructuring the material in an organised fashion in terms of what he already knows; when learning by rote the child merely memorises a number of unrelated facts.

What is learnt by rote is easily forgotten, which is not the case with meaningful learning. Furthermore, in the case of the latter, once the general principle is understood it can be applied to various other new, but similar, situations.

5.4 Types of learning

A number of authors, including Bruner, Gagné, Hilgard, Piaget and Van Parreren, have classified learning in a variety of ways. A brief discussion of the main types of learning follows.

5.4.1 Motor learning

Motor learning requires the acquisition of well co-ordinated muscular acitivity. Motor skills are necessary for a wide variety of learning tasks, and in all cases speed and smoothness of action, as well as precision of performance, are required.

Motor skills vary from simple activities such as running, skipping and jumping, to more complex activities such as swimming, cycling, gymnastics, writing, painting, typing, etc. Some skills require gross motor co-ordination (eg swimming), and others require fine hand-eye co-ordination (eg writing, painting and sewing). Many of the skills also involve cognition and perception (eg copying a sentence from the blackboard, drawing a picture, typing a letter, playing a musical instrument and playing a winning shot in a game of tennis). These latter activities, known as *psycho-motor* or *perceptual-motor* skills, have to be acquired by learning.

When attempting to guide the learner towards the development of skills in any of the special areas referred to above, a teacher should do the following:

(a) *Employ effective methods* The right suggestions given in the correct manner at the right time can ensure that fewer errors will have to be eliminated later.

(b) *Encourage continual practice of the effective methods* Certain motor co-ordinations have to be established before the learner achieves success in the use of refined techniques. The teacher can help to prevent him from becoming discouraged during the early and clumsy stages. He may have to pass through a practice period during which neither he nor anyone else can perceive marked improvement.

In most cases of motor learning an individual tends to exhibit a degree of relatively rapid improvement in the mastering of the elements of the skills (called the initial spurt). Then, as he attempts to refine his techniques during successive practice trials, there appears to be little, if any, observable progress. This stage is referred to as the plateau in learning. However, the learner is achieving facility through inner adjustments that may not show themselves in his observable behaviour, but appear later in improved performance.

(c) *Avoid adverse criticism* During the beginning stages only gross errors should be corrected. It is too much to expect fineness of response (say in writing) during the early stages. Discouraging criticism should thus be kept to a minimum.

(d) *Recognise the need for consistent practice* By consistent practice speed, accuracy and efficiency are eventually achieved.

Successful motor learning results in the formation of *automatisms* (or movements which come naturally) which enable the person to attend to something else while performing the actions. A child who has learnt to ride a bicycle need not attend to the cycling movements as such, but must concentrate on the traffic and steering the bicycle through it.

5.4.2 Sensory motor learning

Piaget has drawn our attention to this type of learning. A child (6 months – 2 years) experiments with objects in his environment by trying out different actions to see what results ensue. This self-directed activity is necessary to the development of thinking (also called cognitive development). As a result of his attempts to grapple with objects in his environment, the child organises his actions into *schemas* through the processes of assimilation and accommodation. By *assimilation* new experiences are integrated into previously organised schemas; by *accommodation* these schemas are modified into new ones (Behr 1985: 28).

Let us consider an example. A child confronted with opening a locked cupboard door learns to do the right actions by experimenting, ie turning the key, then turning the handle, and finally pulling the door with the appropriate force. He has assimilated a schema for 'door opening' which he will be able to apply in the case of other doors. When confronted with a related problem, eg opening a locked cupboard drawer and pulling it out, he has to modify his previously learned schema. This involves accommodation.

During sensory-motor learning the child acquires notions of the

permanence of objects, ie that they are there even when they are not seen and that objects have their own attributes such as appearance and shape.

Parents who do not give their young children the opportunity to play and experiment with toys and objects at home prevent them from developing their sensory-motor learning.

5.4.3 Perceptual learning

The various auditory and visual stimuli that impinge upon our senses give rise to sensations, for example the brightness of a light, the pain of a pinprick, and so on (as explained in chapter 4). The sensations are subjected to a system of coding, ie selection and organisation, and as a result perceptions are formed. It is perception that gives meaning to sensations and enables us to discriminate among stimuli and attach meaning to sensory experiences. It is perception that enables us to identify colours, shapes and forms (for example, a number of squiggly lines as a map of a particular country), melodies, and so on. When a child is shown a watch, for example, he may perceive it, ie identify it, as a shiny object, a small object, a round object, an object that makes a ticking sound, or an object that tells the time. His perception of the object is determined by his previous experience and learning.

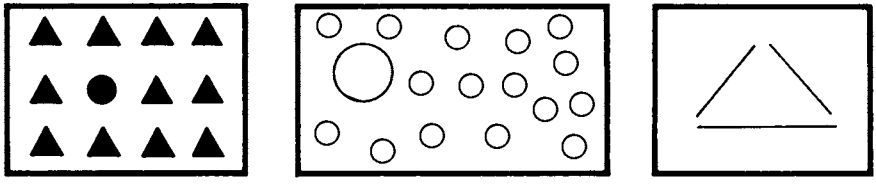
Besides identification, perception also involves interpretation. A child perceives whether his father is angry or pleased or happy by interpreting his facial expression and the tone of his voice.

In short, perception is a way of learning in which the individual gets information from his surroundings and his fellows through the medium of his various senses and applies his thinking to give meaning to it. 'The development of perceptual learning is dependent upon an individual's exposure to the patterned stimulation of a suitable environment' (Behr 1977: 46). Lovell (1969: 95) contends that perception is reinforced by ideas, images and past experiences. Thus, the richer and more varied the child's past experiences, the better his perceptual learning.

It must be pointed out that the organising tendency characteristic of perception operates according to certain laws.

When we look at the diagrams in figure 5.3 below, we immediately notice the small circle in (a) and the large circle in (b).

Fig 5.3 Diagrams to illustrate the principles of perception



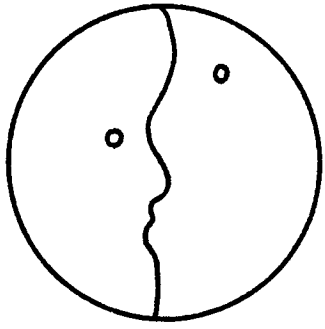
In each of these diagrams we are struck by the item that differs from the others in shape or size. We perceive (c) as a triangle and do not notice the gaps. No matter how hard we try, we are unable to overcome these organising tendencies in perception.

Our perceptions, particularly in the visual field, are dictated by the *principle (or law) of good pattern.* When we are presented with a diagram or illustration, we tend to look for the aspects that involve *likenesses (similarity), symmetry, completeness, regularity, proximity* and *continuity,* and ignore the rest. We notice differences (as in the diagrams above) because they disturb the good pattern. However, when the differences are small they are not noticed. We perceive incomplete material as complete (as in diagram (c) above).

There are three further phenomena related to perception that must be mentioned, namely fluctuations in attention, figure and ground and illusions.

Fluctuation or switching of attention is involuntary and will become clear if we look closely at figure 5.4 for a few seconds.

Fig 5.4: Ambiguous figure (Behr 1985: 73)



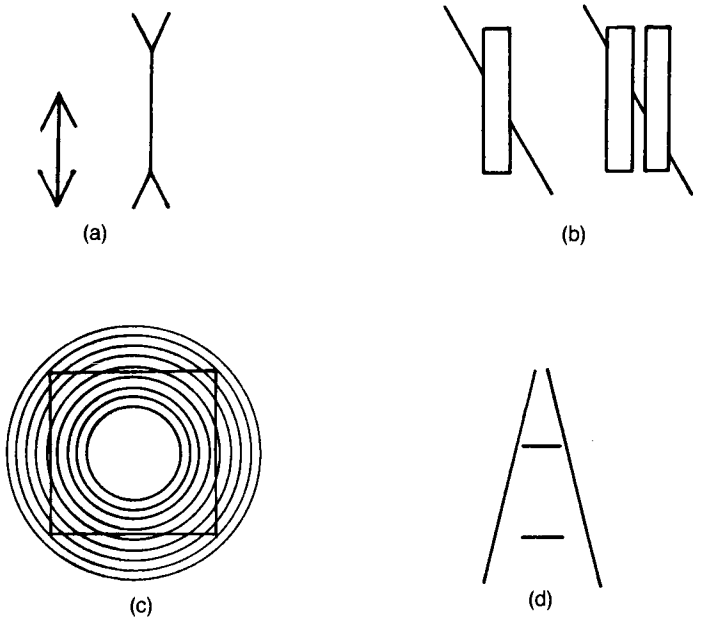
You will observe first one face and then the other. In spite of your efforts to concentrate on one face only, sooner or later you will see the other.

Fluctuations in attention have a physiological basis. Even when we wish to give our complete attention to a task in which we are engaged, distractions occur. When we listen to a lecture or a conversation, or to some music, there are shifts in our focus of attention.

We also organise our perceptions into *figure and ground.* This enables us to give structure to our environment. When we scan a scene or listen to sounds we pick out a particular feature, which becomes the *figure.* The background against which the figure stands out is the *ground.* The figure receives our whole attention and the ground receives little or no further consideration. Examples of figure-ground perception are the following: While walking in the countryside we notice a horse or cow or flock of sheep in the distance (ie figure) and ignore the surrounding vegetation and the sky (ie ground); we note the screeching brakes of a car (ie figure) and ignore the regular hum of the other vehicles in the traffic (ie ground); we note the writing on the blackboard (ie figure) and ignore the remainder of the classroom (ie ground).

Perceptual errors are made in the interpretation of certain diagrams and drawings due to *illusions.* Consider the examples in Figure 5.5.

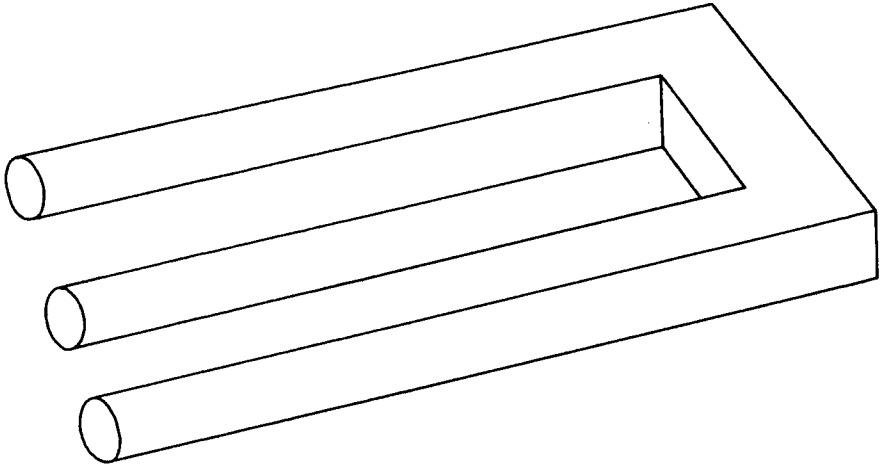
Fig 5.5 Visual illusions (Barber and Legge 1976: 121)



In the Muller-Lyer figure (a), the two vertical lines, which are equal in length, appear to be unequal; in the Poggendorf figure (b), the diagonals are interrupted straight lines; in the Woodworth figure (c), the sides of the square are straight lines although they appear bent; in the Ponzo figure (d), which is also referred to as the 'railway track' illusion, the two short horizontal lines are the same length.

If you look at figure 5.6 closely, you will notice that it represents 'pipes' or 'tubes' that are impossible to construct in reality.

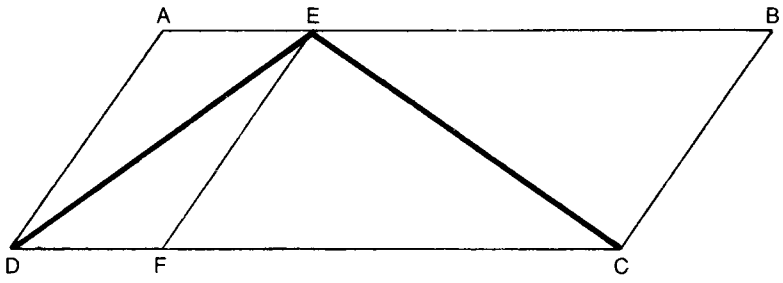
Fig 5.6 Impossible pipes (tubes) (Strongman 1979: 97)



It should be clear from the above that if pattern recognition is to be meaningful, objects must be perceived within a known context.

For the teacher there are many aspects of perception which should be considered in so far as children are concerned. Schonell (1965) and others have shown that some children have perceptual difficulties which affect their reading. They cannot distinguish between certain letters, eg 'p' from 'q', 'b' from 'd', 'm' from 'w' etc; between words of similar structure, eg 'saw', 'was', 'wash', 'raw'; and between words that have a similar pronunciation, eg 'road' and 'rode', 'said' and 'sad'. They also have difficulty perceiving complex visual materials such as photographs, pictures and charts. This also applies to some geometrical figures, eg figure 5.7 below.

Fig 5.7 Geometrical figure in which ED does not appear to be equal to EC



A visual aid should not be used simply because it happens to be available in the class-room. When choosing a particular visual aid the teacher must be convinced that it offers the likelihood that the pupils will make the desired perceptions. Pictures depicting historical incidents or geographical scenes in foreign countries should be used with due circumspection in primary schools. Vernon (1962: 103) warns that children under 11 years of age may be confused by the unfamiliar costumes and settings in the pictures, and advises that, in addition to giving explanations, the teacher should get 'the children to talk about them until they show that they really grasp the significant features'.

A child's attitudes, desires, emotional state, expectations and mental set at any time may result in false perceptions. This is why one can mistake a bent twig for a snake, and a moving object in the dark for a ghost!

Although perceiving takes place *globally* (ie we interpret an object as a totality), it also has an *analytical* and *classifying* nature. Objects are analysed and classified by interpretation and the attachment of meaning. The role of language in perception is important. Through asking questions and communicating with others, the child's perceptual learning is enhanced.

Since perceiving relies heavily on experience, 'the role of significant experiences in the life-world of the child should never be underestimated' (Dreyer and Duminy 1983: 106). Thus, the more stimulating the environment in which a child grows up, the wider his experiences and the more profound his perceptual learning will be.

The teacher can facilitate perceptual learning (especially in the pre-primary and junior primary classes) by (a) engaging the child in carefully planned and well-organised experiences (for example differentiating the

shape, size and colour of the objects); (b) ensuring that the stimuli presented make sufficient impact through his clarity of voice and proper intonation, neat and legible writing on the blackboard and adequate questioning; (c) starting with the global method of teaching (for example the 'look-and-say' method in reading) and then later moving to the analytical method; and (d) employing a variety of concrete and visual aids to gain and sustain the pupils' attention.

5.5 Social atmosphere and physical environment in learning

Some schools are more effective than others in helping their pupils to achieve success. What are the distinctive features of such schools? Research studies have shown that the characteristics of the teachers and pupils within the school influence the performance of pupils far more than the physical amenities such as sport fields, libraries and laboratories, although these amenities are important too.

5.5.1 The teacher's relationship with the pupils

The interpersonal relationship between teacher and pupils not only affects the social and emotional climate in the class-room, but is crucially important for achieving a high work output and maximum use of the pupils' abilities. The teacher can exert indirect influence on the teaching-learning situation by accepting the feeling tone of his pupils, by praising or encouraging the pupils' behaviour, by telling jokes to release tension, and by building on the pupils' ideas through appropriate questioning and discussion (Behr 1977: 5). The teacher who tries to dominate or coerce (force into quiet obedience) his class is likely to engender aggressiveness in some of his pupils, to the detriment of the pupils' learning.

Teachers have been categorised by pupils into three types, details of which are given in table 5.2.

The friendly and understanding teacher and the teacher who encourages pupils to display their initiative will create a social atmosphere conducive to better learning. The unfriendly teacher tends to discourage and inhibit learning.

5.5.2 The influence of peers

Although a child comes into contact with peers during his first few years of life, it is during his school years that they have the greatest influence on him. In the class-room he learns to co-operate and compete with them, and they become a standard against which he compares and evaluates himself. In fact, by the time adolescence is reached the behaviour of the peer group is probably as strong or stronger a standard than adult guide-lines.

Many children model their learning activities on those of their peers. Indeed, research studies have shown that some children pattern their learning styles on those of their more able peers, while the influence of class-mates often has greater bearing on a pupil's aspirations to achieve than the expectations of parents (Morrison and McIntyre 1971: 71).

The practice of getting the best pupils in a school to tutor pupils of lesser ability and slower comprehension has a long history. It was introduced by Joseph Lancaster in England as long ago as 1798 and was used in the school

system in the Cape Colony during the last century, but has since been abolished. However, from the pedagogical point of view the idea of *peer teaching,* in which pupils are assisted by their fellows of similar age and education to grasp unclear concepts and to discuss assignments and homework, is sound. It ensures the active involvement of the learner in the learning situation as opposed to his passive exposure to subject matter.

Table 5.2 How pupils rate their teachers

Unfriendly teacher	Friendly and understanding teacher	Encouraging pupils' initiative teacher
1 The teacher who always scolds certain pupils.	1 The teacher who makes classwork interesting.	1 The teacher who lets the class do individual or group projects.
2 The teacher who punishes the whole class for the things that only a few of the class members do.	2 The teacher who has a sense of humour and laughs at jokes made by the pupils.	2 The teacher who lets pupils help with the teaching, and encourages discussion.
3 The teacher who shames or embarrasses some pupils.	3 The teacher who is always cheerful, and treats all his pupils alike.	3 The teacher who does not stick rigidly to his time-table.
4 The teacher who causes pupils to be afraid to ask questions.	4 The teacher who does not get cross when pupils ask questions.	4 The teacher who takes heed of suggestions made by the pupils.
5 The teacher who has mannerisms that irritate pupils.	5 The teacher who explains things so that pupils can easily understand.	5 The teacher who allows pupils to work at their own pace.
6 The teacher who selects the same pupils to help him and run errands.	6 The teacher who is willing to talk to pupils during or after class about any problems which might be bothering them.	6 The teacher who allows individual pupils to spend more time on the subjects they like best.

In some schools (notably in respect of secondary classes) a system of streaming operates. Pupils are allocated to high or low streams according to the degree to which they are perceived to possess certain attributes valued by teachers, for example academic abilities, conscientiousness and enthusiasm for learning. Allocation to a top stream may therefore be interpreted by pupils (and quite rightly) as a sign of their acceptability to teachers and as a reward for their past behaviour. On the other hand, allocation to a low stream may be regarded by the pupils concerned as a sign of rejection. Those in the top stream are likely to behave better and learn harder than those in the low stream. Furthermore, because pupils spend most of their time at school in their streamed classes, they tend to form

friendships with those in their own streams and to mix much less with those in other streams. This, according to Morrison and McIntyre (1969: 103), 'strengthens the differential tendencies' and often results in conflict among pupils, thus upsetting the morale of the school.

5.5.3 The physical environment

A factor that impedes learning is the physical condition of the class-room. Overheated, badly ventilated and humid class-rooms induce drowsiness and discomfort among pupils which, in turn, give rise to fatigue which is reflected in a deterioration in performance and emotional state. Uncomfortable desks have a distracting effect and induce fatigue.

5.6 Interests and motivation in learning

5.6.1 Interests

Interests can best be described as a person's likes or attraction to certain activities. Put differently, interest is the satisfaction which a person derives from indulging in certain types of activities. A pupil may be interested in cricket, music, needlework, reading, sport in general, a specific school subject, etc. If a pupil is interested in a certain subject he will tend to give more attention to it and attempt to do his best in it. In other words, interests give rise to motivation. One of a teacher's tasks is to develop new interests in his pupils.

It has been found that interests tend to be unstable up to adolescence and that they are affected by environmental circumstances and changes in political and social outlook. Furthermore, the less able child has fewer interests than his more able peer. However, it must be pointed out that it cannot be assumed that merely because someone is interested in a particular activity he will be good at it.

Interests can be expressed or manifest. *Expressed interests* are the statements a person makes about his interests. *Manifest interests* are defined in terms of a person's overt activities. A boy who repairs motor cars as a hobby, taking things apart and putting them together again, would be said to manifest mechanical interests, while a boy who says he likes swimming, but does not go out of his way to participate in this activity, has no manifest interest in it (Behr 1977: 179).

Interests play an important role in vocational guidance, a topic which will be discussed in a subsequent chapter.

5.6.2 Motivation

Pupils differ from one another in the way that they respond to their lessons. Some do not want to learn or do not learn in accordance with their abilities; others strive to do well, work hard and pursue their studies with vigour and enthusiasm; and still others give up easily and need to be persuaded or goaded in order to persevere.

Motivation lies at the root of a pupil's wanting to learn and persisting in his efforts. A pupil who is highly motivated has a high need to achieve.

Motivation is a psychophysiological process which provides the energy and direction necessary to carry out an activity to satisfy some need (Crow

and Crow 1963: 252). The range of motives is as wide as the range of human needs. Hence pupils differ in their motives for learning. In one pupil the need for group security is not as strong as his need for esteem, hence to excel and be first in class motivates his learning; in another pupil the need for security and acceptance by the group is so strong that his need to compete as a motive for learning remains low (Behr 1977: 59).

A distinction must be drawn between *intrinsic motivation* and *extrinsic motivation.* The former originates within the pupil himself in response to some personal need or urge which he satisfies through learning the appropriate activity. The latter comes about as a result of incentives which are set up by someone other than the learner himself and direct the learner's immediate behaviour to a specific activity. Consider the following example: A boy is promised a football for doing well at school. The football is an *extrinsic* motivator to encourage him to apply himself to his studies, but he also desires the esteem of being a good footballer. This serves as an *intrinsic* motivator to be a good football player.

How to motivate pupils to learn and behave in the class-room is one of the most challenging aspects of the teacher's task. Experimental research has shown that there are several procedures that teachers can employ to motivate children to learn. Some of these will be discussed briefly.

(a) *Group work* Co-operative group activity (particularly among primary school children) is better for motivating learning than competition. However, it must be pointed out that getting pupils in a class to work together in groups requires careful planning. The size of the group has to be adjusted to the demands of the task. Pupils of similar abilities and interests should be grouped together and the group leader should be someone who can lead without being dominant.

(b) *Goal setting* The teacher should always be able to convince the pupils of the worth of studying a particular subject or topic. Since successful performance motivates a pupil's desire to learn and repeated failure has a detrimental effect on the desire to learn, teachers must help pupils to set realistic goals for themselves. This makes it necessary for each pupil to have a fairly reliable estimate of the difficulty of the learning activity and of his ability in relation to it. Thus, the teacher should not demand the same level of performance from each of his pupils. He should make it possible for pupils of all abilities to experience success more often than failure.

(c) *Rewards and punishment* These are extrinsic motivators. The rewards used at school can be classified as concrete or symbolic. Concrete rewards are prizes, exemption from homework, or reduction in work-load. Symbolic rewards take the form of verbal praise, good marks, favourable reports to parents and promotion to a higher standard. After extensive study, Kennedy and Willcutt (1964: 327-335) concluded that praise acted as a facilitator (motivator) of learning, while blame and scolding had the opposite effect. The main types of punishment used by teachers are reprimands, the confiscation of privileges, dismissal from class, isolation, detention, lowered marks and caning. Where punishment is used frequently and with little discrimination it has a depressing effect on the aspirations and future performance of pupils. It can create resentment and hostility in the pupil, and induce insecurity

and an unwillingness to learn in the class as a whole. Clegg (1962) has produced evidence to show that there is a positive relationship between the use of corporal punishment in schools and the incidence of delinquency, while Wiseman (1964) has suggested that caning develops hostility to all forms of authority. In Great Britain, the Plowden Report of 1967 recommended unequivocally that 'the infliction of physical pain as a method of punishment in primary schools should be forbidden'.

It is important to distinguish between a pupil's need to achieve and his actual achievement. A pupil may have a strong need to achieve, but a very poor aptitude. The combination of the two would not, however, result in high achievement.

Revision

A Multiple-choice questions

1 Which of the following is the most acceptable definition of learning?
   (a) The acquisition and organisation of knowledge
   (b) The solution of problems
   (c) The development of skills
   (d) The modification of behaviour
   (e) The development of effective S-R bonds.
   Give reasons for your rejection of the other alternatives.

2 Which of the following statements is *not* true?
   (a) Primary reinforcers satisfy physiological needs.
   (b) Water can serve as a primary reinforcer.
   (c) The value of a secondary reinforcer has to be learned.
   (d) Money can serve as a primary reinforcer.
   Give reasons for the alternative(s) rejected by you.

3 Which of the following is *not* a product of learning?
   (a) attitudes
   (b) concepts
   (c) knowledge
   (d) maturation
   (e) skills.
   Give reasons for the alternative(s) rejected by you.

4 Response generalisation in human learning is best exemplified by
   (a) fearing dogs and cats after being bitten by a dog
   (b) blinking in response to both a light and a bell
   (c) eating sweets when desiring to smoke
   (d) fearing all men in uniform after being apprehended by a policeman.
   Give reasons for the alternative(s) accepted and rejected by you.

5 Fifteen-year-olds are likely to be most strongly motivated by
   (a) teacher and adult approval
   (b) peer approval
   (c) academic honours
   (d) detention after school
   (e) scolding and sermonising.
   Give reasons for the alternative(s) accepted and rejected by you.

B Discussion questions

1 Can people be conditioned without being aware that it is happening? Discuss.

2 How would you help someone to learn to

(a) ride a bicycle
(b) improve his handwriting
(c) smile more often?

Discuss, giving reasons for the learning theories involved.

3 Consider the following problem in arithmetical computation designed for std 4 or 5 pupils:

Give the answers by doing the working mentally.

$$\begin{array}{r} 54 \\ \hline 27 \;\big|\; 1\,462 \\ 1\,350 \\ \hline 112 \\ 108 \\ \hline 4 \end{array}$$

(a) Is the calculation correct?
(b) $27 \times 54 = \ldots$
(c) $1\,350 \div 27 = \ldots$
(d) What number divided by 54 will give a quotient 27 with remainder 5?

In solving this problem, discuss the learning theory involved.

4 Discuss (with examples) the following:

(a) a concept
(b) a percept
(c) a stimulus
(d) an experience
(e) an appreciation.

Chapter 6
Emotional and social adjustment

6.1 Introduction

The purpose of this chapter is to examine the various emotions experienced by both children and adults, how emotions come into existence, and how they can be controlled and expressed appropriately, especially in the school situation.

6.2 Definition of an emotion

According to Lefrancois (1980), emotions are not easy to define, they are not easily measured, and it is not particularly easy to specify their role in human behaviour, yet their importance in human development can neither be ignored nor overemphasised. Indeed, they are so inextricably involved in all that we do that they must be reckoned with. Emotions may be defined as an aroused state of the organism involving conscious, visceral and behavioural change.

6.3 Types of emotion

Emotions are either pleasant or unpleasant (Lefrancois 1980; Hilgard, Atkinson & Atkinson 1979). Pleasant emotions include love, joy, affection, pleasure, surprise, laughter, delight, trust, enjoyment, etc. Unpleasant emotions include anger, pain, sorrow, fear, hate, dislike, etc. Signs that emotions are being experienced are an increased pulse rate, rises in blood pressure, a quickened rate of perspiration, dilation of the pupils of the eyes, trembling, muscle tension, etc (Hilgard *et al* 1979; Travers 1972). Emotions may also be signalled by screaming, aggression, flight, crying and dancing. The physical changes which accompany emotions are controlled by the sympathetic system within the nervous system. The sympathetic and parasympathetic systems work together in that the sympathetic system raises the level of arousal, whereas the parasympathetic system reduces the level of arousal to a normal level. This can be explained by the fact that 'Low levels of emotional arousal improve performance at a task, but intense arousal is usually disruptive; continual emotional tension can result in psychosomatic illness' (Hilgard *et al* 1979: 343).

Some of the commonly experienced unpleasant emotions are fear and anger, and these will be examined here in greater detail. Children develop fear of certain objects, places, people, etc because of what they have been told about them by adults or siblings or peers (Behr 1985; Travers 1972). This means that their fear of these things is based on hearsay rather than on what they have actually experienced. Yet the fear so experienced is equally real. Fear may also develop as a result of illness, constantly being placed in a situation in which one is frequently subjected to ridicule and sarcasm,

having parents who are overprotective, adult example, and imagining terrible situations which in reality do not exist (Travers 1972).

Fear can be both advantageous and disadvantageous. It can be useful as a means of preservation and of alerting one to impending danger, thus preparing one for an appropriate action. It can also be useful in preventing a person from engaging in dangerous activities (Behr 1985). On the other hand, it can be disadvantageous when it is transferred to other situations in which it cannot be justified. For example, on account of fear a child may withdraw from a challenging predicament, and this may become a behavioural pattern to such an extent that he is dominated by incompetence and insecurity (Travers 1972). Should this behaviour continue unchanged, it is likely to continue in adulthood in the form of anxiety, neurosis and phobia. Fear developed during childhood is also likely to assume the role of insecurity during adolescence and to become a source of fear about health, work and death during adulthood.

However, it must be noted that every normal person experiences fear of some kind or another during his life span. The difference between normal and abnormal fear is the degree to which one is preoccupied with it. Excessive preoccupation with fear can be detrimental to one's physical and psychological well-being.

Fear can be either modified or eliminated by means of modelling or desensitisation (Behr 1985). Children should be provided with an environment that does not serve as a source of fear. Furthermore, they should be provided with appropriate sympathy and warmth where this is necessary. Fear can be combated further through modelling. If children observe that adults are not afraid of certain events/situations/objects/animals, they will learn that there is no reason to fear them. Fear can also be overcome if both parents and teachers make the child go through the following processes:

(a) Identify the source of fear.
(b) Bring to the child's attention the fact that it is not necessary to be afraid.
(c) Provide the child with an environment in which the feared object is presented with something that is positive and likeable.
(d) Gradually permit the child to deal with the feared situation face to face, or let him observe others interact with such a situation.

Anger is another commonly experienced emotion. It is said to be caused by one's failure to achieve one's goal. Generally people are capable of tolerating a series of annoying experiences, although this cannot go on without end, since 'as these increase, tension mounts until finally a relatively minor happening can trigger a major explosion' (Travers 1972: 140). In this context it is wise for teachers to remain constantly alert to any signs of accumulating anger in a class-room or school situation and to try to abate it so that it does not result in a combative atmosphere which is counter-productive to learning. Should the teacher find himself in a situation in which students are angry, he should ensure that he deals with them calmly instead of displaying similar behaviour, as this could aggravate the situation.

Anger can be controlled by getting to know as much as possible about

human behaviour in order to avoid imposing unreasonable rules on pupils. Some rules could actually be directly opposed to their physiological and psychological needs, for example denying pupils the opportunity of interacting with peers of the opposite sex without engaging in socially unacceptable behaviour, or refusing a pupil permission to go out until break time, even though he has an immediate need to go to the toilet.

On the other hand, emotions such as love, affection, pleasure, joy, etc can contribute to learning. 'Learning proceeds best under congenial conditions and if a teacher can establish a pleasant and harmonious relationship with a class, disciplinary problems are usually minimal' (Travers 1972: 142).

6.4 The role of the family in emotional and social adjustment

The purpose of this section is to explore the contribution a child's home makes to his social and emotional development. Since the child starts life at home long before he is exposed to the external environment, the influence of the home cannot be overemphasised.

Stressing the importance of the home, Travers (1972: 159) states: 'No social force modifies development more than the family. What occurs during the early formative years often shapes an individual's destiny for life.'

Similarly, Garrison, Kingston and Bernard (1967) point out that the family is the single most important agent in the socialisation of a child. The family provides the child with both his physical and psychological needs. Physically the child is provided with food, water, clothing and shelter, whereas psychologically he is provided with affection, security, warmth, praise, and models of behaviour.

Within the home the child learns about himself, and this results in the development of his self-concept. Within the family he acquires fundamental information about co-operation and conformity with the established codes of conduct that regulate an individual's and a society's patterns of behaving. Furthermore, he learns how to get along with others, to relate to authority and to fulfil his role in society.

Behr (1985) states that affection is important for normal emotional development by a child and that parents can contribute to this development by accepting him and showing him that he is treasured. In helping the child to develop into a self-controlled and self-reliant person, parents must exercise both discipline and love. When enforcing discipline parents must ensure that their child is made to understand that they love and respect him as their child and as a person of worth. If they fail to do this, the child will get the impression that they do not care about him. Whether a child adjusts to his environment adequately depends on how well his parents have prepared him for his role. In this connection it is important to note that if the relationship between child and parents has been a difficult one, it is likely to be reflected later during his school years and adulthood.

Garrison *et al* (1967) stress that the relationship between husband and wife has an effect on the adjustment and socialisation of their child. It is important, therefore, that they are well-adjusted in their marital life and are affectionate, co-operative, accepting, etc. This is likely to influence the child positively, whereas if their life is characterised by discord and lack of trust, the child's social adjustment will be adversely affected. Research has shown

that the parents of children who have adjustment problems are maladjusted, unsociable and have an unfavourable relationship with their children.

In summary, the family is an important socialising institution in the life of a child. Within the home the child is provided with information pertaining to socially acceptable codes of behaviour. Whether a child adjusts appropriately socially and emotionally depends upon his parent's rearing practice, which must be based on both precepts and deeds.

6.5 The school as a social agent

Teachers' control may be limited in terms of the socialising of a child that goes on at home. However, the same cannot be said when it comes to the school as a socialising agent. In this section, the role of the school in the social and emotional adjustment of a child will be discussed.

One of the purposes of the school is to extend the socialisation process started by the family. At school the child is expected to relate to a new form of authority, ie teachers, follow a new set of rules, make new friends and learn to get along with children who may not even be his friends. The child is also expected to develop interest in the acquisition of knowledge in a formal and structured manner. The school provides the child with the knowledge and skills necessary to social and economic adjustment. According to English (1961: 350), at school the child learns social adjustment by exercising co-operation and the spirit of sharing. He also learns to understand both himself and others as he interacts with them. Understanding the other person is the highest level of social adjustment.

Jersild, Brook and Brook (1978) correctly argue that the school has an effect on adolescence in that it aids the development of the self-concept or identity, thus enabling adolescents to determine who they are now and what they are going to be in the future. Success in school is a key to their success in the future and failure signals a rather dim picture for the future, given the importance society and the job market attach to one's success at school. The authors also point out that perhaps the school has an advantage over the home in that through the school greater access to peers can be obtained and greater control can be exercised over them. Furthermore, in a school setting, through various agencies such as counselling, an adolescent can be observed more objectively than might be the case in a family setting. Similarly, teachers can deal with adolescent problems more objectively than parents, who are likely to identify with their childrens' problems and hold themselves partly responsible. In a group of peers, an adolescent is likely to learn a number of things such as how to behave in a group situation, how to relate to weaker or stronger peers, and how to cope with conflicts and tension that normally emerge in such a setting.

The above reasons are sufficient justification for schools to pay attention to a pupil's emotional and social adjustment. However, a pupil's emotional and social development also has an influence on the effectiveness of his learning. A child's intellectual development cannot occur independently of emotional and social factors. Should a pupil have emotional and social problems, his intellectual performance will be affected accordingly.

In view of this, teachers ought to have an adequate knowledge of social and emotional development and should facilitate their pupils' adjustment socially and emotionally. One way in which pupils' social and emotional

adjustment can be facilitated is by establishing an atmosphere that makes provision for pupils to express their emotions without fear. Children's emotional adjustment can also be fostered by making them aware of what is expected of them and the standard the teacher maintains, as well as the amount of freedom that is at their disposal within the class-room and the school in general. The teacher must be consistent in dealing with pupils so that one behaviour is not considered wrong at one time and acceptable on another occasion. Pupils should be assisted in their work as far as this is warranted, since failure to do this is likely to lead to restlessness and frustration. Play can serve a useful role in the socialisation and social development of a child. In view of this, children should be involved in co-operative play. Behr (1985: 34) contends: 'Through co-operative play and especially organized games, the child learns to adapt himself to others, to lead or to be led, to make compromises, to be unselfish, to be reliable, to control himself, to be courageous, and so on'.

Biehler (1981) proposes that social development can be fostered by encouraging discussion. Children should be encouraged to discuss some of the situations in which they have experienced pain. This should be done in order to clarify their feelings and as a way of recognising such feelings in others who may experience similar pain. When a teacher is helping someone, he should do so pleasurably and alert the children to the pleasure they are likely to experience in the process of assisting others. Wherever possible, a teacher should serve as a model by helping others and showing warmth and rewarding whatever behaviour is deemed desirable.

6.6 Discipline and class-room management

The focus of this section is discipline and class-room management. Special attention will be paid to the causes of disciplinary problems, how to deal with them and the use of punishment in dealing with class-room problems.

6.6.1 Reasons for maintaining discipline

Historically, discipline was maintained to enable learning to occur without interruption (Mouly 1982). While this rationale is still valid today, it can be argued that currently discipline is maintained to make the total growth of the pupil possible. Discipline is perceived as punishment, control or training intended for self-regulation of a pupil's behaviour. The assumption here is that pupils need further socialisation which will enable them to be masters of their own behaviour.

6.6.2 Reasons for lack of discipline

According to Mouly (1982), maintaining class-room discipline is the single greatest problem experienced by teachers. Gage and Berliner (1984) point out that misbehaviour in the class-room and the school may be a reflection of what is happening in society at large. The authors identify the causes of indiscipline as a lack of parental love for their children, poverty and low economic status, exposure to violence through the media, frustration due to successive failure and the influence of other children. These factors can be classified as originating primarily outside the school, and thus teachers may not be solely responsible for lack of discipline. However, this does not

absolve the school as a socialising agent. Gage and Berliner identify disciplinary problem sources in a school setting as exposing pupils to an education that does not meet their needs, large classes in which individual attention is almost impossible, lack of teacher authority, and lack of effective communication between the home and the school. Mouly (1982) points out that teachers may themselves be the cause due to the way in which they relate to pupils, eg by belittling them, using sarcasm, being punitive and unfair, and lacking enthusiasm in their work and tending to bore them.

Misbehaviour could also be traced to factors such as the physical conditions of the class-room (Seifert 1983). For example, if the class-room is either too hot or too cold, or is badly ventilated, it is difficult for students to concentrate on their learning activities. Misbehaviour could also be precipitated by the school's rigid, strict and punitive rules (Siann & Ugwuegbu 1980).

It is no exaggeration that most people, and this does not exclude teachers, are more likely to detect undesirable behaviour than to recognise acceptable behaviour. Furthermore, people are more inclined to criticise undesirable behaviour than to reinforce desirable behaviour. One way in which teachers can establish and maintain discipline in the class-room is by being alert to desirable behaviour and reinforcing it and paying less attention to undesirable behaviour.

6.6.3 Maintaining discipline

Seifert (1983) says that a thorough preparation of one's lesson can go a long way towards ensuring good class-room control. Pupils generally pay attention to a teacher who is serious about and competent in his work and able to present it well.

The following can serve to help maintain discipline in the class-room:

(a) Attend to children's needs as soon as possible, and in the process praise them where such reinforcement is warranted. If criticism must be made it should be geared towards the offence rather than the pupil as a person.

(b) Be friendly, yet firm and consistent, in your handling of individual pupils.

(c) Reprimanding a pupil privately is better than doing so publicly.

(d) Minor misbehaviour, for example an occasional whisper during class, should be ignored.

(e) Strive to establish and maintain a positive relationship with individual pupils and the class as a whole.

6.6.4 The use of punishment

The use of punishment as a means of maintaining class-room discipline is a controversial issue. Most psychologists would argue against the use of punishment being effective in promoting desirable behaviour (Rose 1984). A brief examination of the two sides of the argument is in order. Those who advocate the use of corporal punishment are of the opinion that punishment is likely to lead to the following:

- the reduction or elimination of undesirable behaviour

- the facilitation of discrimination learning
- deterring others from engaging in similar behaviour.

The assumption underlying the use of punishment is that 'it is quick, easily available and apparently effective' (Rose 1984: 427).

Those who argue against the use of punishment point out that it leads to a pupil's loss of confidence in the teacher and to the development of hatred for the teacher, the subject taught, and learning and school in general. Other arguments against the use of punishment are that:

(a) the punished person will tend to withdraw from a punishing situation
(b) in the process of administering punishment modelling occurs
(c) it draws attention to the punished behaviour, with the result that other pupils engage in similar behaviour in the teacher's absence
(d) peers develop negative reactions to the pupil being punished
(e) aggressive reactions either to the punisher or others are likely
(f) there is a lack of transfer effect to a different setting.

Despite disagreement regarding the wisdom of using punishment, psychologists are not oblivious to the fact that there are occasions when it may be justified. For example, punishment may be used where there has been gross misbehaviour such as unabated disrespect for class-room or school regulations, defiance, bullying, physical attack and vandalism (Mouly 1982). If punishment is felt to be necessary and justifiable, then the following should be taken into account (Seifert 1983; Mouly 1982):

(a) Punishment should be used rarely, sparingly and as a last resort.
(b) Before punishment is administered to a pupil, he should be told why he is being punished.
(c) Punishment should be administered as soon as an offence has been committed so that a link is made between what the pupil has done and the result thereof.
(d) The punishment used should be strong enough to bring the undesirable behaviour under control. However, one has to be careful here and see that the offender is not punished to the point of being physically or psychologically injured.
(e) A teacher should not administer punishment when he is very angry or upset, since he is likely to be too severe and inclined to appease his own anger instead of helping the pupil.
(f) If punishing a child is likely to make him a hero before his class-mates or lead to defiance, then punishment should be withheld and administered where it is not likely to precipitate such a scene.
(g) After the offender has been punished he should not be given the impression that he no longer merits the teacher's love and care.

In this section, discipline and class-room management have been discussed. Special attention has been paid to the causes of disciplinary problems and how they can be resolved for the good of pupils, teachers and the school as a whole. Finally, a special mention of the use of punishment has been made. While there are occasions when punishment may be used, it should be used sparingly, since its adverse effects outweigh the objective for which it is used. It must be borne in mind that children can learn effectively

without being punished, just as mature students at tertiary institutions and university learn without being subjected to punishment.

Revision

A Multiple-choice questions

1 The emotional experience which an individual is undergoing is best identified by an analysis of
   (a) his facial expression
   (b) the physiological changes which occur
   (c) the overt behaviour which he displays
   (d) the total situation from stimulus to reaction.

   Discuss your reasons for rejecting the other alternatives.

2 The most essential element in situations involving fear is
   (a) insecurity
   (b) a potential danger
   (c) personal inadequacy
   (d) previous conditioning to fear stimuli
   (e) immaturity.

   Discuss your reasons for rejecting the other alternatives.

3 Social maturity is best characterised by
   (a) a high degree of integration of one's needs with those of the social order
   (b) a high degree of social competence
   (c) a degree of adaptability to social demands
   (d) ability to win friends and influence people.

   Discuss your reasons for rejecting the other alternatives.

B Discussion questions

1 What are the distinguishing qualities of leadership?
2 What do you regard as the most important adjustment problems a young child experiences on first entering school?
3 Why is praise preferable to punishment in the class-room situation?
4 'Emotions are an integral part of all learning'. On what grounds do psychologists subscribe to this contention?

Chapter 7
Intelligence

7.1 Introduction

From our everyday experience we are able to distinguish the person in a class who is able to master all the material he is expected to master with the minimum effort. This person is 'quick on the uptake' in the grasping of new concepts, has a good memory and demonstrates exceptional powers of reasoning. Outside the class we meet or read of individuals who impress us with their abilities to deal with or produce new ideas and with their almost inexhaustible fund of knowledge. These people are said to have high intelligence. On the other hand, there are people who are slow in grasping ideas and in learning. They are dubbed less intelligent.

In this chapter we shall endeavour to find out how psychologists define intelligence, what theories of intelligence exist, and how it can be measured.

7.2 Definitions

There are several definitions of intelligence, of which the following are without doubt the most acceptable.

Intelligence, according to David Wechsler is 'the aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment'.

William Stern defines intelligence as 'a general capacity of the individual consciously to adjust his thinking to new requirements'.

In order to understand these definitions fully, we ought to know the difference between capacity and ability. Capacity is the basic potential for ability. A first-year medical student, if he has been selected properly (ie on the basis of his intelligence), has no surgical ability, but the capacity to develop it.

Intelligence is the capacity underlying all intellectual abilities.

7.3 Theories of intelligence

Several theories concerning the nature of intelligence have been propounded. In the main these theories explain intelligence in terms of how the parts of the mind are related and organised. In this book only the two main theories will be discussed.

7.3.1 The two-factor theory

Charles Spearman (1863 – 1945) was the founder of this theory. He stated that intelligence comprises a main *general* factor, which he called *g*, that underpins every mental task the individual undertakes. In addition to the general factor, he postulated certain specific factors (which he called *s* factors). The *s* factors are manifestations of the *g* factor in specific areas.

Mathematical ability, for example, is an *s* factor. Given two individuals of exactly the same level of general intelligence (*g* factor), one could be better than the other at Mathematics because of this specific factor.

Morris (1976: 237) states that if we use 'the image of a well or spring, general intelligence is the fountain from which specific abilities flow like streams of water into different thought processes'.

7.3.2 The primary mental abilities theory

LL Thurstone (1887 – 1955) put forward the theory that intelligence consists of seven separate primary mental abilities. These are:

S – Spatial ability
P – Perceptual speed
N – Numerical ability
V – Verbal meaning
M – Memory
W – Word fluency
R – Reasoning

(The abilities are sometimes denoted by their initial letters as indicated above.)

These abilities are relatively independent of each other – a person with high spatial ability might be low on word fluency – but taken together they constitute what we mean by general intelligence. Indeed, one or more of these abilities can be found in any intellectual activity. To read a book you need verbal meaning, word fluency and reasoning. To study that same book in preparation for an examination you also need memory.

Spatial ability is the ability to perceive spatial relationships in one's mind. For example, when shown a diagram of a piece of machinery a person with good spatial ability will be able to visualise how it works. Perceptual speed is the ability to detect differences and similarities in diagrams and pictures quickly. Numerical ability is concerned with the ability to do arithmetical calculations. The more intelligent we are, the better our memory should be. Word fluency is the ability to express oneself clearly in words so that others can readily grasp what we intend to communicate. Verbal comprehension is the ability to derive sense from spoken and written language.

7.4 Intelligence tests

7.4.1 The pioneering work of Binet

The psychological study of intelligence has revealed that individual differences in intellectual capacity exist and can be measured by means of intelligence tests.

An intelligence test measures an individual's overall capacity to learn. Two types of intelligence tests exist, namely *individual* and *group* tests. The former may be used only by highly trained persons and therefore group tests are used in most schools.

The pioneer in the field of intelligence testing was Alfred Binet (1857-1911). In 1904 he was asked by the educational authorities in Paris for some method of identifying, at the earliest possible age, those children who were unlikely to be able to cope with normal schooling. Binet compiled an intelligence test based on an age-scale. For each age level there were a number of items which the child was expected to do. For example, a ten-year-old was expected to (a) define correctly 11 out of a list of 45 words

arranged in order of difficulty, (b) explain absurdities in a series of pictures, (c) recount from memory the facts from a story that had been read to him by the examiner, (d) give reasons for certain everyday events, (e) repeat a number with six digits after hearing it once, (f) say spontaneously 20 words in one minute. Any child who can do all these tasks successfully (and none of the tests for older ages) has a *mental age* of 10. The test compiled by Binet was an *individual test*, ie each child had to be tested on his own by the psychologist.

However, mental age by itself is not a satisfactory measure as it does not take the child's chronological age into account.

7.4.2 The IQ

Wilhelm Stern (1871-1938) introduced the idea of *intelligence quotient* (IQ).

$$IQ = \frac{\text{Mental age}}{\text{Chronological age}} \times 100$$

A child of exactly 10 years of age whose mental age on the test is 10 has an IQ of 100, ie

$$\frac{10}{10} \times 100$$

This means that the child's intellectual development is exactly the same as the average for his age, ie he is of average intelligence. If his actual age is 10 and he can do the test items appropriate to the average 12-year-old, his mental age is 12 and his

$$IQ = \frac{12}{10} \times 100 = 120$$

His intelligence is above average. A 10-year-old who can only score a mental age of 8 has an IQ of 80 and is below average in intelligence.

The table below gives the distribution of intelligence in the population as a whole and some of the terms which are commonly used to designate levels of intelligence.

Table 7.1 Distribution of intelligence

IQ level	% of population	Designation
Above 145	1	Genius
130 – 145	2	Superior
115 – 129	12	Above average
85 – 114	70	Average
70 – 84	12	Below average (dull)
55 – 69	2	Mildly retarded
Below 55	1	Severely retarded

It should be noted that the cut-off points are not absolutely clear-cut and that some measure of overlap occurs. There is some accuracy in describing someone who has an IQ of 130 as being in the top 3% of the population in terms of intelligence.

7.4.3 Coping with persons of different intellectual ability

There are a large number of studies which show that there is a relationship between scholastic achievement and IQ. Students with high IQs are likely to do well at school. However, there are many factors other than IQ that affect scholastic performance, eg motivation, perseverance, self-confidence, and so on. This means that some pupils with high IQs do only reasonably well at school, while some of those with average IQs do very well.

Children with IQs between 30 and ± 55 fall into the category *trainable mentally retarded.* They do not benefit much from formal schooling. Training programmes for these children are directed towards enabling them to acquire self-care skills, to become socially adjusted at home and in the neighbourhood, and to become economically useful in sheltered employment under supervision. Those with IQs below 30 are *profoundly retarded.* They need constant supervision and protection and can do little other than the simplest of repetitive routines. Training is almost impossible.

The *mildly mentally retarded* (those with IQs between ± 55 and ± 84) are educable and usually receive their education in *special classes* attached to ordinary primary schools. The general aim of special education for these children includes the acquisition of the basic skills of literacy and numeracy, the development of personal and social adequacy, and some vocational training. The range of subjects taught to them is not vastly different from those taught in ordinary schools. However, the methods are different. The presentation is at a slower pace, with ample use being made of concrete aids. The size of classes is smaller and teaching is individualised in accordance with the rate of learning of the child.

Persons of superior intellectual ability (those with IQs above 130) are the *bright or gifted pupils.* They are soon identified by the class teacher because of the speed with which they master specific learning material and because of the high level of their abstract thinking, logical reasoning, originality and inventiveness. These children need as much attention from their teachers as their less intellectually endowed contemporaries. Indeed, if these children are not sufficiently stimulated they find school boring, and may develop indifferent methods of work. Lindgren (1967: 515-6) draws attention to the frustration which intellectually gifted children experience if they have to adjust the pace of their learning to that of the average members of the class. He states: 'Gifted children react to such frustration in various ways. Some lose interest in their daily work and seek escape in excessive day-dreaming. Others become hostile and express their frustrations through disruptive behaviour. Still others become apathetic and lose interest in work that presents no real challenge for them'.

In teaching pupils of superior intellectual ability, the main objectives are to ensure that they acquire the ability to study on their own, independently of the teacher, to help them to develop effective thinking strategies, and to help them to develop high-level expressive abilities in art, drama, music, and writing. (For a detailed discussion of mentally retarded and gifted children, see chapter 12.)

7.4.4 Intelligence test items

In the discussion that follows reference will be made only to test items that appear in group tests of intelligence. Group tests are of two kinds, namely

verbal and *non-verbal.* The former requires applying reasoning to words, ideas and verbal expressions. The following are typical examples:

(a) *Classification* A number of words are given and the testee is required to underline (or tick the number of) the word that does not belong to the others.
Example: Apple, turnip, cabbage, bicycle, carrot.

(b) *Synonyms and antonyms* A word is given and the testee is required to indicate from a list of words the one which is the same or opposite in meaning.
Example 1: *Rich* means the same as . . .
poor, wealthy, high, new, lucky.
Example 2: *Easy* means the opposite of . . .
problem, simple, difficult, always, cannot.

(c) *Analogies* The testee is given two words which have a relationship to each other; a third word is given and the testee must find the same relationship between that word and a fourth word from a list of several.
Example 1: *Seed* is to *plant* as *egg* is to . . .
tree, bird, pollen, ground, potato.
Example 2: *Legs* are to *running* as *teeth* are to . . .
chattering, walking, eating, biting, arms.

(d) *Codes* A statement is given and the testee has to put it into code according to some given principle.
Example: If DBU means CAT, write the code for TOWEL.

(e) *Ordering* A series of words is given and the testee has to underline the smallest or largest unit indicated.
Example: The shortest period of time is . . .
week, second, day, hour, minute.

(f) *Inferences* A problem is given which demands reasoning for its solution. The subject has to give the correct solution.
Example: John is three years younger than Mary. She is eight years older than Tom and ten years older than Susan. Who is the youngest?

The types of items listed above do not exhaust all those that appear in tests.

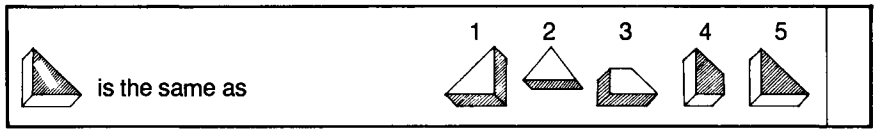
The items in *non-verbal* tests require the same type of relational reasoning, but applied to numbers and diagrams instead of to words. Here are a few examples:

(a) *Number series* A series of numbers is given and the testee is required to supply a number that continues it.
Example: 10, 13, 16, 19, . . .

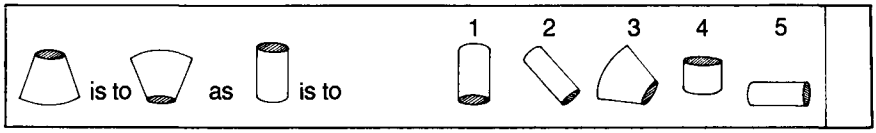
(b) *Ordering* A series of numbers is given and the testee has to underline the smallest or largest number.
Example: Which is the smallest number of 2 158, 8 521, 5 218, 1 528, 5 182?

(c) *Inferences* A problem is given which demands reasoning for its solution.
Example: Here are three figures: 672. Add the largest two figures together and divide the total by the smallest figure.

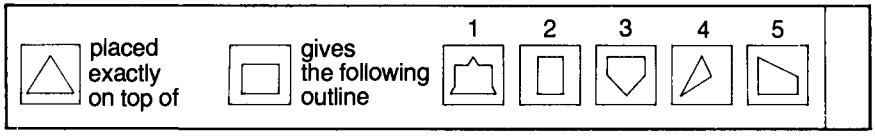
(d) *Similarities*
Example:



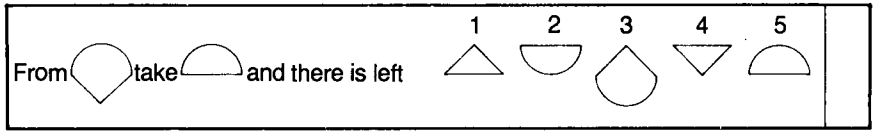
(e) *Analogies*
Example:



(f) *Superimpositions and subtractions*
Example 1:



Example 2:



7.5 Intelligence and heredity

The effect of heredity and environment on intelligence has been the subject of much controversy among educationalists and psychologists.

Sir Francis Galton (1822-1911) was one of the first scientists to suggest that man's natural abilities were inherited. Recent research has brought to light the fact that an individual's measured IQ is not fixed for life, but is subject to variation. Gourlay (1978: 1-21) contends that the variations are due to the interaction of the genetic with the environmental influences. He states: 'The genetic [hereditary factor] is not merely fixed at conception but . . . unfolds with the individual's development . . . It follows that, for any developing individual, the genetic factors which operate at any one point in time, are not the same as the genetic factors which operate at another point in time'.

According to Gourlay, the contribution of the hereditary and environmental factors to intelligence is 3:1. Vernon (1979: 7) says that about 65% of intelligence could be attributed to genetic factors, 'but the precise figure doesn't matter so long as it is recognised that both the genes and the environment have very substantial effects on child IQ, and that the genetic component is probably the largest one, which we cannot afford to ignore'.

Revision

A Multiple-choice questions

1 Which of the following statements regarding intelligence is generally *not* accepted by psychologists?

(a) Intelligence refers to the ability to think abstractly.
(b) Intelligence is man's ability to adjust himself instinctively to his environment.
(c) There is a positive correlation between learning new and useful actions and one's intellectual ability.
(d) Intelligence refers to the effectiveness of the individual's approaches in which competence is highly regarded by the culture.
(e) Intelligence is the ability to perform activities that are characterised by complexity, difficulty and abstractness.

Give reasons why the other alternatives were rejected by you.

2 The IQ of a 12-year-old with a mental age of 15 is

(a) 80
(b) 115
(c) 125
(d) 150
(e) 100.

Indicate how you arrived at the answer.

3 What should the teacher do with a pupil, who at CA = 12 has a MA = 10½?

(a) Place him in a lower class
(b) Transfer him to a special class for slow learners
(c) Make no judgement until his class work can be evaluated and other tests given
(d) Give him extra work to do at home.

Give reasons for your choice and why the other alternatives were rejected by you.

B Discussion questions

1 How would you distinguish between intelligence and common sense?
2 How does knowing the IQ of a child affect your reaction to him?
3 The use of IQs in educational selection has declined in popularity. Discuss why this is so.
4 Creative thinking is as important a feature as basic intelligence in determining success in academic achievement. Why?
5 Why do some children of high intelligence not do well at school?

Chapter 8
Personality

8.1 Introduction

In this chapter personality will be examined in terms of what it is as defined by a number of psychologists, how it develops, the reason for the existence of more than one personality theory, and the rationale underlying the study of personality. This will be followed by an in-depth examination and description of some of the personality theories such as psychoanalysis, social learning theory and phenomenological field theory.

8.2 Definitions of personality

There are different definitions of personality reflecting the various views of the nature of man held by different psychologists. Lefrancois (1980: 420), for example, defines personality as 'the stable characteristics of a person, including abilities, talents, habits, preferences, weakness, moral attributes, and a number of other important qualities that vary from one person to another'. Gage and Berliner (1984: 165) state: 'Personality is the integration of all of a person's traits, abilities, and motives as well as his or her temperament, attitudes, opinions, beliefs, emotional response, cognitive styles, character and morals'. Travers (1972) is of the view that there is no universal definition of personality and that none of the numerous definitions can be dismissed as wrong.

On the basis of the various definitions, it can be said that personality involves the whole person and his major dimensions such as his physical, social, mental and emotional assets and liabilities (Mouly 1982). In other words, personality may be said to be the sum of what a person is and the way he appears to others.

8.3 Personality theories

There are as many personality theories as there are schools of psychology. The variety of personality theories can be accounted for by the fact that 'Each theory tends to look at different behaviour or to study the same behaviour in different ways' (Pervin 1975: 5).

8.3.1 The psychoanalytic theory of personality

In this section, Freud's theory of psychoanalysis will be discussed. Since it is not possible to deal with this comprehensive theory in its totality, only some concepts such as the structure of personality, the psychosexual stages of development, and defence mechanisms will be examined. The implications of this theory for education will also be dealt with.

8.3.1.1 Origins

Unlike most psychological theories, psychoanalysis developed as a result of Freud's (1856 – 1939) attempts to assist patients with adjustment problems

to lead normal lives. In his dealings with patients Freud used hypnosis, which assisted him in getting an insight into some of the problems they experienced. Later on he felt that this method did not enable his patients to understand themselves, and therefore introduced a new method involving the use of free association. In this approach patients were asked to say whatever came into their minds. This meant they were to say everything and withhold nothing, whether pleasant or unpleasant. This was done on the assumption that such an interaction would reveal the causes of a patient's disturbance. It was on this basis that Freud built his theory of psychoanalysis.

In Freud's view, man's behaviour is influenced by the state of the unconscious. His theory is aimed at making the state of the unconscious known to man so that he can understand why he behaves the way he does and on the basis of this modify, if necessary, his behaviour accordingly (Baldwin 1980).

8.3.1.2 The structure of personality

Freud understood personality to consist of three levels, namely the *id*, the *ego* and the *superego*. These components of personality work hand in hand. However, if there is an unresolved conflict between them, maladjustment results.

(a) *Id* The *id* is characterised as the home of the instincts and whatever is innate and present at birth. The principal goal of the id is to seek pleasure and avoid pain and discomfort. The id is always ready to discharge and express emotion, irrespective of the appropriateness of the occasion, place and time, so long as doing so leads to pleasure, gratification and comfort. The id makes no distinction between what is right and wrong, nor does it differentiate between what is possible and impossible. Pervin (1970: 158) describes the id as 'demanding, impulsive, blind, irrational, asocial, selfish and narcissistic, omnipotent and finally pleasure "loving" '.

The above description of the id is typical of a new-born infant, which is totally unsocialised during its first year or so. Young children are guided by their emotions, and readily cry and throw temper tantrums when frustrated. If they want something, they want it without the slightest delay. Some of these id characteristics can be seen in adults occasionally, which shows that the id has influence over adults too.

(b) *Ego* Through the process of socialisation, the *ego* develops alongside the id. According to Freud, the former is reality oriented. The ego works as an intermediary between the id and the superego, and ensures that the three components of personality work co-operatively. As a reality-based component, the ego sees to it that needs are satisfied through appropriate means. Inevitably, the ego ensures that pain and discomfort are tolerated and gratification is delayed until an appropriate occasion presents itself. The ego is responsible for ensuring that whatever behaviour a person engages in is socially acceptable. This implies that the ego controls the id and its pleasure propensities. It is important to note that the ego develops as a result of interaction between the child and his environment, which consists of input from the home, school, experience, and other social forces. In summary, 'Freud's

ego is logical, rational, tolerant of tension, the executive of personality' (Pervin, 1970: 159).

(c) *Superego* The *superego* is the third and highest component of personality. It develops as a result of a person's interactions with parents, siblings, peers, teachers, and society at large. The superego strives to maintain a state of perfection in behaviour. It is the custodian of society's established code of behaviour, and as such is responsible for rewarding and punishing acceptable and unacceptable behaviour respectively. For example, if a person behaves in an acceptable manner, he experiences pride or self-love as a reward, whereas if he behaves in an undesirable manner, he is likely to experience guilt, feelings of inferiority and embarrassment. Through the superego, the values, beliefs, attitudes and morality learned from parents and society in general become internalised and form part of a person's philosophy of life. What a person does is based on his internalised system of values rather than on what he has been told by others. There are things he will not do simply because they conflict with his established philosophy of life. A person's conscience is rooted in his superego.

8.3.1.3 Personality development

Freud believed that personality is shaped by the early experiences children have as they pass through a set sequence of *psychosexual stages*. The term 'psychosexual' is used because three areas (mouth, anus and genitals) known as the *erogenous zones* are intensely responsive to pleasurable stimulation, which has an influence on the id and subsequent psychological development. Each of the stages will be discussed briefly.

(a) *The oral stage* During the first year of life, according to Freud, infants derive pleasure primarily from their mouths, ie from eating, sucking, biting and similar activities. Sexual energy (called *libido*) centres on oral satisfaction. Weaning is the major conflict of the oral stage. The more difficult it is for infants to leave the breast or bottle and its pleasures, the more libido will be fixated at this stage. The adult who exhibits oral traits (such as dependency, passivity and greediness) and oral preoccupations (eating, chewing gum, smoking) has had a carry-over of libido from this stage.

(b) *The anal stage* During the second year of life, Freud believed, pleasure is obtained initially from the excretion of waste matter from the bowels and later from retaining it. Some children resist toilet training at this stage in order to manipulate their parents. If toilet training is either harsh or overly indulgent, a significant amount of libido may be fixated. Adults who are fixated at this stage handle their frustrations by defiance, hoarding, stinginess and stubbornness.

(c) *The phallic stage* In the third to fifth year of life children discover that manipulation of the genitals provides pleasure. During this stage the *Oedipus complex* develops in boys and the *Electra complex* in girls. (These names are derived from legendary Greek characters who experienced dramatic conflicts of the same nature.)

According to Freud, with the onset of sexual awareness the boy desires his mother for himself, because she has hitherto gratified his

needs, and perceives his father as a rival. He fantasises about overthrowing his father, but at the same time fears being castrated. To eliminate this terrifying possibility, the youngster represses his love for his mother and *identifies* with his father (strives to become like him). By identifying with his father, the boy shares in his sexual privileges in his imagination. This identification enables him to adopt masculine sex-typed personality characteristics.

Young girls face a similar crisis. Like the son, the daughter loves her mother because she has been gratifying her needs. During the phallic stage she discovers that she has no penis and blames her mother for having 'castrated' her. She temporarily transfers her love to her father, but eventually identifies herself with her mother and establishes a special relationship with her father. Because of this so-called 'penis deprivation', females develop personality characteristics such as envy and inferiority.

(d) *The latency stage* From the age of five to the age of about 12 or so, the child's sexual needs become dormant and no important conflicts or personality changes occur.

(e) *The genital stage* At the onset of puberty, sexual interests reawaken. During the genital stage (adolescence through adulthood), relationships with the opposite sex are developed. Freud believed a mature heterosexual bond to be the hallmark of maturity. If energy is tied up because of excessive gratification or frustration at lower developmental stages, adolescents cannot meet the challenge (Davidoff 1980: 424).

8.3.1.4 Criticism of Freud's developmental theory of personality

Freud's formularies have been questioned and criticised by many psychologists. He failed to give due weight to social and cultural influences on personality. For example he assumed, as Davidoff (1980: 424) puts it, 'that sexuality is a universal preoccupation, instead of connecting this concern to the practices of his Victorian society'.

Several psychologists, drawing on their clinical experience with patients, have amended Freud's ideas. These psychologists are referred to as *Neo-Freudians*. Alfred Adler (1870 – 1937) felt that Freud overemphasised the importance of sexuality. He believed that personality development was linked to feelings of inferiority, which increased in proportion to the magnitude of failures to achieve life goals. Sullivan (1892 – 1949) believed that both acceptable and deviant behaviour are shaped by interactions with parents during the socialisation process in childhood. According to Erikson, personalities form as people progress through *psychosocial* (not *psychosexual*) stages of development.

8.3.1.5 Defence mechanisms

Freud held the view that abnormal behaviour stems from the conflict existing between the id and the superego. This leads to a state of tension deemed to be rather unhealthy and not in the interests of normal personality development. For this reason, the ego uses a defence mechanism to bring a situation to a semblance of normality.

Freud has identified the following defence mechanisms: repression, rationalisation, reaction formation, projection, sublimation and regression.

Repression or denial means deliberately and also unconsciously forgetting certain experiences because they evoke unpleasant feelings or cause a state of anxiety. For example, a pupil who is not prepared for an examination may decide to do something else instead of preparing for the examination on the pretext that the examination is not important anyway. *Rationalisation* or intellectualisation involves the use of reasoning to explain one's behaviour as a way of excusing the behaviour or explaining it away. For example, a pupil may claim that he failed an examination because it was not based on what the teacher had taught, or that the teacher failed him because he does not like him. *Sublimation* refers to covering up certain socially unacceptable behaviour by engaging in what is considered to be in keeping with social expectations. For example, a father may be so upset with his boss that, if he had his way, he would attack him physically. Since he knows that doing so will endanger the security of his job, he does it to one of his children on the slightest provocation when he gets home, without knowing that what he is really doing is getting even with his boss. This form of behaviour might also be characterised as displacement. *Reaction formation* means engaging in a behaviour which is opposite of what one would like to do. For example, a person may have an intense hatred for a certain person, but instead of showing him such hatred, may force himself to show the hated person care, warmth and love. *Projection* refers to the attribution of feelings that provoke a state of anxiety to others. A person might console himself by saying/thinking that he is not the only one feeling the way he does. A pupil who longs to cheat in an examination is likely to accuse others of engaging in such ethically unacceptable behaviour. Another example is of a husband who wishes to or does have an extra-marital affair and projects it onto his wife by accusing her of being unfaithful and running around with other men. *Regression* involves a reversion to a previous stage of behavioural development because one is unable to cope with a new situation. For example, a pupil who cannot cope with the standard he is in may be longing to be demoted to his previous standard. Another example is that of a spouse who tends to want to go to her/his parent's home because of having quarrelled with her husband or his wife.

Sarason and Sarason (1984: 51) state: 'Because everyone experiences (psychological) danger, the use of defence mechanisms is clearly not a special characteristic of maladaptive behaviour. They are used by all people either singly or in combination, at one time or another'.

8.3.1.6 Educational implications

A number of educational implications can be drawn from Freud's psychoanalytic theory. First, the function of the teacher and the school is to prevent psychological problems and facilitate mental health. This can be done by establishing a class-room climate which is characterised by affection, warmth, and understanding. Mental health can be further facilitated by avoiding unnecessary restrictions. Second, a major goal of education is to provide pupils with information and skills that will enable them to make good and realistic decisions, thus contributing to the development of a strong ego. Third, pupils are likely to perceive a teacher as a love object, a superego figure and an ideal ego-helper. Such a perception can influence pupils' learning. Fourth, the teacher's behaviour

and his treatment of pupils, as well as the value system the school identifies with, can have a useful input in children's development of their superego. Fifth, psychoanalysis shows that there is a cause for every behaviour, irrespective of whether this is known or unknown. Sixth, as a result of the Oedipus and Electra complexes, some pupils will tend to relate to teachers in the same way they relate to their parents (transference). Such a behaviour can be understood only in the context of psychoanalytic theory. If the transference is positive, it can be beneficial in terms of learning and of influencing a pupil's behaviour.

Finally, it must be noted that Freud was able to help patients as a result of their sharing with him what was on their minds, irrespective of how unpleasant it was. This was known as free association. In the same way, pupils should be encouraged to talk about and act out their dreams, fears and aggressive feelings, as this is likely to be therapeutic in that it will lead to them relieving themselves of obsessions. Moreover, talking about their problems in a class or a group setting in a sharing way enables them to know that others have similar problems and helps them to resolve their own psychological problems.

8.3.2 The social learning theory of personality

In this section, personality development will be examined from the point of view of social learning theory. Although a number of social psychologists have contributed to the development of this theory, Bandura stands out as perhaps the most prominent advocate of this theory.

8.3.2.1 Bandura's hypothesis

People of all ages watch others engaged in certain behaviour and see what kinds of reward or punishment follow such behaviour. On this basis, they decide how to relate to such behaviour. Obviously, observational learning is essential for both development and survival, for if every person were to go through each and every possible human experience, it would be time-consuming, dangerous and probably impossible.

According to Bandura (1977), there are four factors important to the occurrence of observational learning. These are attention, memory, motor skills and reinforcement.

Some form of *attention* is assumed to be focussed on the model for observational learning to occur. The attention may be intentional, accidental, conscious, or subconscious.

The behaviour observed is assumed to be retained in *memory* and can be retrieved so as to enable the observer to perform a similar behaviour when required to do so.

An act can be performed only if it is within the potential ability of the observer. The observer will have to engage in some overt practice before the behaviour can be reproduced adequately, since mere observation may not be enough in some instances (eg driving a car, piano playing, stickfighting, drawing or writing on the board).

The behaviour of a person who is held in high esteem by the learner is likely to be copied or modelled. The behaviour of the former tends to strengthen, ie *reinforce* the latter to behave likewise. For example, a teacher

is likely to be modelled more than a pupil. In fact, children are likely to copy the behaviour of people they identify with.

Although the socialisation process differs from one culture to another, it is nevertheless reasonable to assume that the principal phases involved are similar. Two developmental phases are distinguished in the socialisation process: These are *dependency* and *identification*.

First of all, an infant is physically *dependent* on his mother's care and fulfilment of his needs. Later on he is also dependent on her psychologically for warmth, love and companionship. Social learning theory holds that *dependency* develops on the part of the infant as a result of the mother being associated with comfort, providing him with food and relieving him of pain and discomfort. The child learns to differentiate between his mother's approval and disapproval and his behaviour. Her approval and disapproval of certain behaviour plays an important role in the process of socialisation, and hence in his personality development. Dependency on the mother is later generalised to the father, siblings, mother surrogates, teachers, etc.

Psychologically, the child shows dependency through his attention seeking such as asking adults to look at how he is performing, by being close to parents, by sitting on their laps or clinging to them for protection and security, or being afraid of being alone or in the company of strangers. As the child grows older, he becomes less dependent on his mother and his family, and instead assumes a greater degree of self-reliance.

Identification may be defined as 'imitation of another person's behaviour, mannerisms, and values'. Through the process of identification, a person develops a conscience which is responsible for the following:

- learning and internalising a given culture's moral standards and values
- experiencing remorse and guilt in response to violation of moral values
- warning others against violation of moral standards.

8.3.3 The phenomenological view of personality

Although a number of psychologists have propounded this view, only Carl Rogers' theory will be examined, because his is the most representative of them all.

8.3.3.1 The structure of personality

Rogers (1983) holds the view that man is motivated by one principal factor – *self-actualisation*. This refers to man's inherent tendency to develop and grow to the limits of his potential, and in a manner most satisfying to him.

In essence, Rogers describes his theory thus: 'This theory is basically phenomenological in character and relies heavily on the concept of self as an explanatory concept' (1951: 532). The term 'phenomenological theory' means a theory which is built upon the perceived, subjective world of one's immediate experience.

Rogers postulated that two constructs, *organism* and *self,* were basic to personality structure.

The *organism* is central to one's phenomenal field of experience. The phenomenal field is an individual's frame of reference which can be known only by the person himself. The only way it can become known to another person is through empathic inference. Even then, Rogers points out, it cannot be known perfectly.

Rogers believes that a person's behaviour is determined by his perception of his phenomenal field. This perception comes about through his experience of the outside world, as a result of which he sets up hypotheses for directing his behaviour. Let us consider a simple example: A person wants to salt his food. Before him are two identical shakers. He might think that the shaker with larger holes contains salt. Since he is not sure, he shakes a bit on the back of his hand. If the content is white rather than another colour, he feels sure that it must be salt. A more objective and cautious person might use his tongue for testing, since colour is inadequate as an accurate guide.

Part of the phenomenal field undergoes differentiation and therefore develops into the *self* or self-concept.

As an infant grows it develops a self-concept which assists it in perceiving itself as a separate and distinct entity. The self operates on the basis of conscious experience and its objective is to actualise goals and abilities of the self. Rogers argues further that a person's goal is to become his *real self* and that there is an *ideal self* which is what a person would like to be.

Behaviour is directed at satisfying needs, two major ones being *positive regard* and *self-regard*. Both of these are acquired or learned. Generally, human beings have a need for warmth, liking, respect, sympathy and acceptance from others such as peers, parents, siblings and teachers. Most people would be concerned if it came to their knowledge that others did not care about their well-being. This is what constitutes one's *positive regard.* However, as a person grows he becomes less dependent on what others think of him as reflected in positive regard, and instead develops what Rogers calls *positive self-regard*.

8.3.3.2 The development of personality

Although both the organism and the self are said to possess an inherent tendency to actualise, they are considerably influenced by their environment in a social context.

Since the evaluation of a child by parents, teachers and others is either positive or negative, the child learns two kinds of behaviour, the approved and the non-approved. Therefore, instead of being what he is in reality, the child endeavours to be what others expect him to be. His basis for valuing an experience either positively or negatively is a function of other people's ruling. Consequently, the child's self-concept may become distorted.

It is, therefore, the function of therapy (or teaching for that matter) to modify a person's behaviour by making him accept himself without being defensive or distorting his organismic experience.

8.3.3.3 Educational implications

Whatever implications Rogers' concept of man has on education has been very well expressed in his books *Freedom to Learn* (1969, 1983). Rogers contends that the chief and ultimate objective of education is to develop a fully functioning person, whom he defines as one who is open to experience, is not defensive, is accurately aware of himself, has no unconditional regard for himself and maintains a harmonious relationship with others. Such a fully functioning person is aware of both his limitations and potential and does not fear expressing himself either negatively or positively. Such a

person is constantly learning how to learn and is capable of adjusting to new situations without being a conformist.

In a learning situation, the teacher is a facilitator, characterised by his genuine interest in the pupil. First and foremost, the facilitator must accept, prize, trust and regard the learner as a person of worth. Secondly, the facilitator should be his real self and accept his feelings without being defensive, and as he interacts with the learner he should not pretend to be what he is not. Thirdly, Rogers advocates that the facilitator should meet the learner on a person-to-person level without entertaining the idea that he is superior and the learner inferior. Fourthly, the teacher must be empathic.

According to Rogers, pupils exposed to such an atmosphere study well and comprehend what they study. It is further pointed out that research has shown that teachers who are empathic, accepting, trusting and prizing are regarded by pupils as effective and that pupils learn more from such teachers than from teachers who lack such qualities. The emphasis, Rogers suggests, should be on learning rather than teaching, so that teachers serve as catalysts and facilitators, providing pupils with all the freedom they need for meaningful learning to occur and for developing to the full positive self-regard.

8.4 Attitudes

A person's attitude towards another person, event or object influences his behaviour towards him or it, either negatively or positively. The purpose of this section is to examine the formation of attitudes in general and how attitudes are formed in a class-room situation.

8.4.1 The nature of attitudes

Krech *et al* (1962: 177) define an attitude as 'an enduring system of positive or negative evaluations, emotional feelings, and pro and con action tendencies with respect to a social object'.

An attitude has three major components: the affective, the cognitive and the behavioural. The cognitive component focusses on what a person believes about a certain object or concept, eg the belief that teachers are good people. The affective component is concerned with the feeling a person has towards a concept or a person, ie liking, dislike or indifference. Given what a person thinks about teachers, the affective component would be that he likes teachers. The behavioural component refers to the extent to which the person is likely to behave in keeping with what he knows and feels. In the example given, the person concerned may be interested in becoming a teacher, may associate with teachers in some way or another, or may simply respect them.

Schneider (1976) identifies three sets of factors that are influential in the changing or forming of attitudes. These are hedonistic factors, informational factors, and self commitment factors.

With regard to the hedonistic factors, a person is likely to change his attitude if this will result in his being more acceptable. On the other hand, if it is felt that this is likely to create serious problems and that these outweigh the advantages, then change will be resisted. In some cases a person's attitude can be influenced towards change if he is in a good mood at the time it is being carried out.

As far as informational factors are concerned, a person is likely to change his attitude or form one if what is being introduced is both sensible and to a large extent in agreement with his value system. If he perceives that it will lead to conflict with some of his established beliefs and behaviour, he is likely to resist change. Normally, this type of attitude change stresses logic, reason and consistency.

The third set of factors relates to self-commitment. A person is either open-minded or a conformist. The open-minded person is more likely to change his attitude than the conformist. However, the former will resist change if he perceives it as a potential threat to himself.

8.4.2 Formation of attitudes

The formation of attitudes may be said to follow the following steps: First, the person has to pay attention to what is going on. Second, he has to understand what is going on and what is likely to occur in terms of change on his part. Third, he has to be prepared to identify with the suggested change. These three steps can be subsumed under acceptance and resistance. Normally a person who is ready for change will not only pay attention, but will also exert the necessary effort to understand what is going on and make a decision to change if it is acceptable. If a person has been unable to grasp what is being presented, then he is not likely to take the third step, which calls for change. On the other hand, if a person is not prepared to change, he is not likely to pay attention or to attempt to understand, nor would he be ready for a change of course.

Another important factor is the source of information. The person introducing change or a modification of attitude is crucial in facilitating a change of attitude. If the person involved in attitude change is both likeable and trustworthy, change is more likely to occur than if the communicator is a person who is neither liked nor trusted. Furthermore, if the person introducing change is a significant other, change is likely to occur. The rationale for this is threefold. People generally like to identify with prestigious people: people feel that the significant others are likely to know better and that therefore what they are proposing must be close to reality; thirdly, most people would feel that disagreeing with the significant other is a sign of narrow-mindedness.

To conclude, it must be noted that, generally speaking, people have a special attachment to their attitudes for idiosyncratic and other reasons. This is why they are more often than not unprepared to change their attitudes. On the other hand, there is a need for changing attitudes in view of the fact that many of the attitudes that people have are likely to be a function of 'erroneous beliefs based on emotional reactions, illogical reasoning, and faulty generalization' (Lefrancois, 1980: 562).

8.4.3 Attitudes in the class-room

Most educators agree that a person's attitudes have an impact on learning. Where positive attitudes exist, pupils perform better than where negative attitudes prevail. Schofield (1981) points out that good performance in Mathematics (and this should be true for other subjects too) is influenced by favourable attitudes. Children who enjoy a given subject are likely to spend

more time and energy gaining mastery over it. In the process, they are reinforced by the success they obtain.

Undoubtedly, the teacher has a role to play in influencing pupils' attitudes towards learning. A teacher who shows interest in his work and his pupils fosters positive attitudes towards himself and the subject taught. Schofield (1981: 463) sums up the situation thus: 'Teachers who like the subject matter and are good at it are well endowed to stimulate favourable attitudes in their pupils that are essential for learning, whereas teachers who dislike the subject or are not competent in it are likely to infect their pupils with similar feelings of dislike and similar cognitive incompetence'.

8.5 Self-concept

8.5.1 Definition of the self-concept

According to Lefrancois (1973: 297), what a person regards himself to be is a combination of what he perceives others and especially significant others in his life think of him. By significant others is meant anyone a person considers important and who serves as a model in shaping his behaviour and system of values. Such a person could be one of the parents, or both, teachers or peers, or any other person in a given community. The stress of Lefrancois' definition appears to be externally oriented. It is relevant, therefore, to look at Schwartz's (1972: 151) definition of self-concept, which reads as follows: 'self-concept is the view of the self as the individual perceives his behaviour, his thoughts and his effects on others'. This definition is more internally oriented.

Jordan (1981: 509) defines the self-concept as an 'awareness of the totality of one's self knowledge emanating from a history of interactions with others and evaluations of how one has coped with life'. It is obvious from this description that self-concept is built on the basis of the experience a person goes through as he interacts with others in a given environment. As he interacts with others, he evaluates his behaviour on the basis of the reinforcement or lack thereof that he receives from those who are in his environment, eg peers, religious leaders, parents, teachers and other members of his community. If the reactions from others are of a positive nature, a person is likely to accept himself as a person of worth and thus to develop a positive self-concept. Should the reactions be negative and be interpreted as such, a person is likely to consider himself worthless and thus to develop a negative self-concept.

Whether a person develops a positive or negative self-concept depends on how he is treated and how he perceives such treatment. It is important to note that a person's self-concept is a major factor contributing to his behaviour (Burns 1979). People with a positive self-concept tend to be more successful in life (including academic life) than those who have a negative self-concept. Thus, the skillful teacher must at all times endeavour to promote and sustain a positive self-concept in the child.

The following procedures for building the pupils' self-concepts are suggested:

(a) Give the pupil time to articulate his ideas rather than asking another pupil to respond simply because the first one does not respond quickly enough.

(b) Praise the pupil for appropriate responses (That is a good answer; I'm happy you are busy with your work).

(c) Use physical contact which might involve patting or holding the child's hand.

(d) Use facial expressions such as smiling, winking or nodding.

(e) Identify the child as a model by bringing his performance to the attention of the class.

(f) Establish emotional contact by spending some time in physical proximity with the child.

Some thoughtful questions that can contribute to facilitating pupils' self-concepts have been suggested by Purkey (1970: 54 – 56) and these are reproduced verbatim:

'1 Do I permit students to challenge my opinion?

2 Do I teach in as exciting and interesting a manner as possible?

3 Do I avoid unfair and ruthless competition in the classroom?

4 Do I encourage students to try something new and join in new activities?

5 Do I learn the name of each student as soon as possible, and do I use the name often?

6 Do I share my feelings with my students?

7 Do I spread my attention around and include each student, keeping special watch for the student who may need extra attention?

8 Do I notice and comment favourably on the things that are important to students?

9 Do I show students who return after being absent that I am happy to have them back in class, and that they were missed?

10 Do I remember to see small disciplinary problems as understandable, and not as personal insults?

11 Do I avoid having "favourites" and "victims"?

12 Do I take special opportunities to praise students for their success?'

8.5.2 The formation of complexes: Inferiority and superiority

Though the question of developing either an inferiority or superiority complex can be addressed from a variety of perspectives, in this section it will be examined from Adler's position. Alfred Adler was mentioned earlier in this chapter in connection with his disagreement with some of Freud's views regarding sexuality and the role of instincts in human development.

According to Adler, superiority may be defined as 'a concept, a belief, a reasoning process (not emotion) which motivates human beings to strive for perfection, superiority or toward better adaptation to the environment' (Mwamwenda 1978: 1). On the other hand, inferiority develops as a result of experiencing imperfection, inadequacy and insecurity in one's life. Adler notes that from its earliest period in life, the human infant is placed in a situation in which it is required to gain mastery over its environment as a means of reducing its total dependency and helplessness. In striving for mastery, a person attempts to overcome a state of inferiority and attain a state of superiority. Superiority is beneficial for the development of one's

self-concept. Ewen sums up Adler's position thus: 'To Adler, the primary goal underlying all human behaviour is that of self perfection. Everyone begins life as a weak and helpless child, and we all possess the innate drive to overcome this inferiority by mastering our formidable environment (1980: 120). However, Adler holds the view that experiencing a feeling of inferiority is neither abnormal nor undesirable, as long as one is aware of this and does his best to master and overcome it with the objective of attaining superiority.

Adler identifies three forms of inferiority complexes which account for maladjustment during adulthood. These are organic inferiority, spoiling and neglect. *Organic inferiority* is used to refer to physical or intellectual inadequacy as reflected in people with physical defects, such as those whose height or weight is socially unacceptable, as well as those who are deaf, mute, crippled, blind and those who have a low level of intelligence (Mwamwenda 1978). People with such shortcomings work hard to attain perfection in some areas as a way of compensation and try to succeed. Where this is not the case, they develop an inferiority complex. *Neglect* means that the child feels uncared for, unwanted and unloved, which makes him inevitably conclude that he is worthless and therefore inferior. This can be true of any child, but is quite common among children born out of wedlock, orphans and step-children. On the other hand, if these children are given the right treatment (warmth and love), they are capable of developing feelings of worth and hence superiority. *Spoiling* means a child is well treated and overprotected to the extent that once left alone, he is unable to conduct his own affairs.

Educationally, Adler's theory stresses the importance of encouragement, class discussion and dealing with pupils democratically. The teacher's duty, according to Adler's theory, is to assist a child in overcoming his inferiority and developing superiority (competence) through the various tasks he is asked to perform. Punishment (especially physical punishment) should be avoided and used only when deemed absolutely necessary.

Revision

A Multiple-choice questions

1 Which of the following definitions of personality is *least* likely to be offered by modern psychologists?

(a) The sum of a person's qualities and characteristics
(b) The person's moral character
(c) The impression which one makes on others
(d) The person's persistent tendency to make adjustments of a certain kind and quality
(e) The behavioural characteristics of the person.

Give reasons for not accepting the other alternatives.

2 Which statement is *true* of defence mechanisms?

(a) They are not used by well-adjusted persons.
(b) They indicate future psychosis in a person.
(c) They indicate the presence of severe neurosis.
(d) They are harmful if they interfere with normal functioning.

Give reasons why the other alternatives were rejected by you.

B Discussion questions

1 How does repression differ from regression?
2 Distinguish psychosexual development from psychosocial development.
3 Differentiate between the Oedipus complex and the Electra complex.
4 What is the distinction between observational learning and modelling?
5 What are some characteristics of Rogers' self theory of personality?
6 What are some of the distinguishing characteristics of a self-actualised person?
7 In psychoanalytic theory, what are the components of personality structure?
8 Which psychologist stated that 'experience constitutes reality'? What does he mean by this?

Chapter 9
Psychology of the teacher

9.1 Introduction

The teacher initiates the learning activities of the pupils in the class-room. Since teaching is a unique, personal activity, no two teachers teach alike. Some teach better than others. What are the criteria for successful teaching? How can we explain the relative competence of some teachers compared to others? What is the role of the teacher? An attempt to answer these questions will be made in this chapter.

9.2 The role of the teacher

In order to answer the questions above, we need to consider the role of the teacher first.

9.2.1 The meaning of role

Within any society, every individual may be thought of as occupying several *positions*, associated with which are certain corresponding *roles* which give rise to specific *patterns of appropriate behaviour*. The latter is determined by the *role norms* and the *role expectations*, or conceptions of how people in such positions ought to behave.

For example, a specific individual, Mrs Y, occupies the positions of daughter, wife, parent and teacher. In respect of each position her role is different and so is her behaviour. As a daughter she has to look up to her elderly parents and see to it that they are well cared for in their old age; as a wife she has certain commitments to her husband; as a parent she has to attend to the welfare of her children, ensure that they are adequately fed, clothed, educated, and so on; as a teacher employed in a school she has to be verbally fluent, turn up punctually for work and do it with considerable conscientiousness. However, teachers are expected to do other things as well, not just because they are customarily observed to do such things, but because they are considered to be under an obligation to do them. Thus, a teacher must also set a good moral example, encourage respect for religion, ensure that pupils are obedient and comply with the rules of the school, take charge of extra-mural activities, and achieve good examination results. All of the latter more demanding requirements may not be met by Mrs Y, so that a gap begins to emerge between *role expectancy* and *role performance*.

A rich phraseology has grown up around the word 'role' (McFarland 1971: 32). Apart from those mentioned above, there are the terms role set, role conflict and role style.

Role set refers to all the people one comes into contact with while occupying one's role. A teacher's role set, therefore, will include pupils, parents, fellow teachers, the principal, inspectors, ex-pupils, the PTA, and so on. Each of the people in the teacher's role set has an idea as to what the teacher's role ought to be.

Role conflict (also referred to as role stress) results from the different demands made on the teacher by the different members of the role set. The demands made by pupils are different from the demands made by fellow teachers, while the principal of the school and the inspector again make their own demands. Another source of role conflict or role stress is the fact that the teacher, like any other person, has multiple roles. Thus the teacher (Mrs Y cited above) may be torn between the need to prepare her lessons for the next day and the need to look after her ill child, or she may be torn between her husband's request that she accompany him to a social function and her desire to visit one of her pupil's parents.

The different types of role conflict may be conveniently classified into *inter-role conflict* and *intra-role conflict* (Morrison and McIntyre 1969: 35-36). The former results from the multiple roles the individual occupies; these roles (as in the case of Mrs Y above) may demand different values, attitudes or loyalties, and situations may arise in which it is not clear which role should be adopted. The latter occurs when the norms and expectations of different members of the same role set (eg the school), as perceived by the incumbent, do not appear to him to be compatible. For example, a teacher may feel that behaviour that is acceptable to his principal will be unacceptable to his colleagues, or that what is acceptable to his colleagues will be unacceptable to his pupils.

Some role expectations may be legitimate and others illegitimate. Legitimate role expectations may include, for example, requiring the teacher to prepare and present his lessons well, to be just and fair in his assessment of the pupils' work, not to have favourites, and so on. It is an illegitimate role expectation, however, to expect the teacher to pay for his pupils' books or lunches. When conflict arises because the teacher is unable to fulfil legitimate expectations, the teacher is obviously to blame. When conflict arises because the teacher is unable to meet illegitimate expectations, then he cannot be blamed.

Every person has his own individual, perhaps peculiar or idiosyncratic, way of fulfilling his role. This is called his *role style.* It is a teacher's role style that distinguishes his unique behaviour in the role set. Role style is determined by personality.

9.2.2 The teacher's role and personality

It is the teacher's personality that makes him perform a role in a certain way. In this section the teacher's class-room role (or class-room style) will be discussed.

Although no two persons have exactly the same personality, psychologists have attempted to categorise people into personality types according to certain dominant characteristics held in common.

McFarland (1971: 37) distinguishes between tough-minded and tender-minded teachers. The former would adopt a 'no-nonsense, spare-the-rod-and-spoil-the-child attitude'. The latter would adopt a tolerant, liberal and non-punitive approach in dealing with children's misdemeanours.

Morrison and McIntyre (1969: 133) make a distinction between so-called authoritarian and democratic teachers. They give the following descriptive distinction between the two types in terms of teaching styles:

Authoritarian – teacher-centred class-room with high teacher dominance,

formal class teaching, convergent thinking, competitiveness, relatively high punitiveness, low pupil verbal and physical activity, and teacher directed communication.

Democratic – learner-centred, less teacher dominance, pupil participation in class decisions, stress on pupils' ideas and divergent thinking, greater concern for individual needs for instruction, high pupil verbal and physical activity, co-operation, group structuring and more open teacher-pupil and pupil-pupil communication.

9.2.3 The complexity of the teacher's role

The teacher's role is a complex one, and in the view of Durojaiye (1983: 38) even more so in African countries than in Western countries.

First, there is the teacher's role in the formal setting of the school. He has to teach in accordance with set syllabusses; he must abide by the rules laid down by the principal, who in turn is instructed by the hierarchy in the education department which lays down policy; he must relate to and co-operate with other teachers; he must attend to parents when they come to enquire about their pupils and, if necessary, visit them at home; he must set and mark examination papers; and he must assist with extra-curricular activities such as games, debates, concerts, etc. This institution-centred role of the teacher is called the *nomothetic dimension.*

Second, the teacher has personal needs and goals which determine his attitude and behaviour towards his class as a whole and towards individual pupils. We know that the teacher projects his own fears and aggressions in the class-room situation. A particular child may symbolise for the teacher a person he feared or admired, and as a result unconscious feelings of hostility, jealousy, or affection may be aroused towards him (Behr 1977: 6). This person-centred role of the teacher is called the *idiographic dimension.*

When, in fulfilling his role, the teacher finds the nomothetic and idiographic dimensions to be in harmony, he will experience satisfaction; if they are not, he will experience conflict (Hoyle 1969: 40).

9.2.3.1 The teacher's role in the class-room situation

In the day-to-day class-room situation the teacher has two major functions. These are to give knowledge and train pupils in skills, and to guide the learning process so that pupils learn easily in a relaxed atmosphere. The first is referred to as the *instrumental* or *task-oriented* function and the latter as the *expressive* or *emotional-oriented* function.

The instrumental function consists of six related activities. Firstly, the teacher makes *observations.* He determines the extent to which the pupils are assimilating the knowledge that he is imparting, and the difficulty or ease with which individual pupils approach the task of learning. Secondly, he *evaluates* his observation to determine what degree of emphasis, what amount of repetition, and what further help a particular pupil needs to make him grasp the knowledge. Thirdly, having evaluated, the teacher creates *opportunities* for pupils to learn better by adjusting his method of presentation or providing different didactic aids and apparatus. Fourthly, the teacher gives *suggestions* on how the pupils may interact with the learning material to benefit from the teaching. Fifthly, he asks pupils to give their *opinions* on

how the teaching could be made more acceptable to them and sixthly, when the pool of opinion has not achieved the desired end, the teacher gives *orientation,* ie he provides direction by suggesting new approaches and new activities for the class.

The expressive function also consists of six related activities. Firstly, the teacher provides *incentives.* These include reward and punishment, encouragement and disapproval. He gives honours and privileges which make pupils feel that they have esteem and status. Secondly, he gives *affection.* He does not favour one pupil above another, but makes every child feel that he belongs to the class. Thirdly, he provides *stimulation* by his enthusiasm, zest and zeal. Fourthly, the teacher shows *agreement* with pupils' suggestions, thereby making them feel that what they say matters. Fifthly, the teacher ensures *tension release* through causing laughter, enjoying a joke and by not taking himself too seriously all the time. Sixthly, by showing *satisfaction* in his work by not complaining about poor conditions, relationships with other teachers, etc, he passes on to his pupils encouraging attitudes towards the world of work in general.

Hoyle (1969: 59) contends that the teacher has two basic sets of sub-roles to fulfil in the class-room. One set is concerned with instruction, socialisation and evaluation. This he calls the *instructional* set. The second is concerned with motivating pupils, maintaining control, and generally creating an environment for learning. This he calls the *facilitating* set. These sub-roles are not performed in isolation, but are responses to a total teaching situation. He states: 'Some teachers play only a very limited range of sub-roles whilst others, depending upon their personality characteristics and their perception of the teaching task, will play a wider variety'.

Redl and Wattenberg (1951) give a list of sub-roles accompanied by an indication of the function of each. Details are given in table 9.1.

Table 9.1 Class-room sub-roles of the teacher (Redl and Wattenberg)

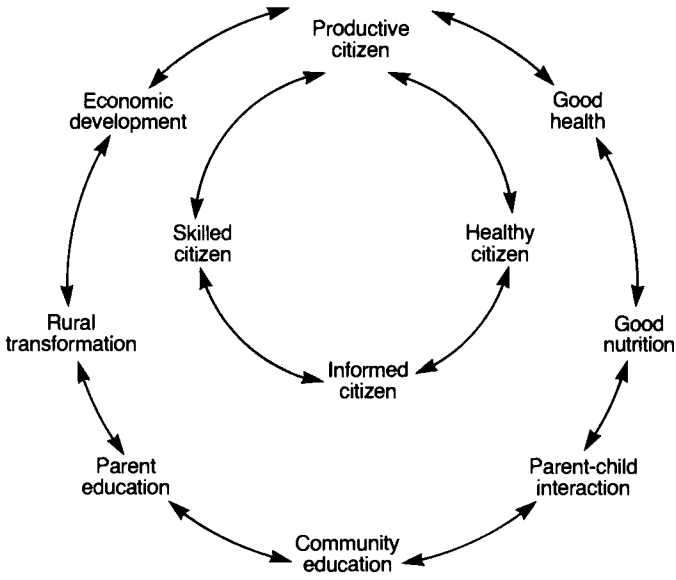
Sub-role played	Function
1 Community guide	Inculcates moral precepts
2 Judge	Gives marks and ratings
3 Resource	Provides knowledge and skills
4 Helper	Provides guidance for pupil difficulties
5 Referee	Settles disputes among pupils
6 Detective	Discovers rule-breakers
7 Object of identification	Displays traits which pupils imitate
8 Limiter of anxiety	Helps pupils control emotional impulses
9 Ego-supporter	Helps pupils have confidence in themselves
10 Group leader	Establishes the social climate of the class
11 Parent surrogate	Stands in for absent parents
12 Target for hostilities	Acts as object of aggression arising from frustrations created by adults
13 Friend and confidante	Establishes warm relationship with pupils and shares confidences
14 Object of affection	Meets need for acceptance and security

9.2.3.2 *The goals of the teacher's role*

Durojaiye (1983: 43-45) holds the view that the principal goal of the teacher's role is the production of 'skilled, informed, healthy and productive citizens'. He provides a model (see fig 9.1) which shows how the teacher in Africa has to influence his pupils, their parents and the wider community towards better nutrition and the replacement of prevailing superstitious beliefs by realistic practices. The teacher must know the occupations and skills required in the environment and must be able to impart some of these to his pupils.

Durojaiye writes: 'Many primary and secondary schools in Africa have for too long produced job seekers and not job makers . . . An important role of education in Africa, and hence of the teacher in African schools, should be the introduction of school children to various technical skills that are needed in their environment . . . children should be familiar with the elementary principles of farming before they leave school, and before they leave primary school they should know the forms of apprenticeship available in their environment for various technical and occupational skills . . . Until all children go to school on their sixth or seventh birthday, we will continue to have late starters who may be aged between 16 and 18 by the time they complete their primary education. These young people would benefit from appropriate occupational information . . . children who go on to secondary school, should, as a matter of course, be exposed to different technical and agricultural skills . . . It is not a pipe dream to suggest that, with the benefit of their education and with little financial investment, many mature secondary school leavers and some mature primary school leavers [those who cannot benefit from some form of tertiary education] can transform these cottage industries [ie traditional skills and technologies, such as cloth-weaving, basket-making, pottery, metal and woodwork, etc] into paying

Fig 9.1 Interrelationship of the goals of the teacher's role



concerns. It will make some school leavers job makers rather than job seekers'.

Durojaiye has identified social skills as another important goal of the teacher's role. He writes: 'In many African countries with diverse ethnic and linguistic groups, the development of social skills in school children is important. Only when social skills such as tolerance, mutual understanding and co-operation are fully developed among the diverse peoples of many African countries can each country expect to achieve true national unity. At present it is not uncommon to find that pupils and students from one ethnic group will avoid dealing with those of another ethnic group within the same country. Schools should foster the realization that diversities among peoples of the same country are sources of cultural enrichment . . . Until different ethnic groups in the same country have learnt to live together in harmony, the expectation of racial and international harmony will remain unfulfilled'.

9.3 Qualities of an effective teacher

Many studies have been carried out to ascertain what qualities a teacher must possess to teach effectively. In general, it is agreed that there are four categories that have to be considered. These are the following:

Category A: Competence and manner of teaching

(a) A good teacher explains the work the pupils have to do and helps them with difficulties.
(b) A good teacher makes the lessons interesting.
(c) A good teacher gives pupils enough time to finish the work.
(d) A good teacher knows a great deal about the subject he is teaching.
(e) A good teacher marks the pupils' work regularly and fairly.
(f) A good teacher encourages the pupils to work hard at school.

Category B: Method of discipline

(a) A good teacher keeps order in the class-room.
(b) A good teacher is fair and just about punishment.
(c) A good teacher gives praise for good behaviour and work that is well done.
(d) A good teacher has no favourites.
(e) A good teacher allows pupils to show initiative and independence.

Category C: Personality qualities

(a) A good teacher is cheerful and good-tempered.
(b) A good teacher is well-mannered and polite.
(c) A good teacher has a sense of humour.
(d) A good teacher is patient, understanding, kind and sympathetic.
(e) A good teacher is friendly with the pupils both in and out of school.
(f) A good teacher looks nice and dresses well.

Category D: Organising ability

(a) A good teacher makes certain that the class-room is tidy and attractive.
(b) A good teacher has work ready for the pupils as soon as they enter the class-room.
(c) A good teacher knows where to find the things he wants.

(d) A good teacher makes sure that the pupils have the pens, paper and books that they need.

(e) A good teacher is able to organise all kinds of activities in the classroom.

The qualities enumerated above have been decided upon following research in which questionnaires were completed by pupils, training college students and teachers.

Some discrepancy exists between children's notions of a good teacher and teachers' notions of a good teacher. Teachers place great emphasis on a teacher's personal qualities, while children (both primary and secondary) place emphasis on teaching skills (Musgrove and Taylor 1972: 171-182).

9.4 Personal and emotional adjustment

Three generalisations can be made about teachers in terms of personal and emotional adjustment:

- Teachers tend to be well-adjusted, emotionally stable, objective and sociable people.
- Teachers place greater value on personal relationships than on economic values.
- Teachers are inclined to behave in conformity with the social pressures which they experience.

These generalisations are based on empirical studies. (McFarland 1971: 37).

9.5 Teacher-pupil relationships

Whenever two people meet they are forced to make assessments of each other on the basis of each other's behaviour, whether verbal or gestures. First impressions determine the nature of further interaction to some extent. The teacher-pupil relationship in any single case will depend upon many factors, not least of which are the personality and the past experience of the individuals concerned, but every such interaction will have certain similarities.

In secondary schools, where teachers usually take large classes for only one or two subjects, the actual interaction between a teacher and any one pupil will be relatively brief. In fact, it often happens that a teacher does not speak directly to any one pupil for several consecutive lessons. Therefore the teacher tends to make indirect assessments of the pupil, and these will be largely determined by the way the pupil behaves in conforming to the teacher's expectations of the class as a whole. For example, if he appears to listen to what the teacher says and produces mainly good work, the teacher will be favourably disposed towards him.

When a teacher takes a new class he tends to divide the class into three categories, namely the 'good' pupils who conform to his expectations, the 'bad' pupils who deviate, and the 'in-betweens'. It is the names of the pupils in the first two categories that are learned immediately by the teacher. The names of those in the third group are learned very much more slowly, so that the teacher often has difficulty in connecting the name to the face.

Hargreaves (1967) comments: 'These inferences which the teacher draws in such a highly selective way from the pupils' behaviour, and the 'categorization process' to which it leads, act as a definition of the situation in which teachers and pupils find themselves . . . Because the inferences are selected from limited aspects of the child's behaviour and are interpreted in terms of the teacher's role expectations, there is a constant danger of misinterpretation. Indeed, the teacher may draw conclusions which are quite unjustified when one considers the totality of the pupil's behaviour. In schools, where classes are streamed according to ability, a new teacher tends to approach the pupils with a preconceived idea as to their competencies and behaviour'.

The preconceptions which some teachers have of individual pupils, and indeed classes, arise from informal gossip among the staff in the staff-room. Whenever teachers discuss pupils they bring into their discussions their own views of the pupils, which provide the 'naïve' teacher (that is one who has had no direct contact with the pupils) with the information, which categorises them in advance of any interaction, as to what behaviour this teacher should expect. Of course, there may be differences of opinion among teachers regarding the behaviour of particular pupils, but such disagreement could arise only between teachers who have had direct contact and experience with those pupils. The teacher who accepts at face value the opinions of colleagues prior to having encountered these pupils in the class-room himself, is placing himself in an invidious position with regard to interpersonal pupil-teacher relationships.

Revision

Discussion questions

1 Distinguish between role, role set, role conflict, role style and multiple role.
2 How does the role of a primary school teacher differ from that of a secondary school teacher?
3 How is the teacher's role influenced by the behaviour of his pupils in the class-room?
4 How does the teacher's role inside the class-room differ from his role outside the class-room?
5 In African countries, an important aspect of the teacher's role is concerned with rural transformation. What is meant by this statement and how can it be implemented?
6 What do you consider to be your strongest attributes as a teacher? In answering this question draw on your experience as a student teacher.
7 What are the dangers of relying on other teachers' opinions about pupils when taking over a new class for the first time?

Chapter 10
Guidance

10.1 Introduction

Every individual should be helped to understand himself as a unique person – growing, changing and developing in constant response to the demands of his cultural, social and physical environment. Knowledge of self can help the individual to deal more effectively and satisfactorily with situations that affect him directly, ie to make the correct decisions and to take the right directions amidst the multiplicity of possible choices.

In the course of a person's development towards maturity, he is faced with numerous ongoing situations which require him to make choices. It may be a choice on the playground as to what game to play, a choice as to what book to read, or a choice with more profound consequences. Indeed, it may involve the choice of a course of study culminating in a particular occupation or career which will determine his life-style for all time. Peters and Farwell (1964) comment: 'Just as the pupil learns arithmetic, history, geography and any other subject, he must learn the implications of choice'. Furthermore, 'to make every decision for the child or adolescent would be a block to maturity'.

These ideas are the assumptions that underlie our definitions of guidance.

10.2 The concepts guidance and counselling

To understand the concept *guidance,* we also need to know something about the concept *counselling.*

10.2.1 Guidance

After considerable debate with their contributors, the editors of the 1955 *Yearbook of Education* eventually defined guidance 'as a process of helping individuals through *their own efforts* to discover and develop *their potentialities,* both for personal happiness and social usefulness'. There are many other definitions. A few of these are given below.

Mathewson (1962: 141) defines guidance thus: 'Guidance is the systematic, professional process of helping the individual through educative and interpretative procedures to gain a better understanding of his own characteristics and potentialities and to relate himself more satisfactorily to social requirements and opportunities, in accord with social and moral values'.

Patricia Milner (1974: 13) has produced the following clear and useful definition: 'A broad definition of guidance in education is the presentation of knowledge, information and/or advice to individuals or groups in a structured way so as to provide sufficient material, upon which they may base choices, or decisions'.

Lindhard *et al* (1983: 1) define guidance as 'an activity in which the teacher brings children into contact with the world as it really is and helps them to make choices wisely in their day-to-day lives'.

Miller (1965: 3) views guidance as a *process* and a *set of services*. As a concept guidance is part of the total education process concerned with assisting an individual to plan and implement his decisions in accordance with his emerging life pattern.

Common to all these definitions is the insistence that decision making must be the pupil's own responsibility.

10.2.2 Counselling

According to Leona Tyler (1969: 5-13), counselling has its origins in the instability generated by the rapid changes that are a feature of our times. This has created a mood of uncertainty and apprehension in many individuals. To help the individual to face his confusion and resolve his problems, he must be involved in a counselling relationship. This relationship occurs when a person (referred to as the client) is aware of his problem and of the need to talk it over with another person (referred to as the counsellor) who can listen with sensitivity and understanding and who has available a range of psychological skills and knowledge to help him cope with or overcome his problem.

Nelson-Jones (1983: 3) defines counselling thus: 'Counselling aims to help clients . . . to help themselves. The counsellor's repertoire of psychological skills includes both those of forming an understanding relationship with clients and also skills focused on helping them to change specific aspects of their feeling, thinking and behaviour'.

In the school situation, counselling begins when the pupil voluntarily approaches the counsellor with his problems in the knowledge that he will be free to talk about them in a climate of confidence and trust.

For a good definition of counselling in the school situation, we turn again to Patricia Milner (1974: 14). She states: 'Counselling in education may be described as the interaction developing through the relationship between a counsellor and a person in a temporary state of indecision, confusion, or distress, which helps the individual to make his own decisions and choices, to resolve his confusion or cope with his distress in a personally realistic and meaningful way, having consideration for his emotional and practical needs and for the likely consequences of behaviour'. Thus, counselling is a technique; guidance is the objective (Behr 1977: 165).

There are several ways of approaching counselling. A detailed account of the various approaches falls outside the scope of this book. Nevertheless, the essential features of the two main approaches, the non-directive and the directive approaches, will be outlined briefly.

In the *non-directive* counselling approach, the client does the talking while the counsellor plays a primarily listening role, avoids passing judgement, and offers suggestions only when an impasse is reached and help is sought. The interview situation is devoid of threat or anxiety, and is characterised by a strong feeling of empathy between counsellor and client.

The objectives of the non-directive approach are threefold, namely (i) to help the pupil form a self-image of his aspirations, goals and needs; (ii) to help him make his own decisions and set his own directions in life; and (iii)

to help him build up a positive picture of his own worth, meriting the respect of others.

The founder of non-directive counselling, Carl Rogers, stated that when a person's view of himself changes, his behaviour changes accordingly.

In the *directive* approach, counselling is conceived of as occurring in two phases. The first (or downwards and inwards) phase is concerned with self-exploration, ie with the way in which the pupil sees his world, including himself and others. From this springs a sense of purpose, leading to the second (or upward and outwards) phase, in which the counsellor actively structures a series of learning tasks resulting in change in behaviour. The first phase is concerned with obtaining insights, and purpose and direction come from the pupil himself. The second phase is action-oriented, with the counsellor providing the necessary strategies and resources.

10.2.3 The teaching relationship and the counselling relationship compared

In the counselling situation the needs of the individual are of supreme importance. In the teaching situation the needs of the group may have to be given preference over the needs of the individual.

Although the teaching relationship is essentially a group relationship, individual contacts which give rise to 'an embryonic counselling relationship termed "pastoral care" ' develop (Behr 1977: 166). In a class-room free from threat, where lively group discussions are allowed to develop, the basis of a group counselling experience is created. Shy, withdrawn and isolated pupils are often able to discuss in a group context problems that they find difficult to talk about in private interviews. Their initial contributions may be minimal, but as they gain courage and strength from the group their participation becomes more vigorous and their state of anxiety less acute.

The teacher should acquire observational techniques which will enable him in his day-to-day contact with children to become aware of behavioural changes that signify stress. He should also know when to intervene himself and when to call in the help of a counselling psychologist.

The teaching relationship is a compelled relationship, whereas the counselling relationship is a voluntary one. In several school systems counselling is placed in the hands of a *professionally trained school counsellor* who is unhampered by any specific teaching relationship or overtones from the class-room situation. The school counsellor sees the person outside the class-room. However he may, if it is deemed advisable, move from the individual relationship to a group situation in which he can use group counselling techniques.

There is disagreement among authorities regarding the role of the teacher in counselling. Some hold the view that the teacher's pedagogical role (which requires him to direct, request, decree, summon, bid, impose, insist, prescribe, etc) is incompatible with the listening role of the counsellor (Taylor 1971: 18). Others point out that the teacher has a place in the counselling process, and that his pastoral care role is strengthened by the presence of a counsellor in the school (Hamblin 1974: 18-19).

Research has shown that there is a willingness on the part of pupils to discuss many of their personal problems with empathic teachers. In the case of adolescents (aged 13 to 18), these included difficulties regarding the following: learning in school; getting on with teachers, parents, siblings and

peers; making friends with the same or opposite sex; vocational choice; and physical health and appearance (Williams 1973: 101-5).

The teacher must know his limitations. He lacks training in counselling techniques. In order that he should know his limitations, it is deemed necessary to indicate briefly a few of the issues involved in the counselling technique. These will be discussed under specific headings.

(a) *Reflection of feeling* The person (as part of his defence mechanism) tends to talk of his feelings as being something apart from himself. Reflection of feeling is a technique used by the counsellor to mirror back immediately and in different words the essential attitudes portrayed by the client (also called the counsellee). As a result, the latter begins to understand that the feelings he is expressing and his resultant behaviour are part of his own personality and not something outside of himself.

(b) *Interpretation* This involves providing the client with a theoretical framework or hypothesis regarding his behaviour for him to consider. The client can react to the interpretation in one of several ways: acceptance, rejection, indifference or vehement protest. Each provides the counsellor with a clue to the client's personality and his state of development in the resolution of his problem.

(c) *Sympathy and empathy* The counsellor's approach to the client's problems is one of empathy and not sympathy. Empathy is characterised by identification with and insight into the client's problem, ie it is not the approach of a detached onlooker, but looks on the problem from an intellectual level. Sympathy goes much further. It involves feeling sorry for and being emotionally involved in the other person's problems. Peters and Farwell (1964: 102) describe sympathy as 'a sentimental feeling for another's concerns'.

It should be clear from the above that counselling in education is confined to pupils in the secondary school. Counselling young children presents many problems. Children's capacity to differentiate and integrate their outer world with inner feelings is not adequately developed. Young children with behaviour inappropriate for their age should therefore be referred to child guidance clinics.

Counselling and guidance are not to be undertaken by the ordinary class teacher. They are the responsibility of the specialist.

10.3 The different areas of guidance

Having discussed guidance and counselling in general terms, we now turn to the areas of guidance that are appropriate in the school setting, namely personal, social, educational and vocational guidance.

10.3.1 Personal guidance

In this area of guidance we are concerned with helping individuals to deal with their personal problems, including problems regarding sex, love, courtship, and other interpersonal relationships, in order to enable them to develop healthy, integrated personalities and coping skills.

The individual learners are helped to know their strengths, weaknesses and abilities and to recognise their values, which are the standards that people set for themselves and by which they judge others.

They ought to know the traditional values of honesty, tolerance and cultural traditions. They also need to know about their personality traits such as initiative, integrity, persistence, leadership, self-confidence, emotional control and social attitude. They should know whether they are confident or timid, forceful or weak, happy or moody, friendly or hostile. Once an individual has learnt about himself, he is in a better position to adjust himself to his environment and to deal with life and living.

10.3.2 Educational guidance

Educational guidance involves helping a person to choose a course of study wisely and to succeed in it.

One of the major functions of educational guidance is to awaken in the pupils educational awareness, an attitude that education is important and that it is worth making a major effort to succeed in school (Freeman 1975: 95).

In educational guidance test scores, teachers' assessments, class-room performance, level of aspiration and interests are taken into account when subjects of study for a future career are suggested.

Another major goal of educational guidance (especially in the secondary school) is to assist pupils in the techniques of efficient study. This involves assisting them in the techniques of (i) listening and reading for selecting and storing information; (ii) note-taking; (iii) picking up information from the environment; (iv) holding information in the brain; (v) manipulating information in the brain; (vi) planning a work programme for study; (vii) preparing for examinations; (viii) answering examination questions, and so on.

10.3.3 Social guidance

Social guidance is concerned with preparing the pupil for citizenship and what will be required of him in this regard as an adult. It utilises as its point of departure the kind of helping relationship that should exist between the family, the school and the wider community.

The problems that arise in the home and the community should be considered by the school, and education should be directed at the amelioration of unsatisfactory social conditions. New knowledge, skills, attitudes and values acquired at school should be carried into the home. This means that pupils must be encouraged to take an active part in various forms of social service, such as assisting with household chores and cultivating the attributes of co-operation, social sensitivity, tolerance and respect for elders.

Durojaiye (1972: 2-3) makes a plea for social guidance in schools in Africa. He states: 'Next to the home, the school exerts the greatest influence on the psychological growth of children. Not only is the school primarily responsible for their formal education and their general intellectual growth, it is also responsible for social relations between children. It exposes children to situations through which active learning develops; but it is the child who learns. The process is an active one and unless the child consciously and purposefully participates, then the desired changes in behaviour will not occur . . . [If] teachers become more skilful in [social]

guidance and counselling . . . parents may be encouraged to deal more favourably with their erring, straying or drifting children and provide them with the psychological support which hitherto may have been lacking in the home'.

10.3.4 Vocational guidance

10.3.4.1 Processes in vocational choice

Every individual strives towards choosing and engaging in an occupation that will give him satisfaction and bolster his self-concept through knowing that he is fulfilling a worthwhile role.

Throughout his stay at school, the pupil thinks and dreams of what he will do and be when he is an adult.

Super (1967) took the view that vocational choice was the implementation of a self-concept. The task of the vocational guidance counsellor is to help the youth to develop, clarify and implement a satisfactory and realistically based vocational self-concept.

There are three processes in the formation of the self-concept which affect vocational development, namely formation, translation and implementation. *Formation* is the process in which individuals engage in exploratory activities, for example writing poetry or plays, doing woodwork or needlework, etc. Through these activities they note differences between themselves and others in their approach to and execution of tasks. *Translation* is the process of identifying with an adult in a favoured occupational role and becoming aware of possessing talents and capabilities that lend themselves to particular occupations. *Implementation* is the process which involves training, such as that required to be a bricklayer, plumber, electrician, engineer, nurse, doctor or teacher. In fact, a career may be viewed as a continuing process of self-concept implementation. The ability to think beyond the present, to have some 'future orientation' and to commit oneself to the attainment of these future goals forms part of the career development needs (Super 1974).

A wise and realistic choice of occupation is only possible after careful self-analysis and a thorough knowledge of what different occupations entail. In vocational guidance considerable use is made of tests. However, tests are there primarily to help the student to understand and evaluate himself. Tests should be used with discretion. Test results should be communicated to the individual qualitatively and non-judgementally. The information provided may be at variance with the person's self-concept and some may have difficulty in assimilating it. Thus the vocational guidance counsellor must create a good interpersonal environment for the discussion of test findings, since there is always the risk of tests impeding rather than facilitating self-exploration.

There is currently a move away from norm-based tests, ie tests with scores standardised for different population groups, to self-assessment questionnaires. It is outside the scope of this book to deal with these tests and questionnaires, but mention will be made of the factors that need to be considered by the individual and that are crucial to vocational decision making.

10.3.4.2 Factors in vocational choice

(a) *Interests* Interests are related to leisure-time activities which give the individual satisfaction. It must be pointed out that it cannot be assumed that because someone is interested in a particular activity, he will necessarily be good at it. Nevertheless, if the occupation engaged in is related to one's interests, one is more likely to enjoy it.

Interests are categorised into eight fields, details of which are given in the table below.

Table 10.1 Main fields of interest

Nature	Description
1 Artistic	Painting, sculpture and the visual arts in all forms
2 Computational	The systematic recording of information and performing mathematical calculations on given data
3 Literary	Using words and manipulating verbal concepts
4 Outdoor	Working in the open, mainly with plants and animals
5 Persuasive	Communicating orally with people to convince them of a point of view or line of action to take
6 Practical	Constructive activities involving working with machines or making things with one's hands
7 Scientific	Wanting to know the 'how and why' of things, particularly in the realm of science
8 Social service	Helping people for their own sake

Many occupations involve more than one interest. A doctor, for example, has an interest in both science and social service; a farmer has both practical and outdoor interests, while the occupation of engineer could be classified under scientific, computational and practical interests.

(b) *Values* Much of the satisfaction which one is likely to derive from a career is related to one's system of values. Values are more basic than interests, because values determine which aspects of work a person finds really worthwhile for his personal happiness. Put differently, a value is an

enduring personal belief that certain life-goals are better for you than other life-goals.

In table 10.2 is a list of statements which a person would rank in order of preference.

Table 10.2 Values related to career preference

In choosing a career, would you like to enter an occupation which:	Rank order
1 Allows you to use your best abilities and aptitudes	
2 Provides you with a chance to earn a great deal of money	
3 Permits you to be original and creative	
4 Gives you social status and prestige	
5 Enables you to work with ideas and theories	
6 Allows you to develop an awareness of people's needs	
7 Assures you of a stable and secure future	
8 Enables you to work with people rather than with things	
9 Gives you an opportunity to be helpful to others?	

Values can be oriented towards self-expression, towards people, or towards extrinsic reward. Those whose values are self-expression-oriented tend to undertake occupations that provide opportunities for creativity and the use of their special talents. People with these values opt for occupations such as artists, architects, actors, engineers, journalists, musicians and scientists. Those whose values are people-oriented work in occupations that are altruistic in nature, eg parsons, social workers, teachers, nurses, etc. Individuals with strong extrinsic-reward-oriented values prefer careers in the business world.

Statements 1, 3 and 5 above indicate self-expression-oriented values; 6, 8 and 9 are people-oriented; while 2, 4 and 7 are extrinsic-reward-oriented.

(c) *Abilities* Intellectual abilities play an important part in the successful completion of a course of training for a particular occupation and in the fruitful pursuit of the occupation itself.

Abilities are classified into six categories, namely verbal comprehension, word fluency, numeracy, spatial ability, reasoning and creativity (see also chapter 7).

Verbal comprehension is the ability to grasp accurately the meaning of written and spoken words. Word fluency is the ability to give expression to one's ideas in the right words so that these can be meaningfully understood by others. Language proficiency is required in every occupation, but more so in occupations that require study in institutions for tertiary education.

Numeracy is the ability to understand and express ideas by numbers or mathematical symbols. People who possess this ability to a high degree are likely to do well in accountancy, engineering and science.

Spatial ability is the ability to perceive relationships between objects and shapes in two and three dimensions and the ability to manipulate in one's

mind the working parts of machinery and envisage what happens. Good spatial ability is necessary in engineering occupations.

Reasoning (as has been pointed out in a previous chapter) involves the mental organisation of known data. Reasoning is essential for the formation of concepts, the grasping of theories, the formulation of hypotheses, and so on. Reasoning goes hand in hand with verbal comprehension, word fluency and numeracy. Good reasoning ability is an essential requirement for all academic studies.

Creativity is the ability to produce new and useful ideas. As with reasoning, a person's originality may operate better in some areas of thinking than in others. A person may display exceptional creativity in the use of words, shapes, objects or pictures. There are numerous occupations which require high creative ability of one kind or another.

(d) *Personality* Every occupation requires one to work with other people. The manner in which a person interacts with others will have a profound bearing on whether he will succeed in his chosen work. The key to this is his personality.

The personality attributes that have bearing on working with others are co-operativeness, dominance, self-sufficiency, sensitivity, sociability, resilience and trustworthiness.

In table 10.3 below is a self-assessment personality chart which will enable the reader to gain some insight into his/her personality make-up.

Table 10.3 A self-assessment of my personality profile (Behr 1981: 35-37)

Attribute	Behaviours	Tick if applicable
1 *Co-operativeness*	1 I respond readily to other people's suggestions	
	2 I get on well with others	
	3 I never disrupt group activities	
	4 I always carry out the decisions of the group leader	
	5 I always do what is expected of me	
2 *Dominance*	1 I tend to tell others what to do	
	2 I like to take the initiative in any activity	
	3 I like taking responsibility	
	4 I always want to take the lead in group activities	
	5 I go out of my way to influence others	

Attribute	Behaviours	Tick if applicable
3 *Self-sufficiency*	1 I prefer working alone	
	2 I don't wait to be told what to do	
	3 I don't mind being criticised	
	4 I prefer to work out solutions to my problems without help from others	
4 *Sensitivity*	1 I try to understand other people's feelings	
	2 I am tactful – don't like to hurt others	
	3 I understand the unspoken needs of others	
	4 I am touchy if criticised	
	5 I keep confidential whatever personal matters I know about other people	
5 *Sociability*	1 I make friends easily	
	2 I am good-humoured	
	3 I am easy-going, not quick-tempered	
	4 People feel at ease in my company	
	5 I have no difficulty in making contact with strangers	
6 *Resilience*	1 I always remain calm under pressure	
	2 I do not worry too much when things go wrong	
	3 I do not get too involved and am able to remain detached	
	4 I am able to cope with unexpected difficulties	
	5 I do not easily get upset or discouraged	
	6 I am relaxed, do not panic easily	
7 *Trustworthiness*	1 People can always depend on me	
	2 I am always where I am expected to be	
	3 I stick to the rules	
	4 I am punctual whenever possible	
	5 I work best when unsupervised	

For some occupations certain personality attributes are essential. An accountant must be trustworthy, self-sufficient and resilient; a business executive must be co-operative, dominant, self-sufficient, resilient and trustworthy; and a lawyer must be dominant, self-sufficient, sociable, trustworthy and resilient.

If there is a mismatch between the demands of the job and personality make-up (also called personality style), it could cause friction, conflict and frustration. The outcome might be an inability to find satisfaction in one's work and failure to do it well.

10.3.4.3 The counsellor's role

The aim of the school counsellor is to plan the implementation of an occupational self-concept in secondary school pupils. Career decision making remains their own responsibility. The counsellor merely provides information and suggests possible alternatives.

It must be stressed that vocational guidance and career education operate within the closely circumscribed parameters of the opportunity structures available to school leavers. The manpower needs of a country and the state of its economy place constraints on a young person's eventual choice and entry into the workforce.

10.4 Guidance as a career

It should be clear from a study of this chapter that guidance is a very important aspect of the school system and requires highly trained and competent personnel.

Teachers who wish to qualify as guidance counsellors should take an advanced degree or diploma in this area of specialisation. It involves an in-depth study of general developmental and counselling psychology. The career and employment prospects, especially in the developing countries, are very good indeed.

Revision

Discussion questions

1 What is the significance of a pupil's self-concept in the counselling process?
2 What programmes can be developed to help the pupil achieve satisfying decisions in the vocational field?
3 What positive strategies can be used to involve parents in the counselling process?
4 How can we use testing effectively in vocational guidance?
5 Can peer counselling be of any use? If so, what do we mean by this term?

Chapter 11
Readiness for school

11.1 Introduction

It has been said that it is not possible to teach anything; it is only possible to create a situation in which learning can take place. The learner is the focus of the learning situation. There is a good deal of wisdom in this observation, especially when one considers a pupil's early years at school.

In this chapter four central topics pertaining to readiness for school are discussed. These are the importance of readiness in the learner, the contribution of the home to promoting school readiness, the factors which indicate readiness for formal learning, and the assessment of school readiness.

11.2 Readiness for formal learning

Although not all children who enter school at the age of six are equally ready, informal learning takes place most effectively when readiness has been attained. This involves proper physical, mental, and emotional development, adequate experiential background, interest, and a willingness to learn. Thus both maturational and motivational factors are involved in readiness. When readiness is attained the child learns to read, to use numbers, and to write. In other words, he acquires the basic skills upon which all later education will be based, and throughout the primary school period he improves his ability to employ these skills.

It should be remembered that all children have been preparing for school throughout their pre-school years, some more so than others. The previous experiences that children have (or the lack of them), are extremely important, since they determine to a great extent the kind and the amount of experience that is still needed and which the school must provide before fruitful formal instruction can take place. How accurately the teacher gets to know what is still needed, and how successfully he or she can fill these needs, may well be the most important factor in determining each child's later success or failure at school.

When chronological age alone is used as an entrance criterion, no account is taken of the fact that individuals grow, develop and mature at different rates and consequently differ in school readiness and in their capacity to learn when they begin formal lessons. Thus when a Class I (Sub A) teacher first meets her class of pupils all about six years old chronologically, she is in fact confronted with a group of pupils who may differ in readiness from three to 11 years of age. Yet in many schools they are all made to sit in the same room, given essentially the same books and materials to use, and expected to follow the same type of curriculum. This situation is far different from the ideal school system, ie a system which is flexible enough to absorb each child according to his particular needs and stage of development.

Piaget (as discussed in chapter 3) has shown how the development of logical thinking and social behaviour passes through several stages. These are not clearly demarcated and occur at different stages in different children, but follow a remarkably similar sequence in all of them. In the beginning the child's thinking is pre-logical and irrational. Next he passes through a stage of concrete operations when he can handle relationships between the things he perceives, but cannot yet set up generalisations or hypotheses in the abstract. This ability develops only later. Piaget has shown how these various stages are present in all learning, eg in Mathematics and in the development of moral judgements. It is therefore important for teachers to be aware of Piaget's findings and to plan their teaching accordingly. It would be educationally unsound to confront a child who is not yet ready for school with tasks that are far beyond his capabilities. If this is done it may lead to the child losing interest in learning and create feelings of inadequacy in him (Tansley and Gulliford 1971: 119).

On the other hand, the teacher should not make the mistake of keeping learning experiences away from a child who has already attained the necessary level of readiness. Waiting too long might result in the child's interest waning to such an extent that he is unwilling to put forth the effort needed for later successful learning.

Clearly, therefore, the teacher's task becomes one of presenting each child with what for him are the right experiences at the right time. The problems and tasks which she sets him must be of such a nature that they tempt him on to the next stage of development.

11.3 Preparation in the home

Much of what is involved in readiness for school takes place before the child comes to school. Homes with a rich cultural atmosphere provide children with definite pre-school advantages over children whose home influences are not as enriching. Generally, children from middle class homes are surrounded by adults whose language and vocabulary are good and tend to develop the same kind of speech. They have the opportunity of undertaking trips and excursions which provide them with broadening experiences and have access to books and magazines containing bright and attractive pictures. Their parents read stories to them and encourage them in their initial interests and they are supplied with educational toys which provide opportunities for matching, constructing and experimenting. In addition, they come in contact with visitors who have interesting things to tell and show.

Moreover, these children are likely to have the importance of school impressed upon them from an early age. Since most schools are oriented to the needs, interests and values of the middle class, for these children school becomes an extension of their homes. Therefore they adjust more easily to their first school experiences.

Children from underprivileged environments, on the other hand, tend to come to school with a qualitatively different preparation. Although they may be well-equipped with the techniques for meeting their needs in an economically poor community, these skills are generally not the ones which are required for success in the formal school situation. Since birth they have

lived in a socio-economic group which differs in codes of behaviour, patterns of language and modes of living from the middle class group. As a result, when lower class children enter school they often step into a world that is quite foreign to them. The lack of continuity between the training they received at home and the demands made on them at school add to their difficulty in settling down when they enter Class I (Sub A).

11.4 Readiness for reading

The most fundamental skill taught at school and the activity most frequently engaged in throughout life is reading. Just as there are preparatory stages for walking and talking, there is a preliminary stage during which a child becomes ready to learn to read.

Various research workers in the field of school readiness have suggested different sets of criteria according to which a child's readiness for formal learning can be recognised. These factors are very complex in nature and are often so interwoven that it is difficult to determine which single factor or group of factors can be regarded as being the most important. In the discussion that follows, however, some of the more important factors will, for the sake of convenience, be dealt with separately.

11.4.1 Physical factors

A child is physically ready for reading and the other demands made on him by school when

(a) he has sufficient physical vitality and reasonably normal health. Persistent tiredness affects a child's attention span, his interest and the amount of effort he makes. Moreover, good health will help the child to resist illness, thereby reducing the possibility of absence from school.

(b) the muscles of his hands and wrists are sufficiently developed to control his handling of pencils and crayons at school, and his holding of books and turning of pages.

(c) his visual ability is sufficiently developed that he is able to make his eyes work together, thereby sending a clear, single, fused image to the brain when he is reading.

(d) his aural ability is sufficiently well developed that he is able to notice whether given words are similar to or different from each other. Normal hearing will also help him to analyse words phonetically and receive a clear presentation of sounds. The heard word, in turn, will promote the development of his own speech.

11.4.2 Intellectual factors

A child is intellectually mature for school when

(a) his memory – and therefore his retention and reproduction ability – has developed sufficiently so that
  (i) he can repeat sentences correctly – first shorter ones, then longer ones
  (ii) he can repeat stories correctly
  (iii) he can carry out instructions in a sequence.

(b) his ability to think in the abstract has reached the stage where
  (i) he starts to discover rules
  (ii) he starts to form ideas on a higher level
  (iii) he sees that one thing depends on another.

(c) his ability to handle simple ideas has improved to such an extent that
  (i) he is able to notice differences and starts comparing
  (ii) he can sort out similar objects
  (iii) he can define objects by giving their uses. He may, for instance, describe a knife as 'something with which you cut'
  (iv) he begins to interpret pictures – for instance, not just 'This is a boy', but 'This boy is kicking a ball'.

(d) he is able to distinguish between small differences (*u* and *n*, *t* and *f*, *b* and *d*, *p* and *q*) and between similar word patterns (*went* and *want, big and dig*). Without this ability to discriminate accurately, recognition would hardly be possible and reading might have to be delayed.

(e) he is able to copy accurately and to match pictures and forms at a simple level.

(f) he does not generally confuse sounds made by similar words, for example *set* and *sat, three* and *tree, ball* and *bell.*

(g) his 'auditory span' has reached such a level that he is able to carry in his mind a fairly complex sentence and to reproduce it orally without any errors such as the substitution of words, confusion and reversal of the various portions of a sentence, or omissions.

11.4.3 Emotional and social factors

When the child enters regular primary school for the first time, he takes a new step in his life. Whereas previously he associated more with his parents and siblings (and if he went to a nursery school, with a small group of playmates from the neighbourhood), he is now introduced to wider relationships outside the home circle. His world expands and becomes more complex. He has to become accustomed to being away from his family and his playthings for a considerable part of each day. He also has to learn to get along without his mother's personal attention to all his needs and problems. Some children adapt to these new conditions imposed by the start of formal education, whilst others experience difficulty.

A child is emotionally and socially ready for school when

(a) he has developed qualities of persistence, concentration, self-reliance and independence. Such a child is able to tolerate separation from his parents and does not feel lost in a crowd of strangers. He merges his own personality with the group and is prepared to share the teacher's attention with other children. Although he may transfer his feelings for his mother to his teacher, he accepts the fact that she cannot reciprocate in a similar manner. He thus learns to adapt himself to a far more impersonal situation without feeling rejected.

(b) he is curious and wants to know more about the world around him.

(c) he is able to feed himself, dress on his own with a minimum of help, and attend to his toilet needs. These activities give him a feeling of independence and a sense of mastery that will help him when he is faced with the newness of school.

(d) he is able to repress his own impulses, such as the urge to talk and move about the class-room freely.
(e) he is able to give voluntary attention when this is asked for.
(f) he has sufficient maturity for work. This enables him to tackle a particular task with a plan in mind. He is able to concentrate on it for a reasonable length of time, to persevere, and to have some degree of self-criticism.
(g) he is able to accept school discipline and to abide by the class routine. In general, he is able to fulfil the demands of the formal learning situation.
(h) he is able to play creatively and to use his imagination.
(i) he is able to share his toys, control his emotions, and participate in co-operative play.
(j) he has developed the correct attitude towards his own property and that of others.

Children entering Class I (Sub A) vary considerably in the degree to which they have perfected these skills at home.

11.5 Tests for school readiness

School readiness tests are designed to give a measure for a child's attainments in certain prerequisite skills which are essential if he is to benefit from formal class-room instruction (Gates, Jersild, McConnell, Challman 1963: 266).

The readiness tests given at the time of school entrance emphasise those abilities which are important to learning to read. Some attention is also given to the prerequisites for numerical thinking and to sensory motor control necessary for learning to write. Among the specific functions covered are visual and auditory discrimination, muscular co-ordination and motor skills, verbal comprehension, vocabulary, number concepts, general information, and the ability to follow directions and pay attention in a group situation.

The Metropolitan Readiness Test is a well-known American test that is used with school beginners. It will be useful to examine it briefly as a representative of school readiness tests. The test consists of a battery of six subtests, which are listed below.

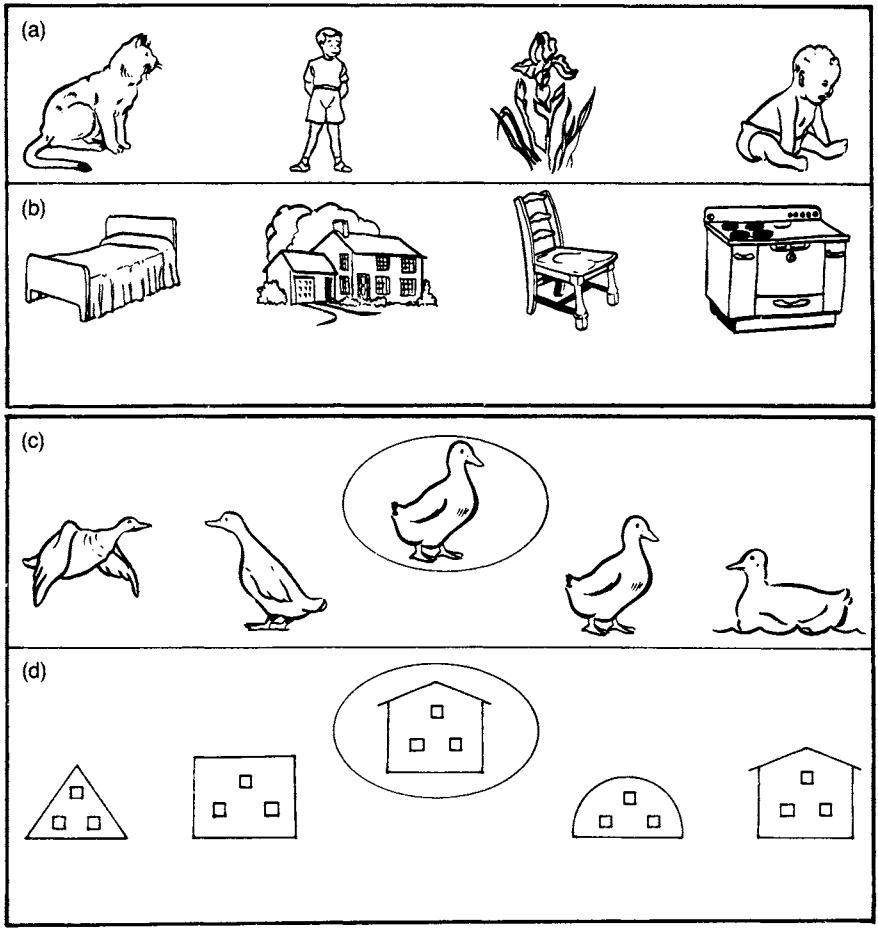
(a) *Word meaning* In each of several rows of three or more pictures the child has to select the one that illustrates the word named by the examiner. For example, in figure 11.1 (a) the child is asked to point to the picture of a baby.
(b) *Listening* This test is similar to (a), except that instead of single words, sentences are spoken, and the child is required to mark or point to the picture which refers to the sentence. For example, the testee is asked to find among the pictures portrayed, 'the item of furniture on which one sits' (fig 11.1 (b)).
(c) *Matching* In this subtest, the testees are required to recognise similarities and differences in visual material, which includes diagrams, numerals, letters, and words. For example, the child must point to the items in the row of pictures which are the same as the ones encircled (fig 11.1 (c) and (d)).

(d) *Alphabet* Letters named by the examiner must be identified on the printed page.

(e) *Numbers* The subtest comprises a wide variety of quantitative concepts and simple numerical operations. For example, the testee must mark the fourth horse in a row of horses depicted on a page, or mark the smallest apple in a row of apples, etc.

(f) *Copying* The testee is required to copy simple geometric shapes, numerals or letters.

Fig. 11.1 Sample items from the Metropolitan Readiness Test (Source: Behr 1985: 137)



An Aptitude Test for School Beginners (ASB) for use with children in Africa was devised by the Human Sciences Research Council in 1974. The purpose of this test is 'to obtain a differentiated picture of certain aptitudes of the school beginner, which are essential for progress at school' (HSRC Catalogue of Tests 1980: 80). The results can be used for grouping pupils of similar ability, as an aid in the planning of elementary education and

learning methods, and in predicting future scholastic achievement. The tests can be applied in a group situation (10 pupils) or to individual pupils.

11.6 Conclusion

Appraisal of readiness is an ongoing process. The child is a dynamic being and is constantly maturing, growing and changing. Next month he may be ready for something which is too difficult for him today. What makes the difference? Sometimes it may be that certain muscles have achieved full growth and strength within that time. In other cases, the additional experience of group living may have helped the child develop his relationships with others, resulting in reassurance and better acceptance by his class-mates. The teacher has the responsibility of keeping up with these changing individuals in order to plan their learning experiences wisely.

When planning a readiness programme, schools and teachers must be prepared to adjust to the child's needs and 'meet him where he is' (Orem 1967: 10). It may be necessary to make adjustments to teaching methods and syllabus content. Schools and teachers should not expect the child to adjust to a programme that is foreign to his needs and past experiences.

Revision

Discussion questions

1 What are some of the specific functions that must mature before a child is ready for reading?
2 From your own experience, cite a case in which a child seemed to be performing at a level well beyond that which would normally be expected of one of his age. What factors appeared to be important in this accelerated development?
3 What are your views on school readiness tests?

Chapter 12
The exceptional learner

12.1 Introduction

In every school system there are pupils who, because they differ considerably from average children in mental, physical, and emotional characteristics, need the special skills and services of teachers and other school personnel. This group of children includes both handicapped and gifted children. Today's educators call both groups of youngsters 'exceptional children'.

Kirk (1962: 5) states: 'A child is *educationally exceptional* if his deviation is of such kind and degree that it interferes with his development under ordinary class-room procedures and necessitates special education, either in conjunction with the regular class or in a special class or school for his maximum development'.

In this section the following categories of exceptional children will be discussed: the mentally handicapped, the gifted, the physically handicapped, and the maladjusted.

12.2 Educating mentally handicapped children

12.2.1 The nature of mental retardation

Retarded mental development is the disability for which special educational help is most commonly needed. These children's capacity for learning is well below that of average children.

Mental retardation is classified by degree of severity as measured by IQ scores. Table 12.1 shows the three main categories of slow learning children.

Table 12.1 Categories of slow-learning children

Category	IQ*	Description
ESN(s) or mentally retarded (t)	30 – 55	Trainable
ESN(m) or mentally retarded (e)	55 – 75	Educable
Below average intellectually	75 – 90	Can cope in the ordinary school situation

* As determined by an individual intelligence test.

IQ scores, like certain physical characteristics such as height and weight, are normally distributed throughout a population. According to the normal curve, just under 3% of the population would be considered mentally retarded. Although we no longer place uncritical faith in intelligence tests, IQ scores still play an important role in educational classification. The level of a child's ability to function adequately in society is also taken into account

in the assessment of his level of mental retardation (Kelly 1965: 170). It is important to guard against thinking in narrow terms about people's abilities. While it is true that, in general, educable children will benefit more from academic instruction than trainable children will, this distinction does not always hold good for individual pupils. Today's special educator realises that the line drawn between the two categories should not be taken too literally, but should be viewed merely as a guide-line for instruction. Thus a child with an IQ of 53 is not automatically given an educational programme radically different from that given to a child with an IQ of 57.

Although controversy exists as to whether the development of intellectual performance can be modified, it is generally accepted that, through training and modification of the social environment, the adaptive behaviour of mentally retarded children can be improved (Garrison and Force 1965: 66).

The general characteristics of mentally retarded children that call for special programming are a tendency to have poorer physical and motor abilities, a limited memory and a limited capacity for rehearsal of ideas, a lessened capability to use language and to describe temporal or causal relationships, and a short attention span and a limited frustration tolerance developed in some measure as a result of a long history of failure. In the case of mildly retarded children, these deficits are hardly noticeable when they enter school, but they become more observable as they progress to more complex kinds of learning.

12.2.2 Causes of mental retardation

Mental retardation can be caused by a number of events, but in very few cases can the cause of a particular individual's retardation be specified. The possible causes may be categorised as follows (Smith, Niesworth and Hunt 1983: 323):

(a) *Infections and intoxication* can occur in the mother-to-be or the child before, during, or after birth. They include such diseases as rubella (German measles), syphilis, meningitis, and such potential poisons as tobacco, alcohol and drugs.

(b) *Traumas (accidents) or physical agents* can cause brain damage in the baby before or after birth.

(c) *Metabolism or nutritional deficiencies* can also cause mental retardation.

(d) *Gross brain disease* (such as tumors), pre-natal influences (eg hydrocephalus and microcephalus), and a pregnancy that is too long or too short are other factors that may be associated with mental retardation.

(e) *Chromosomal abnormalities* can also cause mental retardation. Down's syndrome (mongolism) is the most common of this type of genetic disorder.

Today, more and more pregnant women, especially those over 35 years of age, are having amniocentesis to check on foetal abnormalities. Amniocentesis is a medical procedure; the physician inserts a needle into the amniotic sac of the pregnant woman to draw out a small amount of the amniotic fluid surrounding the foetus. This fluid can be checked for a number of abnormal conditions, Down's syndrome being the most common of these.

12.2.3 Educational considerations for the retarded

12.2.3.1 Educable mentally retarded children

In general, the education of this group of children concentrates on the acquisition of basic academic skills. Having chronological ages of about six to ten years and mental ages of about four to six years, most of these children need to be given class-room experiences that are typical for normal pre-school children.

The curriculum includes reading, writing, language, arithmetic, science, physical education and related topics leading to personal adequacy and social occupational competence. However, teaching methods are modified to suit the less abstract thinking characteristics of the mentally retarded. Material is presented in such a way that the child will learn at a rate that is in keeping with his development.

Several other principles and techniques are used to facilitate learning among the educable mentally retarded. These include the following:

(a) The material that is taught is so organised that the child experiences success.

(b) The child receives immediate feedback on the correctness of his answers.

(c) The teacher reinforces the child's correct responses.

(d) Lessons are given in a step by step manner so that more basic and necessary knowledge precedes more difficult material.

(e) Constant repetition is used.

(f) Only a limited number of concepts are presented in any one period and new material is introduced only after the older material has become familiar.

In the later years at school the emphasis shifts to vocational training. Most mildly retarded children are likely to be able to handle semi-skilled jobs well enough to support themselves. As adults, many of them develop social and communication skills similar to those of their non-retarded peers. Indeed, there are some who are not recognised as retarded after they finish school.

12.2.3.2 Trainable mentally retarded children

The word 'trainable' is used because of the belief that most of these children will not benefit from a traditional school curriculum featuring academic work.

The general objectives of the curriculum for a trainable mentally retarded child are the following:

(a) Developing self-care or self-help skills

(b) Aiding the child's social adjustment in the home and neighbourhood

(c) Developing economic usefulness in the home or in a sheltered environment.

Trainable mentally retarded children are not expected to become totally independent in the community. However, they are expected to get along in their homes and in their immediate neighbourhoods. They should be able to share with others, await their turn, obey, follow directions, sense the feelings of others, and cope with other aspects of interpersonal relationships,

especially those concerned with daily associations. Social adjustment develops through rewarding group experiences in recreation and play, singing, and working and living with others.

Reading is usually limited to the development of a basic sight-word vocabulary (eg common words used for their protection, such as 'danger', 'stop', 'bus', 'poison'). The arithmetic they are taught is related to everyday living. They can learn concepts such as more and less, big and little. They can be taught to count up to ten and some learn to tell the time by the clock. There are also those who can remember telephone numbers, who know their own ages, and who are conversant with simple money concepts.

Later in life some of these children hold unskilled jobs in the community, but most who work do so in sheltered workshops. While in the past many trainable retarded persons were removed from society and placed in institutions, where they had little opportunity to develop and learn how to get along in the world, the trend today is away from institutional placement. Small community-based homes are proving to be a workable alternative to large institutions.

Parents are now being included much more frequently in the treatment programmes for trainable mentally retarded children through counselling and direct instruction.

Specific learning procedures, based on task analysis and operant conditioning, have been of great value in teaching basic skills to trainable mentally retarded children. Breaking down complex tasks into their simplest parts has helped trainable individuals to learn economically useful work, often in sheltered workshop settings (Telford and Sawrey 1981: 288-294).

12.2.4 Scientific and technological advances in the area of mental retardation

Recent scientific advances, including genetic counselling, amniocentesis, virus vaccines, and early screening tests, are helping to reduce the incidence of mental retardation among children. Technological advances in aids created for people with sensory or motor disabilities have also benefitted the mentally retarded, who need help in the areas of cognitive development and independent functioning. Much of the new instructional technology has been made possible by the microcomputer, which is now being introduced into a number of schools.

12.3 Educating gifted children

Because special education has focussed mainly on helping those who do not have the ability to perform well at school, the category comprising the gifted and the talented has been overlooked when educational authorities have drawn up their list of priorities. This situation could also be due partly to the fact that these children are not easily distinguished and do not generally present serious emotional or behavioural problems to parents or teachers. Yet the gifted and the creative are the cornerstone of our future. Although it may be controversial to demand resources for these children, who in any case will do well enough personally without help, there is a great need for their fullest development. In order that this may be achieved, gifted and talented children, like other exceptional children, need special educational provisions.

12.3.1 The nature of giftedness

Gifted children may be defined as those who have superior ability to deal with facts, ideas and relationships. A related category, namely talented children, may be seen as those who have special aptitudes in specific areas such as music, art, social leadership, mechanics, and so forth. These are not distinct differences, since talented children are usually gifted intellectually, and most intellectually gifted children have talent in some area (Kirk and Gallagher 1983: 68 – 71).

The old view of the gifted as eccentric misfits – as 'brains' connected to weak or unattractive bodies – appears to be an erroneous one. Two generations of studies show the opposite. With regard to physical characteristics, it has been found that mentally superior children tend to be slightly taller and heavier than unselected children of the same chronological age, and that their general health conditions are likely to be as good as or possibly better than those existing among average children. Similarly, investigations have demonstrated that intellectually superior children tend to reach puberty and to become adolescent earlier than those of average mental capacity.

The longitudinal research undertaken by Terman, as well as studies by others, also indicate that the academically gifted are

(a) advanced two to four years beyond average in school subjects
(b) able to maintain their intellectual maturity into adulthood
(c) less prone to serious maladjustment and delinquency
(d) eight times more likely to be in the professions.

Attention is now being directed to special subgroups of intellectually gifted children who have their own unique sets of characteristics and educational problems. They include the gifted underachiever, gifted women and the gifted child who is culturally different. Although the correlation between superior intelligence and an above-average social and educational background is positive, there are many socio-economically disadvantaged children who are gifted. Unfortunately, large numbers within this category are overlooked and/or fail to achieve their potential because of various combinations of such things as poorer quality of education and stimulation, lower motivation, nongenetic biological factors such as malnutrition, and so forth.

12.3.2 Factors contributing to giftedness

Both genetic and environmental factors contribute to giftedness, but exactly how and to what extent these factors operate in a given case is still not clear. However, the evidence strongly suggests that the statistical probability of giftedness increases when a child's parents are higher than average in intelligence and provide a better than average environment (in such areas as stimulation, opportunity and emotional stability).

12.3.3 Identifying gifted children

In the early 1920s Terman chose an IQ score of 140 (based on the Stanford-Binet Individual Scale) as the cut-off point for his study of gifted children. This represented the top 1% of the population (Terman and Oden 1951). Terman's system of classification of ability is given in table 12.2.

Table 12.2 Intellectual ability in terms of IQ

Description	IQ range
Genius	Above 140
Very superior	120 – 139
Superior	110 – 119
Average	90 – 109
Below average	Below 90

A different classification is used today. For details see table 7.1 in chapter 7.

Today we recognise not only that IQ tests alone are not sufficient to identify all the gifted and talented, but that giftedness and special talents may change with time and circumstances. An adequate identification system requires both testing and observation. Tests of intelligence and achievement are still an important part of the procedure, but they should be accompanied by assessments of creativity and motivation.

Dissatisfaction with the IQ as the sole measure of giftedness is growing. Firstly, it is recognised that traditional IQ tests are limited, ie they cannot measure such things as motivation, creativity and special talents. Moreover, many believe that the standard IQ tests are biased in favour of middle class children and against those who come from lower socio-economic groups. Secondly, it is now recognised that all gifted children do not necessarily score extremely high on IQ tests. Disadvantaged children, for example, may have considerable differences in characteristics such as interests, attitude and speed of response, and these differences may affect test results greatly.

Teacher judgement can be a good screening method, provided that teachers are knowledgeable about what characteristics to look for. Recently developed rating scales can help in structuring and objectifying teachers' judgements. One such instrument, a Scale for Rating Behavioural Characteristics of Superior Students (SRBCSS) has been devised by Renzulli and Hartman. The scale measures four dimensions. In respect of each dimension there are a number of statements, which the teacher must weigh on a scale of 1 to 4.

Scale for Rating Behavioural Characteristics of Superior Students
(adapted from Renzulli and Hartman 1975: 264 – 270. Source: Behr 1985: 143-7)

Name ..... Date .....

School ..... Grade ..... Age .....
Years Months

Teacher or person completing this form .....

How long have you known this child? ..... Years .....Months

Directions

These scales are designed to obtain teacher estimates of a student's characteristics in the areas of learning, motivation, creativity and leadership. Each item in the scales

should be considered separately and should reflect the degree to which you have observed the presence or absence of each characteristic. Since the four dimensions of the instrument represent relatively different sets of behaviours, the scores obtained from the separate scales should not be summed to yield a total score. Please read the statements carefully and place an 'X' in the appropriate place according to the following scale of values:

1 If you have seldom or never observed this characteristic.
2 If you have observed this characteristic occasionally.
3 If you have observed this characteristic to a considerable degree.
4 If you have observed this characteristic almost all of the time.

Part I: Learning characteristics

	1	2	3	4
1 Has unusually advanced vocabulary for age or grade level	☐	☐	☐	☐
2 Possesses a large storehouse of information about a variety of topics (beyond the usual interests of youngsters his/her age)	☐	☐	☐	☐
3 Has quick mastery and recall of factual information.....	☐	☐	☐	☐
4 Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provocative questions	☐	☐	☐	☐
5 Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people, or things; looks for similarities and differences in events, people, and things	☐	☐	☐	☐
6 Is a keen and alert observer; usually 'sees more' or 'gets more' out of a story, film, etc, than others.....	☐	☐	☐	☐
7 Reads a great deal on his/her own; usually prefers adult-level books, including a preference for biography, autobiography, encyclopaedias and atlases	☐	☐	☐	☐
8 Tries to understand complicated material by separating it into its respective parts; reasons things out for himself/herself; sees logical and commonsense answers	☐	☐	☐	☐
Column total	☐	☐	☐	☐
Weighted column total	☐	☐	☐	☐
Total			☐	

Part II: Motivational characteristics

	1	2	3	4
1 Becomes absorbed and truly involved in certain topics or problems; is persistent in seeking task completion	☐	☐	☐	☐
2 Is easily bored with routine tasks	☐	☐	☐	☐
3 Needs little external motivation to follow through in work that initially excites him/her	☐	☐	☐	☐
4 Strives toward perfection; is self-critical; is not easily satisfied with his/her own speed or products	☐	☐	☐	☐

5 Prefers to work independently; requires little direction from teachers	☐	☐	☐	☐
6 Is interested in many 'adult' problems such as religion, politics, sex, race – more than usual for age level	☐	☐	☐	☐
7 Often is self-assertive (sometimes even aggressive); stubborn in his/her beliefs	☐	☐	☐	☐
8 Likes to organize and bring structure to things, people, and situations	☐	☐	☐	☐
9 Is quite concerned with right and wrong, good and bad; often evaluates and passes judgement on events, people, and things	☐	☐	☐	☐
Column total	☐	☐	☐	☐
Weighted column total	☐	☐	☐	☐
Total				☐

Part III: Creativity characteristics

	1	2	3	4
1 Displays a great deal of curiosity about many things; is constantly asking questions about anything and everything	☐	☐	☐	☐
2 Generates a large number of ideas or solutions to problems and questions; often offers unusual ('way out'), unique, clever responses	☐	☐	☐	☐
3 Is uninhibited in expression of opinion; is sometimes radical and spirited in disagreement; is tenacious	☐	☐	☐	☐
4 Is a high risk taker; is adventurous and speculative	☐	☐	☐	☐
5 Displays a good deal of intellectual playfulness; fantasizes; imagines ('I wonder what would happen if . . .'); manipulates ideas (ie changes, elaborates upon them), is often concerned with adapting, improving, and modifying institutions, objects and systems	☐	☐	☐	☐
6 Displays a keen sense of humour and sees humour in situations that may not appear to be humorous to others	☐	☐	☐	☐
7 Is unusually aware of his/her impulses and more open to the irrational in himself/herself (freer expression of feminine interest for boys, greater than usual amount of independence for girls); shows emotional sensitivity	☐	☐	☐	☐
8 Is sensitive to beauty; attends to aesthetic characteristics of things	☐	☐	☐	☐
9 Is nonconforming; accepts disorder; is not interested in details; is individualistic; does not fear being different	☐	☐	☐	☐

10 Criticizes constructively; is unwilling to accept authoritarian pronouncements without critical examination.....	☐	☐	☐	☐
Column total	☐	☐	☐	☐
Weighted column total	☐	☐	☐	☐
Total				☐

Part IV: Leadership characteristics

	1	2	3	4
1 Carries responsibility well; can be counted on to do what he/she has promised and usually does it well	☐	☐	☐	☐
2 Is self-confident with children his/her own age as well as adults; seems comfortable when asked to show his/her work to the class.....	☐	☐	☐	☐
3 Seems to be well liked by his/her class-mates	☐	☐	☐	☐
4 Is co-operative with teacher and class-mates; tends to avoid bickering and is generally easy to get along with	☐	☐	☐	☐
5 Can express himself/herself well; has good verbal facility and is usually well understood	☐	☐	☐	☐
6 Adapts readily to new situations; is flexible in thought and action and does not seem disturbed when the normal routine is changed.....	☐	☐	☐	☐
7 Seems to enjoy being around other people; is sociable and prefers not to be alone	☐	☐	☐	☐
8 Tends to dominate others when they are around; generally directs the activity in which he/she is involved	☐	☐	☐	☐
9 Participates in most social activities connected with the school.....	☐	☐	☐	☐
10 Excels in athletic activities; is well co-ordinated and enjoys all sorts of athletic games	☐	☐	☐	☐
Column total	☐	☐	☐	☐
Weighted column total	☐	☐	☐	☐
Total				☐

Since the four dimensions of the instrument measure relatively different sets of characteristics, the subscores are not added to form a total score. Although pupils can be rated at any time during the year, the earlier the observations are made, the more use can be made of the results in helping to identify and develop pupil abilities to the fullest. It is useful to obtain ratings from several teachers who are familiar with the pupil's performance.

A guiding principle in using the SRBCSS is to consider the dimension (part) of the scale in which the pupil obtains the highest score, and to tailor his teaching accordingly. A pupil, for example, with a high rating on the motivational characteristics scale will probably profit most from a programme that emphasises self-initiated pursuits and an independent study

approach to learning. A pupil with high scores on the leadership characteristics scale should be given opportunities to organise activities and to assist the teacher and his class-mates in developing plans of action for initiating and carrying out projects.

12.3.4 Educational considerations for the gifted

The formal education of the gifted presents many problems. Practically all educators agree, however, that the gifted are most neglected, and that the programmes designed for the average pupils cannot meet their needs or challenge their abilities. In order to provide adequate opportunity for the gifted to make the most of their abilities, several procedures have been suggested. These include

(a) acceleration or rapid advancement through the primary and secondary school

(b) enrichment of the standard curriculum while the child remains at all times with his chronological age group

(c) ability grouping, including special classes and types of programmes which usually combine enrichment procedures with a moderate degree of acceleration (Cleland and Swartz 1982: 203 – 4).

(a) *Acceleration* is more frequently employed at the primary rather than the high school level. It has certain advantages in that it involves few administrative difficulties, and teachers do not have 'split-level' classes. Skipping a standard and early admission to a course of study are two ways in which acceleration is practised. At the high school level it may be possible for a gifted pupil to take university courses while still at school. The credits received for these courses may enable him to complete his undergraduate work in less than the usual time.

The main objection to acceleration at the primary school level is the fact that the physical development and social maturity of the child may not keep pace with his mental growth, with the result that physical and social maladjustment may be brought about by placement among older children.

(b) *Enrichment* of the standard curriculum through instruction and guidance is generally considered to be the most effective procedure, because it provides the child with situations most nearly like those which he will meet in life.

Enrichment of the curriculum consists of the assignment of more intensive work and of more comprehensive academic tasks, which opens areas of intellectual exploration to him and challenges his capacities and interests. Creative activities in the fields of art or music or literature; hobbies and interests; and contact with the best books from all the ages are different aspects of enrichment. Such enrichment is more than merely the addition of new activities. It involves a modification of the curriculum in breadth and in depth to provide mentally superior children with opportunities to do work on their intellectual level and to broaden their understanding of a specific area so that they can deal with more difficult aspects of subject matter.

(c) *Ability grouping* through special classes and programmes for the gifted has several advantages. Since this procedure provides classes restricted to students of superior ability and achievement, it provides more than a speeded-up trip through the traditional curriculum. This procedure permits the gifted child to progress rapidly without omitting any essential portions of the subject-matter. Furthermore, it raises the level of competition, since the child is competing with equally capable pupils, and thereby furnishes a more stimulating atmosphere. The gifted child needs to be rewarded for performing at his maximum rather than at his minimum level. Through moderate enrichment in the special class or programme, provision is made for a variety of challenging tasks and for the encouragement of more efficient work habits.

12.4 Educating physically handicapped children

Children with physical and health impairments comprise an extremely varied group; it is impossible to describe all of them with a single set of terms, even if the terms used are very general. Their physical disabilities may be mild or severe. Their intellectual functioning may be below normal, normal, or above normal. They may have a single disability or a combination of impairments. They may have lived with a physical or health impairment since birth, or may have suddenly acquired the condition.

Many pupils adjust to their disability reasonably well. They present no unusual behaviour problems, are fully capable of learning in the regular class-room, and interact successfully with their non-disabled class-mates. Other pupils, however, find that their physical or health-related impairment adversely affects their education and adjustment. A child who has been away from school during long periods of hospitalisation, for example, may find it difficult to keep up with his schoolwork. A child who has unexpected seizures may find that his class-mates are reluctant to accept him as a friend, and he may take medication that makes him drowsy in the class-room.

Because of their disabilities or illnesses, children with physical and health impairments may require modifications in the physical environment, in instructional techniques, in communication, or in other aspects of their educational programmes. Teachers need to understand the conditions that affect their pupils' behaviour and performance in school (Lewandowski and Cruickshank 1980: 356 – 363).

12.4.1 Types and causes of physical handicaps

Physical disabilities can be considered in the following categories: neurological impairments; musculoskeletal conditions; and a variety of conditions affecting the child's health, vitality and normal activity.

12.4.1.1 Neurological impairments

(a) *Cerebral palsy* is one of the most prevalent physical impairments, characterised by varying degrees of paralysis, weakness, or uncoordination as a result of injury or defect in the motor areas of the brain (Baker 1966: 138 – 140). The physical disability ranges from a slight lack of control (many such children are in ordinary schools) to complete physical helplessness.

The majority of cases of cerebral palsy fall into three groups, each of which will be discussed below. *Spasticity* affects about 75% of children with cerebral palsy (Bowley and Gardner 1972: 6). Spastic children have an inability to relax their muscles and have rigid limbs. They tend to have abnormal postures resulting from some muscles contracting too much, while other muscles are too weak to counterbalance them. These postures may be exhibited even when the child is asleep.

Cerebral palsy is also classified in terms of limb involvement. A spastic monoplegic has one limb paralysed. Hemiplegics have two limbs on the same side predominantly affected. Paraplegics have only their legs paralysed, whereas triplegics have three limbs and quadraplegics all four limbs involved.

In *athetosis*, there are involuntary and uncontrollable movements so that, for example, the child makes many random movements as he strives to reach for something, and in walking there may be writhing or squirming movements together with facial grimaces. The uncontrolled movements tend to increase when the child makes an effort or is emotionally tense.

Ataxia affects balance and muscle co-ordination, so that the child is unsteady in his movements and may fall easily.

Children with cerebral palsy may have accompanying handicaps because of damage to the brain. They may have vision problems, sensory impairments (with a diminished sense of pain or feeling), visual problems, speech defects, hearing disabilities, or epilepsy.

Cerebral palsy most commonly results from damage to the brain, which occurs when the oxygen supply to the baby's brain is cut off because the placenta has been detached or the umbilical chord entwined. Rubella (German measles) virus in the expectant mother is another possibility, as well as rhesus incompatibility. Prematurity can also result in cerebral palsy. Although most children acquire the condition in the pre-natal and perinatal period, others may do so post-natally through accidents and infections such as meningitis or encephalitis.

As with all handicaps, early diagnosis is important so that parents can be advised and trained to develop their child's abilities. Physiotherapy is probably the most useful form of treatment, the aim being to increase the child's mobility and improve his muscle tone.

Although the average intelligence of cerebral palsied children is low, it must be remembered that there is a wide range of abilities (Chazan *et al* 1974: 215). It should not be assumed that because a child has gross motor disabilities, and little or no language, the child is unintelligent and does not understand what is being said. This may be far from the truth.

(b) A child born with *spina bifida* has a congenital malformation of the spinal column where the arches of the vertebrae have failed to fuse, causing a gap in the column encasing the spinal chord. In serious cases damage to the nerves results in a child being unable to use his legs. Frequently, the greatest problems for the school are the child's lack of bowel and bladder control. With proper orthopaedic care soon after birth, many children affected by this condition can attend regular

classes. Fortunately this disability is rare. Its causes are as yet unknown (Hallahan and Kauffman 1978: 425).

12.4.1.2 Musculoskeletal conditions

(a) *Muscular dystrophy* is a hereditary disease in which there is a progressive weakening and wasting away of the muscle tissue. The affected child walks slowly, is unable to run, and has difficulty getting up after falling. As yet there is no cure for muscular dystrophy, although physiotherapy may bring some relief. In the early stages of the disease the child can attend ordinary school. The educational requirements are to maintain the child's participation and interest as long as possible.

(b) *Arthritis* (a disease that causes acute inflammation around the joints) and *clubfoot* are other muscular conditions that affect some children. Neither of these afflictions causes lowered intelligence by itself. Educational considerations, therefore, include overcoming the child's problem with regard to mobility so that he could continue to learn in as normal a way as possible.

12.4.1.3 Other defects and disorders

These include *epilepsy* (a convulsive disorder), *diabetes* (which is caused by failure of the pancreas to produce enough insulin), *haemophilia* (a rare disorder in which the blood lacks a certain clotting agent) and *asthma* (where the child has bronchospasms with wheezy breathlessness and coughing). All these disorders can adversely influence a child's behaviour and performance at school. There may be a need to assess each individual case carefully before advising the best possible learning environment for each physically handicapped child. A multidisciplinary team of experts will be in the best position to give guidance in this regard (Garrison and Force 1965: 375 – 381).

12.5 Educating maladjusted children

12.5.1 The nature of maladjustment

The report of the Underwood Committee on Maladjusted Children (1955: 22) describes maladjustment in the following terms: 'A child may be regarded as maladjusted who is developing in ways that have a bad effect on himself or his fellows and cannot without help be remedied by his parents or his teachers and other adults in ordinary contact with him. It is characteristic of maladjusted children that they are insecure and unhappy, and that they fail in their personal relationships. Receiving is difficult for them as well as giving, and they appear unable to respond to simple measures of love, comfort and reassurance. At the same time, they are not readily capable of improvement by ordinary discipline.'

The definition of maladjustment is not confined to the child who is constantly in trouble, a nuisance in class, annoying to the other children and generally unable to adjust to school life. It also includes the quiet unobtrusive behaviour of the child who has begun to withdraw from human contacts.

Some of the other danger signals that should put teachers on the alert are the following:

(a) *Physical signs*

facial twitchings	restlessness
stuttering	fidgeting
biting of nails	rapid, nervous speech
twisting of hair	crying easily
enuresis (bed wetting)	vomiting

(b) *Behavioural signs*

aggressiveness	easily embarrassed
night terrors	walking in sleep
bullying	masturbation
lying	stubborness
voluntary mutism	regression
being overly sensitive	poor schoolwork

(c) *Emotional signs*

constantly worrying over little things	temper tantrums
feelings of inferiority	extreme timidity
abnormal fears	sulking and pouting
feeling resentful	

Many of the symptoms mentioned above are present in most growing children without necessarily signifying maladjustment. Within limits these are signs of normal development and are generally transient in nature.

Emotional handicap or maladjustment, however, is of a different order of seriousness. A child may be considered 'at risk' if he displays *several* of these symptoms more or less together. Two other criteria that the psychologist takes into account when considering maladjustment are the intensity and the persistence of the symptoms. A good many children have fears, tell lies and steal, but emotional difficulties should be suspected when a child is so full of fears that no sooner does one disappear than another takes its place; or when he seems quite unable to tell the truth, even when it would be to his advantage to do so; or when he persists in fabricating stories long after normal children have learned to distinguish between fact and fiction. Another example is nail-biting. Research has shown that a great majority of children bite their nails at some time or other. However, few do it to the extent of drawing blood. Such a degree of intensity may well be a sign of some serious disturbance rather than just a bad habit.

The degree to which a child's behaviour can be described as maladjusted depends also upon his age, his intellectual maturity and his background. Thus temper tantrums at the age of say two to four years might be considered quite a usual occurrence, whereas the persistence of such a symptom in a child of ten to 12 years would be a more serious matter.

12.5.2 The prevalance of maladjustment

It is difficult to give any firm figure for the prevalence of maladjustment among pupils because of the problems in defining the group and the lack of reliable methods of assessment. In his extensive survey of school children in California, Bower (1969: 33) concluded that one could expect two or three children in the average class-room to show signs of emotional handicap.

In a South African research involving 300 Indian children between Sub A and Std 5, Ramphal found that 15,2% of the boys in the sample and 8,3% of the girls had emotional problems serious enough to require specialised assistance (Ramphal 1978: 478 – 479).

Ramphal also found that as a group maladjusted children were poorer performers at school and a significant proportion of them had failed at least once in their scholastic careers. Further, well-adjusted children came to school more neatly dressed, attended school more regularly, related more easily to other children and teachers, and were more attentive in the learning situation.

12.5.3 Causes of maladjustment

A whole host of factors – physical, intellectual, temperamental, emotional and social – interact to produce problem behaviour. More specifically, broken marriages and homes marked by quarrelling, neglect, and indifference; by economic instability and deprivation; by alcoholism; by inconsistent discipline of the child, either too severe or too permissive; all contribute to behavioural disorders. The adverse effects of these factors on the child are usually reinforced by the neighbourhood in which he lives, which may consist of substandard housing with overcrowding, undesirable companions, little or no adult control over the community and domination by destructive juvenile gangs.

It must be stressed that poverty of economic and social environment alone do not cause maladjustment. Good home training and proper parental supervision enable the child to withstand considerable environmental pressure of an antisocial nature, while the lack of these factors may make for social irresponsibility.

12.5.4 Identifying maladjusted children

Several screening tests for emotional disturbance have been developed. A useful instrument – the Children's Behaviour Questionnaire – has been devised by Rutter (1967). It consists of 26 descriptions of behaviour, each of which can be given one of three possible ratings by the teacher. These are 'doesn't apply', 'applies somewhat', and 'certainly applies'. A few items from this questionnaire are given in table 12.3.

Rutter requires these ratings to be given 0, 1 and 2 respectively for each of the 26 descriptions. In this way we can obtain scores, or marks of maladjustment, on a scale between 0 (if not one description applies to the child) and 52 (if all the descriptions certainly apply). Rutter proposes that a cut-off score of 9 marks be used to distinguish between children who show disorder and those who do not.

Another approach to assessing maladjustment is assessment by other children in the class, sometimes called assessment by the peer group. The technique most often used here is the sociometric technique (Evans 1964: 8). Each member of a class of children is asked to nominate the child or children with whom he would like to form a relationship. The relationship may be one of working with him, being in a team together, going on holiday, and so on. The resulting pattern of choices is analysed by a sociogram or other type of analysis such as a sociomatrix. The isolates or neglectees are screened out from the analysis as *potentially* maladjusted. The

keyword here is 'potentially', because there are isolates and neglectees who are very stable, naturally-independent characters.

Table 12.3 Items from a children's behaviour questionnaire for completion by teachers (compiled by M Rutter)*

Statement	Doesn't apply	Applies somewhat	Certainly applies
1 Truants from school	.....	.....	.....
3 Squirmy, fidgety	.....	.....	.....
7 Often worried, worried about many things	.....	.....	.....
10 Often appears miserable, unhappy, tearful or distressed	.....	.....	.....
13 Frequently bites nails or fingers	.....	.....	.....
17 Tends to be fearful of new things or new situations	.....	.....	.....
19 Often tells lies	.....	.....	.....
26 Bullies other children	.....	.....	.....

*A cross or tick must be made against the appropriate statement.

In general, it can be said that the sociometric technique is a valuable screening device, but, like all screening devices, it is not perfect.

The third approach to assessing maladjustment is the self-assessment approach. In this case children are asked to assess themselves by providing a description of their own characteristics. As in assessment by teachers, the approach can be that of a simple check-list in which the child indicates by a tick which of a number of descriptions apply to him. An example of this type of approach is the Mooney Problem Check-List (1950). Here the child is provided with a list of possible problems such as:

1 Often feeling sick
2 Getting poor school reports
3 Spending too much money
4 Not allowed to stay out late
5 Too shy
6 Not having enough friends.

The child is asked to put a tick next to those problems which apply to him. There are 210 such items in the Mooney List – problems related to the home and family area, the school area, boy-girl relationships, and so on. In this way specific problem *areas* are identified, eg in school. The Mooney Problem Check-List is as a rule, used with high school pupils.

There are a number of other tests which purport to measure certain aspects of personality. Many of these, however, are not available for use by teachers, since specialised training is needed before they can be used and interpreted meaningfully. Projective tests such as the Rorschach and the Children's Apperception Test, for example, fall within the province of the specialist.

12.5.5 Helping the maladjusted child in school

Curative work with maladjusted children is usually slow. The first essential for these children is to establish a relationship with an adult. What they are unconsciously seeking is help in gaining self-esteem and a feeling that somebody cares about them. They need to develop trust and confidence in other people gradually. An understanding person can provide this, but the process of rehabilitation may be slow and difficult and the child will need individual attention and the chance to learn good social behaviour within a small group. The teacher should accept these children with all their faults so that they, in turn, may come to accept him and his standards – standards which should have been inculcated by their parents during their early years. From this they can be led to accept the situation which is implicit between teacher and pupil and on which successful teaching depends.

Since maladjustment is often associated with educational backwardness or failure, it is generally good therapy to try to correct whatever is educationally wrong. A child may need a second chance to learn to read, going back to an educational stage some distance below his chronological age. To acquire such a basic skill may be an important step towards establishing a point of confidence for that learner. This process of going back a stage or two is by no means easy, but neither is life with a youngster whose nose is rubbed deeper and deeper in the mire of scholastic failure.

Various writers – such as Bruno Bettelheim (1949), Carl Rogers (1942), Virginia Axline (1947), James Hymes (1955) and William Cruickshank (1961) – have all made suggestions which teachers should bear in mind when dealing with children who have behavioural problems. Some of the main ideas expressed by these authorities are the following:

(a) The tasks given to the child should be satisfying and challenging.
(b) The work should be within the child's capacity, so that a sense of accomplishment and success can be experienced.
(c) Tasks that are in keeping with the child's interests should be planned.
(d) The child should have proper educational placement.
(e) The curriculum should be adjusted to suit the child.
(f) The special abilities and talents of the child should be utilised.
(g) Children with learning problems should be given remedial teaching.
(h) The child's needs for attention should be granted by rewarding his positive behaviour.
(i) The teacher should respect the dignity of the child and in this way help him to become a responsible, independent person.
(j) Children who escape from reality through day-dreaming should (where possible) be given opportunities to express their day-dreams.

It is always good policy to request the help of the School Psychological Services while the child is still a 'minor behaviour problem'. If such a step is unduly delayed, the maladjustment could become more serious and the treatment more difficult. Even in cases of minor disturbance, the kind of help that is most appropriate can often be determined only by consultation between the schools and the School Psychological Services. This is especially desirable in the case of older secondary school pupils. It is far from easy for any one person to decide when an adolescent pupil is 'going through a

phase' or heading for a major breakdown, so there should be much more discussion of pupils with behavioural problems. Our outlook should be towards prevention or, at least, cure in the early stages.

A big step in this direction would be a reduction in the size of classes. Oversized classes make it difficult for the teacher to be alert to the early signs of emotional disturbances or to give pupils enough of that individual attention which might obviate the need for special treatment later. Other essentials which can help to prevent individual and group problems include more training in mental health for parents, as well as for all who are professionally concerned with children; earlier and more positive help for problem families; more nursery schools and classes; and the establishment by parents and teachers of realistic aspirations for their children.

12.5.6 Some specific behavioural problems

12.5.6.1 Stealing

According to psychologists there are several reasons why a child or an adolescent might steal: to obtain possessions for himself or to buy presents for his friends, to revenge himself for rejection or punishment by parents, to compensate for neglect or lack of affection by parents, or to imitate the low standards of morality practised by his parents.

The need for affection withheld by parents may impel a child to acquire possessions as a substitute. Other children who receive a moderate amount of attention and affection want more. They may, for example, be envious of the concern parents show for a sick baby, and decide to do something which will produce attention for themselves. These children generally do not hide what they have stolen.

Older children may be involved with gangs which require their members to steal, and they do so under the threat of banishment or taunts from the group.

A child who is a member of a family with loose moral standards imitates what he sees and hears. He listens when his father laughs heartily as his older brother produces a watch he 'found' in his pocket.

Parents condone stealing when they permit the child to keep what he takes and fail to punish him. A mother, too embarrassed to go to the shop with her child to return a stolen article, or to admit to a neighbour that the child helped himself to money during a visit there, will tearfully extract a promise from the child that he will never steal again and will then allow him to keep what he took. The child seldom waits long before repeating his deed.

In those cases where the stealing is not due to deep-rooted causes, it is usually enough if the child's parents teach him firmly that stealing will not be tolerated. Such parents insist that the child should return the stolen article, confess and apologise. Public admission of guilt seriously embarrasses him, and when he sees that stealing results in this kind of punishment he refrains from it.

Aggressive stealing, on the other hand, signals more critical trouble. In these cases the specialised help of the school psychologist or a Child Guidance Clinic may have to be sought to help probe and remedy more basic reasons for the child's undesirable behaviour.

12.5.6.2 Lying

Kanner (1957: 596 – 602) lists the following three reasons for a child's lying: to protect himself, to imitate adults, and to gain attention.

As in the case of stealing, the handling of a case of lying will depend on the reasons for and the frequency of the act. Most children will respond positively when they are cautioned to tell the truth next time and are given sufficient affection and praise. With time they come to respect themselves and develop their own system of inner controls.

On the other hand, the child who lies habitually and glibly without being tempted into lying by the needs of the situation, or who makes up stories and never keeps promises, may need the close supervision and direction of a skilled professional like the school psychologist.

12.5.6.3 Running away

Few children grow up without contemplating running away from home, and many in fact do so. Within limits this may not indicate too serious a problem. Sympathetic questioning and counselling by an understanding adult usually resolves the problem.

If, on the other hand, the child constantly threatens to run away from home (or actually runs away from home on a number of occasions), it becomes necessary to find out whether an anxious or unpleasant atmosphere at home drives him to do so. The causes of his anxiety need to be removed through providing reassurance and close supervision.

12.5.6.4 Fighting

Fights start when one child taunts or hits another, either good-naturedly or aggressively. If the teased child accepts the act as friendly and responds in a less than hostile manner, he establishes himself as a good sport and seldom is bothered. If he reacts belligerently or fearfully, believing that he is being singled out for abuse because he is disliked, the shoving and tentative hitting increase and develop into a serious fight.

The aggressive child bullies others and usually preys on younger children. He interferes in their disputes or pushes them aside as he walks by. Psychologists often find that a child who behaves in this way has been subjected to erratic treatment at home and may have been brutally punished by his parents. He directs his anger towards safer targets.

The child who fights excessively, either verbally or physically, needs help in understanding his peers and relating to them in a more friendly way. He should know that their taunting is testing, and he should practise returning what they offer without being offended. Praise and responsibility from adults increase his self-esteem. Also, more opportunities to spend time with a few friends who like him and with whom he can enjoy himself help him to relax with all of his peers.

12.5.6.5 Truancy

School absenteeism is probably a symptom of low morale at school. Some children are absent with the full knowledge of their parents, some are needed to help at home and others are supported by parents in their view that school is of little relevance to them.

The stereotyped image of a truant is of a happy-go-lucky child with more interesting things to do than attend school. Truancy studies, however, suggest a different picture, ie that the majority of truants are failing to cope with life. They are often unhappy at home and unpopular at school. Many are lonely children. Once poor habits of attendance are formed, the child naturally begins to fail at school. Statistics suggest that they tend to become poor employees because of their erratic work habits and the low level of work they aspire to. Many of them fall into delinquent habits while absent from school.

Truancy may be the response of a child who comes from an unsupportive home background where school is not valued by the parents. Poor attenders frequently come from the lowest social classes (Davie *et al* 1972) and from large families. Once the child has missed a good deal of schooling, it may be very difficult for him to catch up and become a respected member of the class.

Many truants claim that they absent themselves because of a conflict with a teacher at school. In some cases this may be a rationalisation to explain their alienation from school, but in many cases there are poor relationships with teachers. Not surprisingly, truants are likely to find school unrewarding and meaningless. Attendance becomes a legal requirement rather than a way of achieving personal goals.

School factors may well be important, although most investigators have concentrated on the home. Attendance is much higher at primary school, and there is usually a sharp fall at the beginning of secondary education, when the pupils come into contact with a much larger and impersonal organisation. Teachers have an important role to play in the sympathetic handling of children who absent themselves from school. Firmness and discipline may be required, but more important is the fostering of good relationships and giving them attention and showing concern. The teacher must not adopt a negative attitude towards them when they return to school. Teachers must also provide opportunities for low ability pupils to contribute positively to school. Schools are now beginning to pay much more attention to the remedial work which is often necessary for these children.

Revision

Discussion questions

1 List some of the factors that (a) promote and (b) retard the progress of special education.
2 What provision is made (or ought to be made) in your area for:
   (a) ESN special schools
   (b) child guidance clinics
   (c) services related to delinquency
   (d) schools and institutions for the physically handicapped?
3 Describe a case of educational retardation which you have known.
4 Report on what your school system can do for the educationally retarded up to and including vocational training.
5 In what ways do the methods of teaching and curricular materials used with slow learning children differ from those used in the regular class?
6 What are the arguments for and against the segregation of educationally handicapped children?

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