
UNIT 5 FACTORS AFFECTING LEARNING-I

Structure

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5.1 INTRODUCTION

Learning, as we know, can be considered as the **process by which skills, attitudes, knowledge and concepts are acquired, understood, applied and extended**. All human beings, whether grown ups or children engage in the process of learning, either consciously, sub-consciously or subliminally. It is through learning that their competence and ability to function in their environment get enhanced. It is important to understand that while we learn some ideas and concepts through instruction or teaching, we also learn through our feelings and experiences. Feelings and experiences are a tangible part of our lives and these greatly influence what we learn, how we learn and why we learn.

Learning has been considered partly a **cognitive process** and **partly a social** and affective one. It qualifies as a cognitive process because it involves the functions of attention, perception, reasoning, analysis, drawing of conclusions, making interpretations and giving meaning to the observed phenomena. All of these are mental processes which relate to the intellectual functions of the individual. Learning is a social and affective process, as the societal and cultural context in which we function and the feelings and experiences which we have, greatly influence our ideas, concepts, images and understanding of the world. These constitute inner subjective interpretations and represent our own unique, personalized constructions of the specific universe of functioning. Our knowledge, ideas, concepts, attitudes, beliefs and the skills which we acquire are a consequence of these combined processes. You may be wondering why we are discussing the concept of learning, since our concern in this unit is with factors affecting learning. We are doing this to enable you to appreciate the fact that the process of learning involves cognition, feeling, experience and a context. Individuals vary greatly with regard to their ability, capacity and interest in learning. You must have noticed such variations among your friends and students. In any family, children of the same parents differ with respect to what they can learn and how well they can learn. For example, a particular child may be very good at acquiring practical skills such as repairing electrical gadgets, shopping for the household etc., while his brother or sister may in contrast be very poor on these, and good at academic tasks, instead. Even for yourself, you may be perplexed why you can do some tasks well, but not

others given the same competence level. For example, learning the tunes of songs and even their lyrics is often found to be easier than learning a formula or a poem. Do you ever wonder why this is so? You may have observed that for some people, learning driving or swimming or cooking is achieved easily, while for some others it is a nightmare. Why this happens, what could be the underlying reasons and why individuals differ with respect to how and what they learn, are the key questions addressed in the present unit. To find some answers to these questions, we will try to identify and understand the various factors affecting learning.

5.2 OBJECTIVES

After working through this unit, you should be able to:

- identify the significant factors that affect learning;
- understand the classification system of these factors;
- appreciate the intricate relationship between personal and environmental factors;
- define intelligence and its relationship with learning;
- explain the nature of aptitudes and how these influence learning;
- define goals and interests and explain their relationship with learning; and
- understand the concepts of readiness and maturation and the importance of these in the learning process.

5.3 IDENTIFICATION OF SIGNIFICANT FACTORS

Let us now try to understand some of the significant factors affecting learning. There are some personal factors affecting learning that deal with the innate aspects of an individual and are unique to him/her. These are extremely significant as they influence what the individual can learn, how much time, effort and energy he/she is required to put in and how well he/she is likely to learn. The environmental factors are other factors which mediate the learning process. Research has shown that the following are the key factors that affect learning:

- Intelligence
- Aptitude
- Goals
- Interests
- Readiness & Maturation
- Motivation
- Self Concept
- Attitudes & Values
- Level of Aspiration
- Learning style
- Socio cultural determinants

Each of these factors play a significant role in learning. We will now examine them one by one a little later, in terms of what they mean, how they vary across individuals and how they influence the process of learning.

5.4 CLASSIFICATION OF FACTORS

To understand how we categorise the factors affecting learning, let us begin by considering the following examples:

- Ravi is sixteen years old and wants to please his mother by getting good results in his board examinations. He is so eager to please her, that he spends long hours of concentrated time and energy on his studies. He consciously tries to control other sources of distraction in his life and reduces the time spent on watching television, playing games and chatting with his friends.
- Rita Williams wants to be a famous tennis player. To achieve her goal, she practices tennis whenever she can, even though she gets no encouragement from her family. She makes it a point to watch tennis matches and maintain a good rapport with her sports teacher.
- Yuvraj is a good student, but lately he has been scoring very low marks at school. He is not able to concentrate or pay attention and his class work and home assignments reflect a very poor quality. Sources revealed that his parents fight a lot with each other and are about to get divorced.
- Arti and Kavita are two sisters. Arti is very good at art and craft and can sketch just about anything she sees. Kavita has a ear for music. She knows most songs and can sing them even if she has heard them only once. Both of them spend hours together pursuing their respective interest areas.
- Sayeeda is tall, attractive and has a very good figure. She wants to be a model or an air-hostess and nurtures this secretly as her dream. She is too scared to share her wishes with her family, since she belongs to an orthodox family, where girls at best can pursue teaching as a career. When she tries telling her mother what she wants, she is firmly told that she can only do her B.Ed and can go to the coaching classes for these.

The above cited examples illustrate that learning is a universal phenomenon mediated by a number of factors, both **personal** and **environmental** in nature. The dictum "everybody learns" is as true as its corollary, i.e., everybody learns in accordance with his/her unique, individualized blend of personal and environmental factors. For example, in case of Ravi, the desire to please his mother, striving to do well in his board exams and managing his life situations appropriately constitute the key factors which influence him. For Rita Williams, it is her intrinsic desire to be a good tennis player which is paramount. She is not deterred by the lack of family support and continues to make efforts to promote her love for tennis on her own and fulfill her desire to be successful.

In case of Yuvraj, in spite of his innate capacity to study and perform well, his lack of achievement can be attributed to the emotional insecurity stemming from his parents' divorce. As far as Arti and Kavita are concerned, their special interests and talent in art and music respectively, seem to guide their activities.

For Sayeeda, the home environment and family culture and values determine her professional choice. Her own inner interests, desires and wishes are not to be taken into cognizance.

In all the examples cited, you can find evidence of both personal and environmental factors influencing the process of learning. Learning can thus be defined as a function of the interaction of personal and environmental factors.

$$L = f (EF \times PF)$$

L = learning; f = function; EF = environmental factors; PF = personal factors.

Personal factors are the **intra individual factors** like **motivation, interests, abilities** etc which predispose an individual towards learning as in the case of Rita Williams, Arti and Kavita. **Environmental factors** on the other hand, are those contextual factors which highlight the role of the environment in learning, such as the **socio-emotional, societal** and **cultural** factors as seen in the case of Yuvraj and Sayeeda. Although the two factors represent different categories, they operate in a common system. The environmental factors provide the context within which the personal factors, operate. The learner and the learning process can only be completely understood with reference to the interaction of both environmental and personal factors. This may be diagrammatically represented as follows:

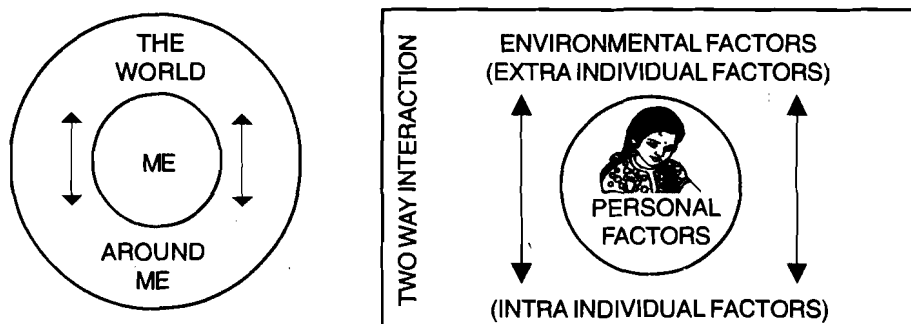


Fig. 5.1: Factors affecting learning

5.4.1 Intelligence

One of the key factors which affects our ability to learn effectively is intelligence. There are wide variations across individuals and cultures as to what actually constitutes intelligence. Let us take a deeper look at what this statement means by engaging in the following analytical task.

Imagine a classroom in which there are ten students, each with a distinctive characteristic highlighting his/her ability. You have been asked to state which one among them you consider to be the most intelligent and why. How will you proceed in your judgement. The profiles of the ten students given to you are as follows:

- Manisha always comes first in class.
- Zubin is an ace chess player.
- Neha is the most popular girl in her class.
- Ashish can remember statistics about cricket from any time period.
- Mumtaz never loses her cool and remains calm and even tempered even in difficult situations.
- Mark gets always called to arbitrate in peer disputes in his class.
- Zarina can organize any event, even at a short notice.
- Niloufer choreographs dances very well.
- Shrikant is a wizard in mental mathematics.
- Ayesha always gives novel and unique answers to routine questions.

In all probability, you will choose to identify some criteria which define intelligence and then, go case by case to consider who is the most intelligent. You will realize herein however lies your major difficulty of how to select the criteria? How to prioritise their importance? How to assign ranking? In all likelihood, you will conclude that

each student is intelligent in some way or the other, because some ability, competence or skill has been demonstrated by each one of them. Furthermore, this ability has optimised their performance or their existence in many ways. Thus two things may clearly strike you. First that there is no universal definition of the term intelligence. You will begin to realize that many possible definitions coexist. Secondly, it will become apparent to you, that irrespective of what intelligence is, it certainly augments learning, achievement and performance. You are thus likely to conclude that **learning is greatly facilitated by intelligence.**

To understand this you may like to take a brief look at some of the prominent views which attempt to conceptualize intelligence. The earliest among these was the psychometric tradition beginning with the work of **Alfred Binet**. This tradition is based on statistical analyses of conventional tests of intelligence, requiring students to show basic vocabulary, mathematical ability, reasoning and other skills. In a broad sense, intelligence is understood as a combination of several **specific**, component abilities. Binet for instance, suggested three main elements of intelligence: (1) **direction**, which involves knowing what has to be done and how to do it; 2) **adaptation** or figuring out how to perform a task and (3) **criticism**, or the ability to critique one's own thoughts and actions.

British psychologist **Charles Spearman** suggested that intelligence can be understood in terms of two dimensions or factors. A single **general factor** (g factor), general mental ability, which would affect all tasks and activities, and **specific factors** (s factors) which affect performance in a single discrete area of mental ability, such as vocabulary, mathematics, reasoning etc.

The American psychologist **Thurstone**, however, argued that a single factor was an inadequate index of intelligence and suggested seven inter-related factors which he called **primary mental abilities**. According to him learning and performance were the outcome of these seven primary mental abilities which, he labeled as: i) **Verbal comprehension**, ii) **Verbal fluency**, iii) **Inductive reasoning**, (iv) **Spatial visualization**, (v) **Number**, (vi) **Memory**, and (vii) **Perceptual speed**.

Other approaches to intelligence and learning view them as abilities to **process information meaningfully** (Sternberg) to **adapt to the demands of the environment** (Piaget), to **construct knowledge based on one's experiences** (constructivism), and to be **emotionally well adjusted and secure** (Goleman). The conceptualization of intelligence, thus in these different frameworks is much broader and recognizes that children as well as adults can be intelligent in many different ways. The most dominant contemporary view in intelligence which has a marked influence on educational practice is the one proposed by **Howard Gardener**. He has advanced a **theory of multiple intelligences** in which there are eight distinct and relatively independent intelligences. Each is a separate system of functioning, although the various systems can interact to produce overall intelligent performance. The eight intelligences are:

- Linguistic intelligence
- Logical – mathematical intelligence
- Spatial intelligence
- Musical intelligence
- Bodily – kinesthetic intelligence
- Interpersonal intelligence
- Intrapersonal intelligence
- Naturalist intelligence

The intelligence on which one is high in terms of manifestation will thus determine what one learns, how well one learns, and also influence the various ways in which one seeks engagement. Thus, irrespective of how we define intelligence, in relating it to learning, there is no doubt that it affects what, when and how we learn. Further, in operational terms, it definitely is a capacity or an ability for problem solving, thinking, reasoning, relating to others, dealing with emotions, developing interests, sense of right and wrong and living in consonance with our environment.

Check Your Progress 1

Note: Write your answers in the space given below.

Gardener's Theory specifies eight distinct multiple intelligences, whereas Spearman's theory specifies just one important general ability and unimportant specific abilities.

- 1) Which theory appeals to you more and why?

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- 2) Which theory you think has significant implications for the classroom?

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5.4.2 Aptitude

- You must have wondered many times why individuals having the same level of intelligence do not necessarily show the same results when put to the same task or activity. Further, you must have heard persons saying when frustrated, "No matter what I do, I can't get my sums right", or "I just can't learn a foreign language", or "The cake I bake, never rises", or "I simply can't memorise the poem."

It is obvious from the above that no one finds all activities and tasks easy to master and learn. While some persons are good at languages or maths, some others simply can't cope with them although they are as bright as their counterparts. Similarly, some persons can learn to cook or play musical instruments with ease, while others struggle to get their recipes right or keep to the tunes and notes. This is because individuals vary greatly in their **aptitudes or their specific capacities to do a task well** or to profit from specific types of training.

For example, if you are especially adept at assembling a new bicycle or fixing household appliances or gardening, you probably have a natural talent or ability for these activities. You obviously have manual and finger dexterity and scientific reasoning. These are your specific abilities. Likewise, if you are good at drawing, painting and music, you probably have an aptitude for beauty, aesthetics and creative expression.

An **aptitude** is thus best understood as a **stable ability** of an individual, that is readily available as a resource, which can be applied to specific tasks requiring this ability, thereby enhancing his/her potential for learning. Different jobs require different skills and their corresponding aptitudes. Recognising this, psychologists have developed many tests for assessing specific aptitudes so as to predict how an individual may

perform on a specific skill. One of the most popularly used tests is the Differential Aptitude Test Battery (DATB) which measures aptitudes like **verbal reasoning, abstract reasoning, numerical ability, mechanical reasoning, spatial ability, language ability** and **clerical speed and accuracy**. These tests help to identify an individual's aptitudes, and to predict what he/she will learn and do with ease.

The knowledge about various types of aptitudes enables us to economise our efforts and maximise learning. For example, by selecting employees who demonstrate an aptitude for a particular kind of job, an employer is likely to benefit from sending them for advanced skill training. Likewise, teachers encourage students having an aptitude for scholastic ability to strive towards excellence and high achievement by providing them beneficial learning opportunities. Thus, an aptitude is a measure of the probable rate of learning, which results in interest and satisfaction. Aptitudes are often used synonymously with talents and specific abilities, which are actually manifested concepts, judged through performance parameters.

Check Your Progress 2

Note: Write your answers in the space given below.

- 1) In a school setting what do you think about the scope of aptitude testing?(Hints: talent identification, nurturing the abilities that optimize performance, career guidance, goal planning etc.)

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- 2) "In manpower planning and development and in career counseling knowledge about individuals' aptitudes is a critical input.", Analyse giving reasons and examples.

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5.4.3 Goals

A **goal** is an **outcome** or **attainment** that an individual sets and **strive to accomplish**. Goals motivate people to act in order to reduce the discrepancy between 'what they are' and 'what they want to be'. They can be understood with reference to the vision of the future that each individual constructs for himself. Goals have been understood and classified in various ways. They can be **short-term, long-term** or **personal** or **societal** in nature and **tangible** or **abstract**. Let us now examine each one of these.

Short term goals are those which seem achievable in the near future. They involve less time as, the required time can be specified and it does not seem inordinate and endless. For a graduate, clearing the B.Ed or Journalism entrance examinations is an example of a short term goal. For an overweight adolescent, losing weight by going on a regulatory diet and exercise schedule is an example of a short term goal.

Long term goals are those which are distant and oriented towards the future. A child's wish to be a doctor or a teacher for example, are long term goals. For the rural girl, being able to pursue education and a suitable career at the end of it, are long term goals.

Immediate goals are those which can be fulfilled quickly. Resorting to crash dieting to lose weight within a week, is an example of an immediate goal. Studying for an exam only to pass it is another example of an immediate goal.

Personal goals deal with the needs and motives of the individual and are self-rewarding. For example, wanting to be a good dancer, a good human being, maintaining good health, etc., are all illustrations of personal goals since they enable an individual to feel good about him/herself. Societal goals are those which are concerned with changes in society, such as wanting better gender equality, sensitivity towards the poor, developing a more broad-minded attitude towards social reforms among the rural folk, etc.

Tangible goals are those which are clearly definable and achievable like wanting to be a doctor, or getting a distinction in the Board examinations. Abstract goals are those which deal with qualitative changes that are difficult to specify and measure quantitatively. For example, wanting to be a good human being, or a contented person are abstract goals, since 'good' and 'contented' are difficult to define or measure precisely.

Goals play a significant role in learning since they give strength and **direction** to it. When we learn only to meet the immediate goal of passing the examination, our learning is usually temporary and ineffective and we forget it soon after the goal is accomplished. For effective learning to take place, we should be able to relate it to all that we learn. This will enable us to achieve our life goals. When learning is guided or motivated by long term goals, it helps us to reach newer heights and contributes productively and positively to our life. Thus, the **types of goals that we set, influence the amount of motivation** to achieve them. Further the nature of our goal setting activity has been found to be directly proportionate to improvement in our learning and performance. This is because the goals help to direct our attention to the task at hand, they mobilize our effort, they increase our persistence at the task and they also help us to adopt new strategies when old ones fail to help us.

Educational psychologists like Murphy and Alexander (2000) have written about many goal orientations which help us to understand students' learning and performance. The important ones among these are, **learning goals, performance goals and work – avoidance**. Learning goals are based on the personal intention to improve abilities and understand a concept, idea or issue, no matter what one's performance is. Thus the mistakes one makes are not important, since the intention is to learn or to improve. Performance goals are based on the personal intention to appear competent or perform well in the eyes of others. Students with performance goals are more concerned about winning, being toppers and outdoing other students. Some students don't want to learn or look smart or outshine others; they just want to avoid work. These students try to complete assignments and activities as quickly as possible without exerting much effort. These are the work avoidant learners. You can clearly see thus how knowledge about goals is extremely significant in the educational process to understand the student and his/her learning.

Check Your Progress 3

Note: Write your answers in the space given below.

- 1) Identify any five goals which you had set for yourself in your life. Examine how they influenced your motivation and learning. What inference can you draw from your experience on the nature of relationship between goal planning and learning?

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5.4.4 Interests

You often hear teachers complaining to parents at the Parent Teacher Meetings that their children can do very well in studies, provided they take interest in them. You may have also heard students saying “Hindi is so boring”; “I just can’t do physics – its subject matter doesn’t interest me” or “why should I go for the cricket match when I am not interested in cricket!” Interest is one of the most important factors which mediates learning and which motivates to act. Without interest, as is evident from the examples cited above, there can be no learning. An **interest** is not the same as **preference for some object, event or behaviour** over others and which provides **engagement** and **joy** and is undertaken **voluntarily**. Interests are actually deep rooted constructs and are determined by the need structure of an individual. An individual with strong social needs such as belongingness, affiliation and recognition will direct all his/her energies into activities which enable him/her to fulfill these needs such as meeting people, going to clubs, associations, parties, meetings etc. In theoretical terms, an interest may be defined as a learnt or acquired motive stemming from some inherent needs of the individual which drive him/her to act in a way that will sustain or satisfy his inner need structure. This cycle can be explained with the help of the following flow diagram:

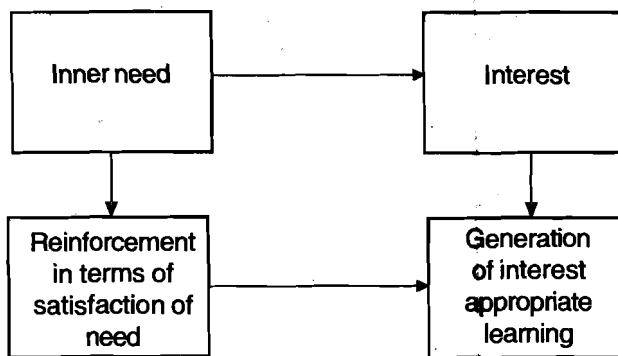


Fig. 5.2

Individuals differ greatly in their patterns of interests because their need structures vary. For some persons, social and emotional needs become the guiding forces, for others, aesthetic or higher cognitive needs may be the preponderant factors. Age variations are also visible. Young children have a need for activity, play, adventure etc. and thus they learn much better through a playway approach. This arouses their interest in studies and helps to sustain their involvement in work. For adolescents and older learners, the needs for affiliation and group belongingness are very high and thus they always show an interest in recreational group activities like parties, picnics, social outings etc. Interests are thus determined by both age related and human needs factors. They influence not only what one will learn best, but also serve to explain why learning sometimes flags or becomes inadequate. Interests are usually classified on the basis of the nature of activity involved, for example, **spiritual interests, recreational interests, scholarly or academic interests, social interests** etc.

Check Your Progress 4

Note: Write your answers in the space given below.

- 1) Contact a group of learners and ask them to list out their interests. Following this, arrive at a system of classification of the listed interests. Then, take each interest area separately and explain how it is likely to influence learning.

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5.4.5 Readiness to Learn and Maturation

As the term suggests, there is an **optimal** or **most appropriate time** for each individual to **learn a specific skill** or **concept** with **ease** and **efficiency**. This appropriate time comes when ones physical, neural and intellectual aspects of development have advanced enough to enable one to perceive the problem and solve it with relative ease and comfort. For instance, seven month old child cannot walk since it lacks the physical maturation or level of development required to promote walking. Similarly, it is impossible for a five year old to comment on democracy or socialism as he/she is not 'ready' or cognitively adept at understanding these concepts. **Maturation** can be best interpreted as **relatively permanent change in an individual** – be it cognitive, emotional or physical, that occurs as a result of biological ageing, regardless of personal experience. Maturation is preprogrammed and occurs regardless of the interactions a child has with the environment. Most expert teachers in schools know that no matter how hard they work or how good they are, they cannot force a student to think or do what he/she is not biologically ready to do. Thus, cognitive 'coming of age', or maturation is another specific aspect of 'readiness to learn'. It implies that a child should have the requisite level of cognitive skills necessary for solving a problem or accomplishing a task set before her.

It is also important for you to understand that there are large individual differences in maturation. Some children for instance walk at nine months, while others at two years. Some children speak a language quite competently at three years, while others may be as late as five years. Puberty comes to some girls at eleven while to others at fourteen. Maturation has to be thus understood as a natural process of unfolding of the development stages, resulting in functionally preparing an individual to acquire mastery over his/her environment.

It must have become clear to you that any attempt to teach things before an adequate level of readiness is acquired by the child is futile. This also serves to explain why non-performance on the part of learners or their inability to grasp a concept, can be attributed to lack of adequate maturation and readiness to learn.

Since maturation determines the readiness for learning, it is critical for curriculum planners and teachers to take note of this. It enables them to decide what to teach, how to teach, when to teach and correspondingly be guide on what to expect from their learners. You will now be able to appreciate why very young children should not be encouraged to write. Similarly, if teenagers are undergoing mood swings, it is because of their developmental pattern - they are not pretending moods or deliberately misbehaving.

Check Your Progress 5

Analyse reasons for the following:

- 1) Why cursive hand-writing is started only at approximately 7-8 years of age?

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- 2) Why team games are not played in early childhood?

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- 3) Why the order of teaching mathematical functions is addition, subtraction, multiplication, and division?

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- 4) Why Algebra, Geometry and third language learning are introduced in the middle school years?

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5.5 LET US SUM UP

In this unit you have been acquainted with some of the factors affecting learning. Learning is influenced by a combination of personal or individual centred factors and environmental factors. These interact in various ways and combinations to mediate the learning process. It is very difficult to extricate the personal and environmental factors from each other. Thus any discussion on learning always strives to identify the significant factors which affect it, irrespective of whether these are personal or environmental factors. You have already seen in this unit that among the significant factors affecting learning are intelligence, aptitude, self concept, motivation, interests, goals etc. A detailed discussion of intelligence, aptitudes, interests, goals and readiness and maturation has already been done. You must have understood how each of these factors are conceptualized and understood, their proneness to individual variations and their relationship with learning. The remaining factors will be discussed in the next unit.

5.6 UNIT END EXERCISES

- 1) Interview any two students studying in senior school regarding their performance and achievements in school. Identify the factors which have influenced these and the depth and direction of influence.
- 2) Analyse the report cards of 10 students. Based on the marks/grades and comments given, try to arrive at the possible factors which have influenced the learning/achievement.
- 3) In any learning task or activity, performance is contingent on both personal and environmental factors. Discuss.
- 4) Trace the evolution of the concept of intelligence and describe its relationship with learning.

- 5) Aptitudes greatly, enhance specific domains of learning. Discuss, substantiating your views with illustrative examples.
- 6) All curriculum planners must be conversant with the concepts of readiness and maturation. Explain why this is required and discuss the role of readiness and maturation in influencing learning.

5.7 REFERENCES AND SUGGESTED READINGS

Eggen, P. & Kauchak, D., (1999). *Educational Psychology*. New Jersey: Prentice Hall.

Hamachek, D. (1990). *Psychology in Teaching, Learning and Growth*. Boston: Allyn and Bacon.

Woolfolk, A. (2001). *Educational Psychology*. Boston: Allyn and Bacon.

Yelon, R. (1978). *A Teacher's World*. New York: Mc Graw Hill.

UNIT 6 FACTORS AFFECTING LEARNING-II

Structure

- 6.1 Introduction
- 6.2 Objective
- 6.3 Motivation
- 6.4 Self Concept
- 6.5 Locus of Control
- 6.6 Level of Aspiration
- 6.7 Learning Styles
- 6.8 Attitudes
- 6.9 Socio-cultural Factors
- 6.10 Let Us Sum Up
- 6.11 Unit End Exercises
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6.1 INTRODUCTION

In the earlier unit we have discussed the significance of various factors affecting learning. You have also read about the very intricate inextricable relationship between personal and environmental factors. Many of the important factors which influence the process of learning have also been described. In the present unit we will continue with our discussion on more factors affecting learning. Once again we will try to be selective of significant factors, namely, **motivation, self-concept, attitudes and values, learning styles, level of aspiration and socio-cultural determinants** and engage in a detailed discussion on each one of them. We will focus on trying to understand them conceptually, analyze how they become important base to individual differences and relate them to the learning process.

6.2 OBJECTIVES

After working through this unit, you should be able to:

- understand the concept of motivation and its relationship with learning;
- appreciate the development of self concept and comprehend its role in learning;
- define locus of control and recognize its importance in the learning process;
- identify the different learning styles of individuals and understand their importance in learning;
- perceive the importance of socio-cultural determinants of learning;
- comprehend the nature of attitudes and understand how these influence learning; and
- understand the interdependence among different factors affecting learning of an individual.

6.3 MOTIVATION

Let us begin by trying to understand what motivation means. Analyze the description of the class given below and try to explain what is happening.

Mrs. Kapoor is the class teacher of VIII A. She teaches History. For some reason this year, she has really struggled with her class. She is very upset about her students seeming so disinterested in studying History. Whenever she tries to make her lesson interesting by giving projects and assignments, her students start protesting. "Ma'am this is too long, too hard, too much; We can't understand". "Please don't give us extra work." Neither pep talks, nor punishments nor offering incentives seem to work. The "we can't" attitude persists. Some of the good students who always worked hard have also begun to behave like the rest of the class. Mrs. Kapoor decided to get to the bottom of the problem and change her students. Let us try to help her. We can begin our analysis by asking three fundamental questions.

- Do her students lack motivation?
- Why are they so resistant about learning History?
- What can be done to change the attitude of the class?

To be able to answer these questions meaningfully we will have to know the difficulties and problems students face, the level of their involvement, interest in learning history, why they are ready to give up history and how they feel during this class. In other words, we will have to study the phenomenon of "**motivation**" in them. Motivation is formally defined as **an internal state that arouses, directs and maintains behaviour**. You can think of motivation as an **internal energy** or a **mental force** that drives a person to achieve a goal. Motivation is important in many contexts: school, home and the world at large. The key reason why motivation is an important concept in education is because of the well documented relationship between motivation and academic achievement and performance. For example, students who are motivated in school tend to achieve higher, they stay in school longer, get involved in all the class tasks, learn more and in general perform better on tests. Thus, as in the case of Mrs. Kapoor, teachers could do well if they foster motivation for learning before they can expect students to profit from education.

That motivation plays a pivotal role in learning is an academic reality. In fact it serves to **activate, guide and maintain learning**. In a sense, motivation is an index of the eagerness of an individual to learn. Adequate motivation not only sets in motion the activities which results in learning, but also sustains and directs these. It is thus an indispensable factor in promoting learning, as it energises and accelerates the process and evokes a very positive response from the learner. You would have observed that some students learn the same task or subject matter more efficiently than others, because they find it more rewarding and interesting. There can thus be a great deal of variation in '**what motivates**', '**how much it motivates**' and what the impact on the learner is. These variations may be attributed to differences in **levels and types** of motivation. For instance for some individuals, their **needs** determine what their motivation will be. For some others, the **incentives** available to accomplish a task become the most important consideration. For some others, the **joy** of engaging in a particular activity generates a motivational **drive**. Motivation must thus be understood as a construct which encompasses the concepts of **needs, drives and incentives**. It seems to be a synthesis of all of them. Needs provide the basis for the origin of behavior, drives are the impelling and sustaining forces, and incentives are the rewards or the satisfaction derived from achieving one's goal.

Some psychologists have explained motivation in terms of personal traits or individual characteristics. According to them, some students have a strong need to achieve, the fear of tests, or an enduring interest in art as part of their personality make-up and will

thus spend hours or engage in considerable hard work to achieve, to avoid tests and visit art galleries. Other psychologists see motivation more as a **state**, a temporary situation. For example, students studying only to pass their exam next day. Here motivation is determined by the challenge of the situation. In reality, in any given situation and at any point of time, **motivation is usually a combination of trait and state.**

You must be wondering why many individuals can learn and perform many activities that you can not do. Is it simply because they find them enjoyable? Yes probably so. Everything from hobbies to careers seems to fall into this category. You should henceforth no longer be bewildered by the child, who can play tirelessly, by the adolescent who can watch television endlessly or follow every ball of the cricket match, or by the teacher who has been lively and enthusiastic about her work since the last ten years! In all these examples, there seems to be an inner joy – a sustaining force which stems from within. This is called **intrinsic motivation** or the **internal satisfaction** that an individual feels from learning, achieving or engaging in an activity. Sometimes the desire to learn or do something is extrinsically **motivated** and stimulated by **external factors**. One learns in order to gain rewards or to avoid punishment. This kind of motivation is directly related to Thorndike's 'law of effect'. In **extrinsic motivation** the **nature of reinforcers**, rewards and **incentives** become more important. You need not thus wonder, why more youth rush for well paying jobs, or why bright students take tuitions, or why people from rural areas prefer to migrate to towns, or why you have to give your nephew chocolates to study well. In the field of education, especially in schools, both intrinsic and extrinsic motivations are important. Thus, while intrinsic motivation must be nurtured and encouraged, extrinsic motivation to support learning must also be followed.

Let us now try to understand how motivation is interpreted following the different theoretical approaches in psychology. The **behaviourists** tend to emphasize **extrinsic motivation** caused by incentives, rewards and punishment. They believe that if we are consistently reinforced for certain behaviours, we may develop habits or tendencies to act in certain ways. For example, if a student is repeatedly rewarded with affection, money, praise or privileges for playing cricket for his school, but receives little recognition for his studies, he will work much longer and harder at cricket than the studies. The **humanistic view** stresses **intrinsic motivation** created by the need for personal growth, fulfillment and self determination. These theorists believe that people are continually motivated by the inborn need to fulfill their potential. To motivate students means, thus trying to encourage them to use their inner resources – their sense of competence, self-esteem, autonomy and self-actualization.

The **cognitive approach** stresses a **person's active search for meaning**, understanding and competence as the bases of motivation. They believe that our behaviour is determined by our thinking and not simply by whether we have been rewarded or punished. In fact behavior is initiated and regulated by plans, goals, schemes, expectations and attributions. Thus cognitive theories emphasise intrinsic motivation. Individuals are seen as active and curiously searching for information to solve personally relevant problems and concerns.

The **socio-cultural views** of motivation emphasise **participation in communities of practice**. They believe that people engage in activities to maintain their identities and interpersonal relations within the community. Students are motivated to learn if they are members of a classroom or school community that values learning. When we see ourselves as artists, or engineers, or teachers, or students of class IX, we have an identity within a group and are motivated to contribute to the group.

Having looked at motivation both in terms of theoretical structures and field realities, let us return to focus on its significance in the learning process. When individuals encounter tasks that are related to their interests, stimulate their curiosity or are connected to the real-life situations, they are more likely to be motivated to learn.

Tasks that are difficult and require too much extra effort usually demotivate persons. These observations have important implications in the field of education.

Check Your Progress 1

Note: Write your answers in the space given below.

- 1) Observe the behaviour of your family members for some length of time. Analyse their motivational patterns.

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- 2) Identify ten things which motivate children and adolescents. Classify them into intrinsic and extrinsic forms of motivation.

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- 3) Read the case given below carefully and answer the questions posed at the end.

Aastha has been offered a teaching job in a public school. The salary is good, the service conditions seem attractive and her family is very happy. Aastha however is in two minds about whether she should take up this job. She feels that since she is a trained teacher, she should join a school which needs her skills more and where she can really make a difference to children's lives. She gets an offer to work in one such school in a rural area.

The students of this school suffer from poor performance and chronic failure. Aastha decides to take up this job. Her parents are unhappy and try very hard to dissuade her, but she does not listen.

Analyse Aastha's behaviour with reference to her 'motivational structure'. You should be able to say which type of motivation is dominant in her case and which psychological needs and incentives have given direction to her decision.

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6.4 SELF CONCEPT

At different stages of your life you must have posed a set of reflective questions to yourself, about yourself, consciously or unconsciously.

- Who am I?
- What am I?
- How am I?

- Where am I?
- Where do I want to be?

These are a set of questions which all individuals strive to answer. Finding answers to them is no easy task, since these include **perceptions, beliefs, feelings and experiences**. All these questions relate to an individual's construction of **self and identity**. In the context of learning, the 'self concept' of an individual assumes considerable importance since it represents what an individual **feels about himself/herself and his abilities to perform and achieve**. Self concept is a broader term which includes the sub-categories of **self-image, self-esteem and self-efficacy**. Let us try to understand all the three since these have a bearing on learning. Self image refers to one's own perceptions about oneself – what one's strengths and capabilities are and what one's weaknesses or limitations are. It is usually based on the self analysis or energies in the course of one's real life experiences. You must have heard many students say "I'm good at maths or art or english and simply awful at geography or science". This is a judgment they make about themselves, after engaging with these subjects over a period of time. It assumes importance as the student who feels that, she/he is good at maths or english will learn these subjects with great interest, energy and enthusiasm, unlike subjects which she/he finds she/he is weak at. This holds true for all other activities as well. Those students who feel that they are weak at sports or art or creative work, will try to avoid these activities and will take much more time and effort to learn them. Thus **self-image influences the direction and intensity of our learning**. Very closely related to the concept of self-image, is self-esteem. **Self esteem refers to the value a person places on himself or herself**. It is the ideas one has about his/her attributes and abilities. These ideas are not only based on personal experience and self-analysis but are located within the domain of how one perceives one's acceptance and recognition by others. **Self-esteem** is thus a **measured component of self-concept**. It is almost like an evaluation of oneself. Let us try to understand self-esteem by the following case illustrations.

Ruby has been representing her school in the quiz team for the last four years. Ever since she joined the team, they have been on a winning spree. The teachers and principal hold her contribution in high esteem. This has given her a new identity and very positive feelings about herself and her capability. Ruby has a very positive self concept based on a positive self-image and positive self-esteem. She is always enthusiastic about quizzes, reading, learning more, and knowing more. Her academic performance also reflects this. She is ready to learn new things and invest any amount of time and energy in preparation since these help her to feel good about herself.

Manav is a brilliant cricket player but somewhat weak in studies. He has learnt to accept his limitations in studies and does not set high targets for himself. In the field of cricket however, he always strives to excel. Everyone knows him for his talent and hold him in high esteem when it comes to cricket. Manav has a very strong sense of positive self-esteem and self-worth in spite of not being so good at studies. As expected, he spends most of his time and energy in trying to improve his game.

These cases illustrate clearly that not only do our own judgments of ourselves affect our self-esteem, but also other peoples' judgments of us affect our self-esteem.

Some very meaningful research has been conducted in the development of self-concept (Harter 1990; Phillips and Zimmerman, 1990). It has been found that people's self-concepts become increasingly differentiated over the course of development. As children explore their abilities and learn more skills, the self-concept becomes increasingly differentiated. They may think highly of themselves in one area, but not in another. Between the ages of four and seven, children can make reliable judgements about themselves in four personal domains: cognitive competence, physical ability, social ability and behavioural conduct. By adulthood, people can rate themselves in 11 different domains of competency: intelligence, sense of humour, job competence,

morality, athletic ability, physical appearance, sociability, intimacy, adequacy, as a provider and household management. In general, children's perceptions of their ability become more modest and accurate as they grow older. However, when self-perceptions are too modest and therefore inaccurate, problems can result. Self evaluations of low ability lead to motivational and learning problems, especially in older children. Children who underestimate their abilities seem to seek out less challenging tasks than the more realistic and positively evaluating children. The relationship between self-concept and learning is thus quite clear. The importance of self-perceptions cannot be neglected since they guide how individuals will handle their work, and determine what they will learn with more interest and dedication.

Very closely related to the idea of self-image and self-esteem is the concept of **self-efficacy**. Self-efficacy refers to a person's **belief in his/her ability to get things done**. Self efficacy addresses questions, like – "Will I succeed or fail?" "Will I be liked or laughed at?" We usually imagine future consequences based on past experiences and our observations of others. These predictions are affected by our self-efficacy or beliefs about our personal competence in a given area. People's expectations of self-efficacy can derive from a number of different sources: direct experience, interpretations of the experiences of others, what people tell them they are able to do and others assessment of their motivational and emotional state. In general, if someone has a higher degree of self-efficacy, she or he is more likely to learn and better attain the desired outcome. In schools and colleges you must have observed that students' level of self-efficacy can lead to self-fulfilling prophecies. When students believe they are able to do something, they are more likely to expend the effort and resources in doing it. With this they achieve what they had targeted to learn or do even better. One success leads to another, helping students to view themselves as being continually successful in learning/accomplishing the outcomes they desire. In contrast, if students have a low sense of self-efficacy, they may believe they are unable to succeed and as a result show poor performance or even failure, which leads to the expectation of future failure.

Self efficacy is very important for learning since **greater efficacy leads to greater effort, persistence and learning even in the face of set backs**. Self efficacy also influences motivation and learning through **goal-setting**. If we have a higher sense of efficacy in a given area, we will set higher goals, learn better, be less afraid of failure and find new strategies when old ones fail. If our sense of efficacy is low, we may avoid a task altogether, or give up learning doing it when problems arise. Self efficacy must not be considered synonymous with self esteem or self concept, since it involves judgments of capabilities specific to a particular task. Self-esteem on the other hand is concerned with judgments of self-worth, and self-concept is a more global construct which encompasses self esteem and self-efficacy.

We have so far discussed the factors of motivation and self-concept in this unit. This is because these factors play a very vital role in learning and encompass a number of other factors, like **locus of control** and **level of aspiration**. Let us now briefly try to understand these.

6.5 LOCUS OF CONTROL

What factors determine learning? Are all these factors within us? Are some incentives located in the environment? Can it be a combination of both? In trying to find answers to these questions, we are actually attempting to understand how events in our life are mediated and controlled.

Locus of control can be best understood as the **degree and location of what we believe the causes that determine the events in our life**. Many psychologists are of the view that parenting styles, socio-cultural values and the individual's own motivational structure, beliefs, perceptions and learning style determine his/her locus

of control. The locus of control may be either **external** or **internal**. You must have noticed how young children have to be coaxed by external forces (parents, teachers others) to learn, study, do their home work etc. However, as they grow older, there is a shift to a sense of responsibility flowing from within them. They, then, themselves plan and study, do their homework and resist help, unless required for academic support. This may be seen as a shift in the locus of control or centre of operation from external to internal forces. Individuals with an internal locus of control are usually high on **achievement motivation** and are **mastery oriented** in their learning. In contrast, individual's who perceive the locus of control (LOC) of their learning to be external such as success being experienced because of luck factors, or failure happening because of low ability, suffer from what is called **learned helplessness**. They never engage in learning tasks on their own, seldom take initiative and always wait for guidance from an adult or peer. The relationship between locus of control and learning can be clearly understood by the following diagrammatic representation.

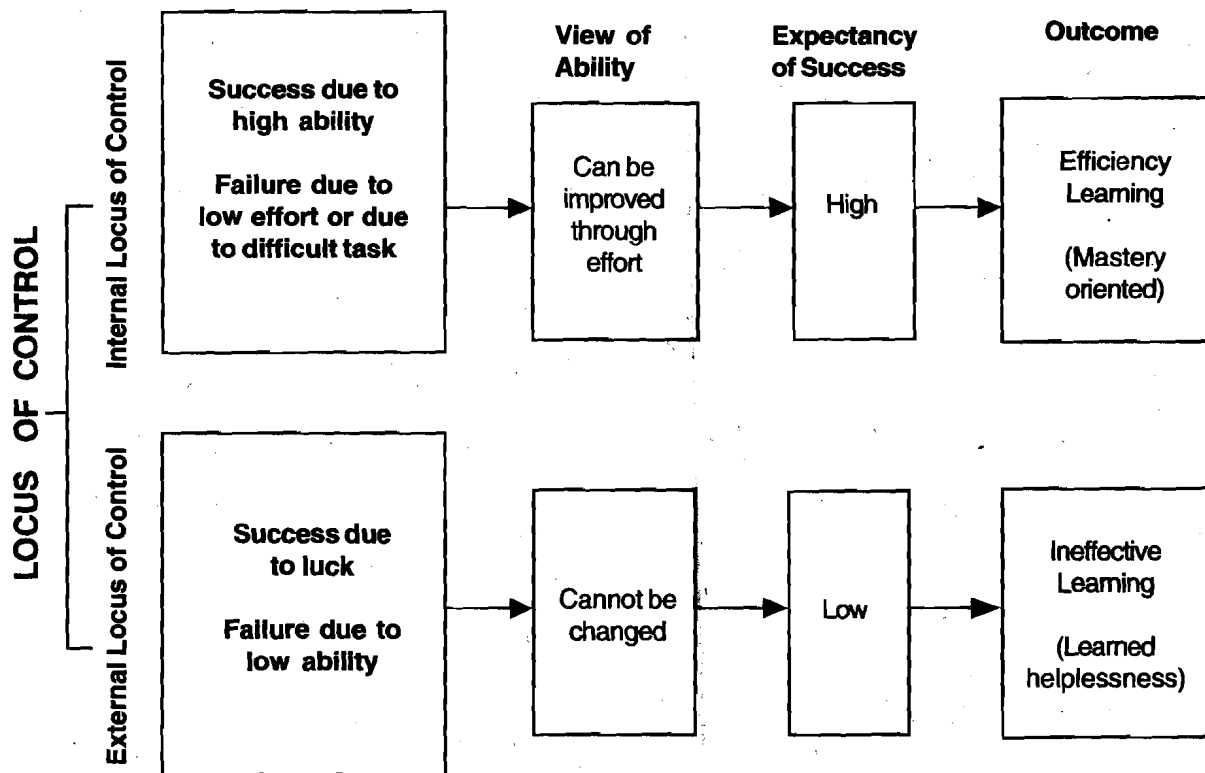


Fig. 6.1: Effect of the perceived locus of control on learning

6.6 LEVEL OF ASPIRATION

Level of aspiration as the name suggests refers to **where and how far individuals set their goals and targets for achievement**. It is a fairly complex phenomenon and is determined largely by our past failures and successes, perceptions about our own ability and some elements of involvement of our ego and self. In setting our level of aspiration whether it is **high** or **low**, what we attribute our failure or success to become very important considerations. For instance, a student who has failed in her science test might ask herself, "Why did I fail? or "What was wrong with my answers?" Likewise, a successful student might try to analyse what got her/him such high marks. The failure or success may be attributed to **ability, effort, mood, knowledge, luck, interest, unfairness of others** etc. The significant point is that how the individual analyses and explains his/her success or failure will determine what targets he/she sets for him/herself as future aspirations.

Level of aspiration can be understood by referring to **Weiner's attribution**. According to this theory, most of the attributed causes for successes or failures can be characterized in terms of three dimensions: **locus** (location of the cause as internal or external to the person), **stability** (whether the cause stays the same or can change) and **responsibility** (whether the person can control the cause). If success or failure is attributed to internal factors, success will lead to pride and a high level of aspiration and learning. Failure will lead to setting low level of aspiration and learning. In addition, feeling in control over one's own learning seems to be related to having a high level of aspiration, choosing more difficult tasks to do, putting out more effort and persisting longer in one's work. Most teachers report that bright students have high levels of aspiration as they believe they can achieve well in life and they tend to make great efforts to learn and perform to fulfill their goals. In the case of low achievers, usually the level of aspiration is low.

6.7 LEARNING STYLES

Individuals show **preference for different learning conditions**. These are called **learning styles**, or learning preferences. The learning style theories recognize that individuals learn in different ways and that each individual has a unique style of learning. You must have noticed that some students learn well in the morning while some others prefer to study at night. Some students like to sit in quiet places, while some others like to have music accompanying their learning. Many students report optimal learning while sitting on the dining table and also eating snacks along with their studies. Students who live in joint families actually develop styles of learning which are set in public spaces. Learning styles can thus range from straightforward preferences for physical surroundings to more fundamental differences that may be rooted in culture or personality.

Individual differences in personality also affect the way different students approach the same learning task. One such personality difference in learning style is the depth to which persons process the information they learn. Some persons take a '**deep-processing approach**', seeking the underlying concepts and meanings of what they are attempting to learn. Others take a **surface – processing approach**, focusing on memorization rather than analysis and understanding. It is generally observed that persons who adopt a surface approach are motivated by getting good marks and other external rewards, whereas those who take a deep approach enjoy learning for the sake of learning and are less concerned with external evaluations. There are many more differences in learning styles which educational psychologists have studied. For example, think about how you learn the names of people you meet. Do you learn a name better, if you see it written down? If so, you may be a **visual learner**, one who learns best by seeing or reading. If you learn better by hearing, you may be an **auditory learner**.

Another pattern of learning styles is **field dependence** versus **field independence**. Field dependent individuals tend to see patterns as a whole, and have difficulty separating out specific aspects of a situation or pattern, while field independent persons are more able to see the parts that make up a large pattern. Field dependent people tend to be oriented more toward people and social relationships than the field independent people. For example, they tend to be better at recalling social information as conversations and relationships, work best in groups, and prefer such subjects as history and literature. Field independent persons are more likely to do well with numbers, science and problem solving tasks. Another important cognitive style on which individuals differ is '**impulsivity**' versus '**reflectivity**'. Impulsive individuals tend to work and make decisions quickly, while reflective types are likely to take a longer time considering all alternatives (Slavin, 1996).

Check Your Progress 2

Note: Write your answers in the space given below.

- 1) Read the following cases carefully and then identify the self concept, level of aspiration, locus of control and learning style of the persons. Describe their relationship with learning.
- a) .Namita aged 14 is very frightened of Mathematics. She goes blank each time she opens her Maths book. At school, although she is comfortable with all other subjects, she becomes very nervous in her Maths class and makes mistakes all the time. Most of the children laugh at her. Her Maths teacher often intimidates her. Namita practices hard at home and in the presence of her Maths tutor, gets all her sums correct. She does each exercise thoroughly and sits in a quiet corner of her home. It is her dream to top one day in mathematics!
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- b) Samir is a very creative boy. He is bored at school, since the normal classroom teaching does not interest him. He finds the course dull, too bookish and uninspiring. It is his wish to design a car which runs on water. He keeps on trying to find out more and more about automobiles, their designs and fabrication. His parents are worried about him, since his performance is not very good at school. He seldom studies and is always reading books other than his school texts. His teachers do not bother much about him since they consider him weird and somewhat crazy. Yet Samir is not upset or unhappy; he continues to pursue his passion.

6.8 ATTITUDES

We have many **likes** and **dislikes** and **beliefs** and **opinions** which **predispose** us **to behave** in certain ways. For instance, we might think that studying science at the senior secondary stage is too difficult, or we might think that living in rural India will mean following traditional styles of dressing and behaving etc. All these are **preconceived ideas** and **notions** which exist in our psyche and may be termed as our attitudes. Attitudes are born out of the process of socialization and usually have a knowledge and feelings component. We have attitudes towards objects, events and persons. Our attitudes may be **positive**, **negative** or **neutral**. For instance, if we are inclined towards reading, cricket, good health, fitness etc, we will have a positive attitude towards books, games, going for morning walks, gymnasiums etc. However, if we disapprove of how the younger generation dresses and behaves in urban areas, or about contemporary Hindi cinema, our attitude towards them will be negative. There are some things which we are indifferent about – our attitude towards them is usually neutral. Why the direction of our attitude is important is, because it will influence what we will learn willingly and with enthusiasm and what we will be unwilling to learn and do, or simply avoid. Thus the positive or negative predisposition within a

person has important motivational components. When students have a positive attitude towards the school, not only does it imply that they will like school, but they are likely to endeavour to do well, to be liked by the teachers and will conform to the culture, goals and expectations of the school.

Since attitudes are learnt predispositions, they are affected by **reinforcement**. You must have thus seen that students, who have done well in their studies or in other school activities, usually have a more positive attitude towards school than those who have not been so successful. A positive attitude facilitates the learning process by favourably disposing the learner towards it, while equally truly an unfavourable or negative attitude proves to be a significant impediment to learning.

Very closely related to the concept of attitude are the constructs of **prejudice** and **stereotype**. Both of these usually influence the learning process. **Prejudice** may be understood as a **negative attitude** towards an object or event, while **stereotypes** represent a **mind set**, or expectancy, or a readiness to react in a certain way to a stimulus situation. Both prejudice and stereotypes are learnt attitudes, resulting from cultural conditioning. They assume special significance in learning since they greatly influence the **direction, intensity, seriousness** and **commitment** with which one will learn or engage in an activity. It is very difficult to unlearn prejudices and stereotypes.

Check Your Progress 3

Note: Write your answers in the space given below.

- 1) Make a list of attitudes, prejudices and stereotypes which you hold. Evaluate their impact on your learning and development.

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- 2) Compare a group of adolescents to a group of adults in terms of the attitudes which they display. Analyse how these attitudes create differences in their behaviour and lifestyle.

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- 3) Interview some high and low achievers in a school. Compare their attitudes towards school and also reflect on how their attitudes are influencing their participation and involvement in school related tasks and activities.

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6.9 SOCIO-CULTURAL FACTORS

The socio-cultural environment, within which a child grows, has a significant impact on his/her learning. In fact, all learning occurs with special reference to the cultural context of an individual. The social constructivist view of psychology holds that all learning is culturally oriented and guided. For our own understanding we can sub-

divide socio-cultural factors into: a) **family**, b) **neighbourhood and community**; and, c) **class, caste, religion and ethnicity**.

Family is the first and most fundamental influence in the socialization process of an individual. It is in the family that he/she undergoes conscious, subconscious and subliminal learning. It is within the family that the individual learns behaviour patterns for survival, social skills, attitudes, interpersonal skills, social norms, the do's and don'ts of his/her culture and community, acquires a sense of right and wrong, a value orientation etc. Thus we can say that the family is the **site of all learning**.

The **neighbourhood and community** in which one lives also have a potent impact on what one learns and acquires. Many attitudes, habits, beliefs, perceptions, stereotypes and social roles and responsibilities are shaped directly or indirectly by our experiences with the persons in our neighbourhood. These persons include our peers and age-mates and all the elders around us. Through **conditioning, social learning, direct instruction and modeling** we learn a number of things from them.

In our country, **caste, class and religion** also play a predominant role in shaping our **identity, self concept, attitudes, value orientation, goals and achievement patterns**. For example, the socio-economic status of the group to which we belong can be directly linked with the degree of stimulation or enrichment available to us in our learning environment. It has been seen that an adequately enriching and stimulating environment provides the learner with more learning opportunities, and greater control over the environment than an impoverished or needy environment.

Learning is also seen to vary across **religious and ethnic groups**, owing to the distinction in their beliefs, values, attitudes and practices. For instance in many Islamic countries, women lead a very sheltered and restricted life and are taught to be submissive and obedient. In the Pan Indian culture, children are encouraged to develop a sense of autonomy, independence and control over their own lives. In many orthodox Hindu communities, the social learning of girls is fraught with biases and injunctions which are justified in the name of religious beliefs. The kind of experiences which a learner is exposed to differ across regions and geographical locations as well.

You have already been acquainted in other units with different socio cultural factors and how they influence the learning process and hence we may conclude by saying that the **socio cultural environment provides us with a learning framework**. Learning is a process of constructing meaning of our experiences and in this process of 'meaning making' the socio cultural dispositions and training we have received are likely to exert their influence.

6.10 LET US SUM UP

Learning is a complex phenomenon mediated by a number and variety of factors which interact with each other and produce patterns and styles of learning in an individual. One's motivation and self concept become significant factors which influence this process. You have already read about how they exercise their influence on the learning process. Similarly, one's level of aspiration and locus of control which flow from one's motivational patterns and sense of self also influence the nature, course and direction of learning. Learning, maturation and development can be accelerated or retarded by environmental factors. Likewise, an individual's interests and goals may be influenced by the socio-economic factors and the ethnic group in which the individual is born. Often, gender identity is the result of socio-cultural determinants. Similarly, an enriching and stimulating environment may enhance the cognitive disposition, attitudes towards work and learning and style of learning, which an individual is likely to embody.

6.11 UNIT END EXERCISES

- 1) Reflect, think and explain the significance of the following statements:
 - a) We need to consider the whole individual, including the social context from which he/she derives meaning in order to fully understand how the individual learns.
 - b) To best understand a learner we need to consider his/her perspective and point of view and the sum total of the world in which he/she lives.
 - c) Irrespective of whether we go to school or not, we all learn. In such a case when we don't go to a formal school, which factors are likely to shape our learning?
- 2) Explain the role of self-concept in mediating the process of learning.
- 3) Why is motivation the key ingredient in the learning process? Give examples to illustrate its importance.
- 4) How do locus of control and level of aspiration influence learning? Explain with the help of suitable examples.
- 5) Develop a case example which takes into account socio cultural and attitudinal factors affecting learning. Point out their specific influences on learning.

6.12 REFERENCES AND SUGGESTED READINGS

- Sprinthall, N.A. & Sprinthall, R. (1996). *Educational Psychology*. New York: McGraw Hill.
- Slavin, R. E. (1996). *Educational Psychology*. New Jersey: Prentice Hall Englewood Clifs.
- Phillips, D. A. & Zimmerman, M. (1990). The Developmental Course of Perceived Competence and Incompetence among Competent Children. In R. Sternberg and J. Colligian (eds.) *Competence Considered* (pp. 41-66). New Haven: CT Yale University Press.
- Sternberg, R. J. & Williams, W. M. (2002). *Educational Psychology*. Boston: Allyn & Bacon.
- Berk, L. E. (2003). *Child Development*. New Jersey: Prentice Hall.

UNIT 7 THE LEARNER: VARIOUS PERSPECTIVES

Structure

- 7.1 Introduction
- 7.2 Objectives
- 7.3 Learner Styles and Preferences
 - 7.3.1 Field Dependence vs Field Independence
 - 7.3.2 Impulsivity vs Reflectivity
 - 7.3.3 Other Classifications of Cognitive Styles
 - 7.3.4 Sensory Modalities/Preferences
- 7.4 Achievement and Learning Capacity
 - 7.4.1 Factors that Influence Academic Achievement
 - 7.4.2 Learning Capacity
- 7.5 Study Habits
- 7.6 Learner as a Member of a Peer Group
- 7.7 Learning Environment: Competitive or Cooperative
- 7.8 Mass Media Perspective
- 7.9 Individualised Learning
- 7.10 Let Us Sum Up
- 7.11 Unit End Exercises
- 7.12 References and Suggested Readings

7.1 INTRODUCTION

Over the years educationists have come to the conclusion that in spite of the obvious similarities, children differ from each other in many ways. Children in our schools, in mixed ability classes, are becoming increasingly diverse. Teachers are becoming more and more conscious of these differences and some have difficulty in coping with diversity in the classroom. Some learners as a group may have their origin broadly in the same socio-cultural and economic background (e.g. rural, urban, highly industrialized) families and be in the same sex and age cohort, yet they may differ from each other. During the 1950s teachers were told that children were not miniature adults. In years that followed however, they were told that each child has unique identity, and therefore the child's rights must be respected. The new knowledge generated through research and first-hand observations of young learners led us to believe that similarities among children may be superficial, while the dissimilarities are real. Teachers who worked within the perspective of the **behaviouristic theory of learning** organized their classroom teaching on the assumption that young learners are passive recipients of instruction provided by teachers in the classroom. Those working with **cognitive theories of learning** took the view that children, despite their immaturity, are active meaning-makers and use a variety of strategies for this purpose. With greater acceptance of **constructivism** in cognitive psychology, educationists have highlighted the central role of learners in creating or constructing new knowledge for themselves. This has given rise to **learner-centred teaching**. In recent years, Alexander and Murphy (1994) outlined five psychological principles of learner-centred teaching which are as follows:

- Students' prior knowledge influences their learning;
- Students need to think about their own learning strategies;
- Motivation exercises a powerful influence on one's learning;
- Development and individual differences influence learning; and
- The social context of the classroom exercises considerable influence on one's learning.

Betty Leaver (1997) in her book "Teaching the whole class" emphasised that while all students can learn, they do not learn in the same way. These developments have given rise to the adoption of various perspectives on learners. Teachers can use these perspectives to teach learners with a view to enable them to learn as best as they can. This implies that teachers should know about these perspectives and develop a comprehensive repertoire of teaching techniques, skills and strategies to cater to the needs and preferences of various learners. This unit presents six perspectives on learners which are given below :

- a) Learning styles and preferences;
- b) Learner's achievement and learning capacity;
- c) Study habits;
- d) Learner as a member of a peer group;
- e) Learning environment; and
- f) Mass-media

This unit describes these perspectives in this very order and concludes with a brief description of 'why' and 'how' to provide individualized learning experiences to all learners.

7.2 OBJECTIVES

After going through this unit, you should be able to :

- identify and describe learners' major learning styles and preferences and distinguish among these;
- list and illustrate factors that influence achievement and learning capacity;
- describe learners' various study habits that influence their achievement;
- explain the influence of peer group on learners' attitudes, values and achievement;
- differentiate between cooperative and competitive learning environments and how these influence learners; and
- describe the impact of various types of mass media on learners.

7.3 LEARNING STYLES AND PREFERENCES

In contemporary educational literature, one comes across expressions like 'learning styles', 'cognitive styles', and 'affective styles'. 'Learning styles' represent those characteristics which determine and characterize a person's preferred approach to learning and its use in problem solving. Different learners display different preferences in terms of their learning styles. Learning styles are relatively more stable, though the same learner may resort to the use of a different learning style in a particular situation. Learning styles are thus relatively well-established response patterns in individuals

compounded by one's learning and problem-solving processes. Thus learning styles consist of two sets of attributes/components: (a) temperamental; and (b) cognitive. Temperament-related attributes constitute one's '**affective style**', while cognitive attributes determine one's '**cognitive style**'.

One may define '**affective style**' as the set of temperamental and motivational techniques that influence a person's learning and problem-solving behaviour. As teachers we are well aware of how various temperamental traits e.g. anxiety, self-assurance, submissiveness, introversion, extraversion etc; and dynamic traits of self-concept, need-achievement, curiosity etc. affect one's performance.

'**Cognitive style**' has been defined by Sam Messik (1976) as consistent individual differences, like stable attitudes, preferences or habitual strategies that determine a person's typical modes of perceiving, remembering, thinking and problem solving. Kauchak and Eggen (1998) however, do not differentiate between 'learning styles' and 'cognitive styles', and describe these as preferred ways that different individuals use for processing and organizing information and for responding to environmental stimuli. Learning styles as well as cognitive styles are relatively stable and therefore these can be easily identified by the teacher. Since most researchers do not differentiate between 'learning style' and 'cognitive style', these expressions tend to be used synonymously. Research on cognitive styles is far from easy, as cognitive styles have to be inferred from the outcomes or the products. For example, all of us can hear a watch tick and see its second hand move and also tell the time. But we do not know how all these things happen. In order to understand the working of a watch, we will have to open it, see how its various parts function. Unfortunately, this is not possible in the case of human mind. Therefore, one has to work backwards from the product or the outcome and infer how the person arrived at it.

Different psychologists have classified learning styles in different ways. For example, Kauchak and Eggen (1998) deal with these as 'dimensions of learning' as shown in Fig. 7.1.

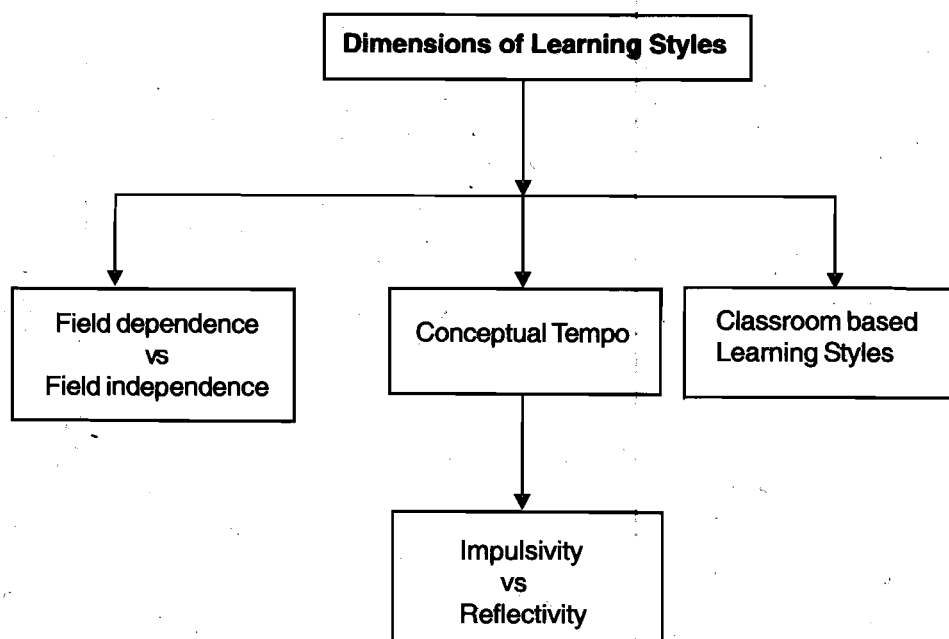


Fig. 7.1: Types/dimensions of learning styles

While most psychologists accept field dependence vs field independence and impulsivity vs reflectivity as two major dimensions of learning styles, classroom-based learning styles do not figure in their classification. Let us now examine these learning styles in detail.

7.3.1 Field Dependence Vs. Field Independence

This dimension of learning styles was postulated by H.A. Witkin and his associates on the basis of their experiments based on two tests viz., Body-Adjustment Test (BAT) and Rod and Frame Test (RFT). In BAT, subjects sit in a tiltable enclosure on a tiltable chair and they are asked to adjust the chair until they believe that it (the chair) is vertical. Performance score is based on the difference measured in terms of the angle between the believed and the true vertical. RFT consists of a luminous rod within a luminous frame in complete darkness. The subject has to adjust the rod to the true vertical irrespective of the orientation of the frame. In BAT and RFT, subjects have to make necessary adjustment in the presence of a distracting background field. Extreme scores in both directions are viewed as reliable indicators of field-dependent or field-independent cognitive style. Subsequent studies have revealed that field-independent learners tend to be more active, resourceful and self-directing; they are less affected by social norms, and are more realistic in their concepts about time and space. Field-independent learners approach problem-solving in a more analytical manner. Field-dependent learners, on the other hand, are more global in their approach. Just as there are field-independent and field-dependent learners, there are teachers who are field-dependent or field independent. Field-dependent teachers organize their teaching in a tight manner and logically; they are relatively more formal too. Researchers have found that field-independent learners can easily break complex problems and situations down into sub-components, while the field-dependent learners are more influenced by surface features of the problem or situation. It has been further observed that field-dependence and field-independence are influenced by development. As learners grow older, they become less influenced by surface features. Field-independent students are better organized in terms of their note-taking skills, have more key ideas and are better able to restructure problems to suit end-goals.

Field-dependent learners have been observed to be more sensitive to contextual cues and they process problems globally. They are more dependent on their peer group and look to others for cues.

7.3.2 Impulsivity Vs. Reflectivity

This dimension of learning styles was postulated by J. Kagan (1971) on the basis of data yielded by Matching Familiar Figures Test. In this test, the subjects are asked to match a familiar figure with one of the given six figures. Kagan found that reflective children review the possibilities and tend to be abstract in their preferences. Impulsive children, on the other hand, act intuitively and usually try out hypotheses by testing them in reality. As teachers, we are only too familiar with students in our classroom who are impulsive and with those who are reflective. Impulsive students are always in a hurry to give the answer, sometimes even before the teacher has completed the question. Reflective students, on the other hand, think before they answer. Impulsive students take more chances, resort to blind guesses, are in a hurry to complete the test paper and in the process make more errors. Reflective students are good in solving problems that demand thinking and restructuring, while other things remaining the same, impulsive students tend to perform better on speed tests.

7.3.3 Other Classifications of Cognitive Styles

In addition to the cognitive styles we have discussed so far, some psychologists have proposed other cognitive styles. Chief among these are Bruner and associates' (1965) *Focussing Vs. Scanning*, and Pask's (1975) *holistic Vs. serialist styles*. Let us examine these briefly.

A learner who uses '**scanning**' works out hypothesis from the given information and tests it. A learner who uses '**focussing**' works by altering one attribute at a time (conservative gambling) or more than one attribute at a time (focus gambling). Under '**focussing**', one does not test hypotheses. Focussing is intellectually less demanding and this explains why most learners prefer to use it. Besides focussing works faster

than scanning.

According to Gordon Pask, a learner who uses 'serialist' style processes information in a linear manner i.e. successively. He prefers to use narrow focus of attention and takes stock of facts and details, and examines logical connections. A 'holistic' learner, on the other hand, uses simultaneous processing and takes a wider, global view of the learning material or problem situations, he looks for wide-ranging links with other materials, sometimes across subjects and makes considerable use of analogies.

It should however be remembered that all learners, especially adult learners, do not use just one cognitive style or strategy based on it. All that one can safely conclude is that learners may be predominantly field dependent or field independent, impulsive or reflective, focussing or scanning, serialist or holist in their cognitive style. A field dependent learner can, when the situation demands, use field independent cognitive style sometimes, but his/her preferred cognitive style would be field dependent. Thus, while learner may normally use or prefer to use a particular cognitive style, they can and do in fact use other cognitive styles. Thus one may safely generalize that while learners may have their preferred cognitive style, the learning strategies or problem-solving strategies they use are situation and task dependent.

7.3.4 Sensory Modalities/Preferences

Leaver (1997) in her book, "Teaching the whole class" stresses that learners have sensory preferences (or preferred sensory modalities); the most common being visual, auditory, and motor. She further maintains that each of these has two possible variants. What makes this issue complex is the fact that most learners have a primary modality and a secondary modality. Things become difficult for a learner when he/she has a particular primary sensory modality but the teacher uses a different sensory modality for classroom teaching. Let us examine the characteristics of learners with different sensory modalities in detail.

- **Visual learners** learn easily and better through sight. Brightness, size, colour, distance, clarity, frame and symmetry are important to visual learners. Visual learners must see so that they may learn easily. Visual learners may be categorized as **verbalists** (they see words and letters) or **imagists** (they see images i.e. pictures). While learning English, the verbalist will see 'crown' as 'c-r-o-w-n' while the imagist may see 'crown' as 'a king wearing a crown'. In order to distinguish between two homophones e.g. 'son' and 'sun', the verbalist will focus on the middle vowels (i.e. son and sun) but the imagist will associate 'son' with the image of 'a boy standing by the side of his father' and 'sun' with the image of 'the rising sun' or 'the sun in the sky'.
- **Auditory learners** acquire information through sound i.e. the ear gate. Various aspects of sound e.g. pitch, volume, tempo, rhythm, resonance are important for auditory learners. Auditory learners may be **aural** (they learn by listening to others) or **oral** (they learn by talking and hearing themselves). Unless the teacher provides these learners with adequate auditory input, they become frustrated and restless in the classroom. Auditory learners reveal their thought and thought processes through their speech. Hence the teacher can easily identify these learners.
- **Motor learners** learn through motor activity. Various aspects of action e.g. frequency, duration, intensity, pressure etc., are important for them. Motor learners may be **kinesthetic** (they learn through the use of gross motor muscles) or **mechanical** (they use fine motor muscles to support their learning).

Sensory preferences have an important message for wholeclass teaching. The teacher should provide for visual learners by developing a comprehensive blackboard summary, for auditory learners through his/her talk and for motor learners through activity-based

teaching. The teacher would become ineffective when he/she uses only one sensory modality for whole class teaching.

Check Your Progress 1

Note: Write your answers in the space given below.

- 1) What is learning style?

- 2) Name the two components of learning style.
 - a)
 - b)
- 3) List the dimensions of learning styles as proposed by Kauchak and Eggen (1998).

- 4) Categorise the following behaviours as characteristics of (a) 'field-dependent' and (b) 'field-independent' learners.
 - a) more analytical approach
 - b) more responsive to contextual cues
 - c) more active
 - d) more influenced by social norms
 - e) greater peer-dependence
 - f) less clarity in time and space related concepts
 - g) more self-directing
 - h) less pragmatic
- 5) List any two characteristics of 'impulsive learners'.

- 6) Describe the following in just one sentence each.
 - a) serialist learners

 - b) holistic learners

 - c) scanning

 - d) focusing

7.4 ACHIEVEMENT AND LEARNING CAPACITY

As a result of physiological and psychological development, experience of growing up in human society and formal education, children develop abilities to perform tasks that they were unable to do earlier. This growth in ability can be measured and is called 'achievement'. As a result of schooling and interaction with peer group, children's achievement increases with the passage of time. **Achievement** is broadly categorized into two categories: (a) **scholastic**, also called **cognitive** or **academic** and (b) **non-scholastic** or **non-cognitive**. Achievement in subjects taught in school, e.g. languages, mathematics, science and technology, informatics etc. is part of academic achievement. On the other hand, achievement in social-interaction skills and in various performance areas e.g. sports, games, dance, music etc. comes under non-cognitive achievement. In technical sense however, the term 'non-cognitive' is a misnomer because there is hardly an area of human learning in which cognition i.e. thinking does not play a major role. While academic achievement is heavily dependent on cognitive skills, achievement in non-academic i.e. non-cognitive areas is also considerably influenced by them (i.e. cognitive skills). Traditionally, academic achievement has been rated higher than non-academic achievement because admission to and performance in higher education, especially professional education, depends upon higher academic achievement. However, excellent performance in non-academic areas e.g. games and sports and other performing arts is in no way inferior to high academic achievement, and it has come to be recognized so in all countries now.

It is widely believed that a person displaying high academic achievement would perform equally well in **other** areas too. This is however, not true fully. It is observed that children do not perform equally well in different curricular subjects. For example, one who displays above average academic achievement in math and science may show just average achievement in languages and drawing and sketching. Correlation between achievement in mathematics and English is generally between 0.5 and 0.6, and thus does not support the conclusion that one may be measuring the same underlying ability or abilities in the two areas.

7.4.1 Factors that Influence Academic Achievement

Let us now consider some of the factors that influence academic achievement. These factors can be broadly classified into two groups viz. (a) learner-related (internal) factors; and (b) external factors. We shall first examine learner-related factors.

Intelligence is widely believed to play a key role in academic achievement. One would however do well to remember that intelligence is not a uni-dimensional construct. Gardner (1993) put forward the idea of **multiple intelligences**. He described that human beings may have as many as seven types of intelligence, namely linguistic, musical, logical-mathematical, spatial, bodily kinesthetic, interpersonal and intrapersonal intelligences. It would be exceptional to find a person having equally well developed intelligences of different types. Usually one may have one or two or even three types of well developed intelligences; and be average in a few others and below average in the rest. Gardner's theory can help us to understand why learners perform better in some areas but not so well in others. Learners who have more of a particular intelligence have an advantage in formulating more valid understandings in that area. Michael Howe (1999) in his "A Teachers' Guide to the Psychology of Learning" is of the view that the role of intelligence in one's achievement may be determined by what the learner does mentally.

Language competence of the learner is another factor that influences learning and achievement in many ways. In their capacity to acquire language, human beings are uniquely different from all other species. This has been possible because language helps us to develop a variety of competences; which are beyond the reach of any other species. Language enables us to interact with others, to talk to ourselves, to

think and reason, to make conscious choices and justify these. It unlocks the treasures of human heritage for us, and it enables us to store and access vast resources of information. Language enables us to live in the present and to transcend it by tapping our past and planning for the future. Most of the human learning is language-mediated. Learners who have well developed linguistic competence enjoy an advantage over others and this is considerably reflected in their achievement, especially academic achievement.

Self-esteem, self-concept, interest, aptitude and motivation are other learner-related factors that influence achievement. Self-concept and self-esteem play a key role in shaping how the learner accepts failure and responds to it. Failure to achieve a particular grade or level of performance may break a learner or steel one's determination not to give up and make further determined effort. Psychologists now a days make a distinction between an individual's global self-concept and one's academic self-concept. They are of the view that it is the learner's academic self-concept rather than global self-concept that contributes to academic achievement. Motivation takes the friction out of the grueling effort that ensures success. All of us can relive the efforts we made to succeed and enhance our academic achievement. Motivation can help one get over fatigue and even lighten up one's mood.

Study habits are yet another factor that play considerable role in achievement. Many parents believe that the greater the effort that the learner makes, higher would be one's achievement. This however is not true. Effort can contribute to achievement to a limited extent only. Its effect is limited by the learner's learning capacity. Experts believe that the learning capacity determines the ceiling. No amount of effort can increase achievement beyond the learner's capacity. So far as learner's **study habits** are concerned, these have been further described under Section 7.5

External factors that influence academic achievement are of two types: (a) **teacher-related**; and (b) **environment-related**.

Teacher-related factors that influence learners academic achievement are:

- acceptance of and caring for learners;
- classroom management and student grouping;
- effective use of instructional techniques; and
- teacher expectations

Educational researchers have observed that teachers who fully accept their students and display a caring attitude towards them do enable their students to achieve relatively more. **Acceptance** of students implies accepting them given all of their imperfections, physical appearance and faults. **Caring** is though, a hard-to-define concept, it can be broadly described as displaying a core concern for the well-being and development of one's students as human beings.

Positive **classroom management** can help the teacher to create a favorable learning environment in the classroom. Proper classroom management includes management of time as well. This can be better understood in terms of **allocated time, instructional time, and engaged time**. **Allocated time** is the amount of time the teacher or the school specifies for teaching a curricular subject or one of its units. **Instructional time** is the amount of time available for teaching after routine and administrative tasks are completed. **Engaged time** is the amount of time during which students attend to and are involved in learning activities.

Time is in fact a resource for teaching and learning. Effective teachers use it to advantage by planning what they would do, in what order and in how much time. They ensure that as much as possible, the allocated time should be used as instructional time and considerable proportion of instructional time is actually used as engaged

time. Beginner teachers and ineffective teachers feel that time should somehow be passed. Wastage of time leads to ineffective teaching. Incidentally, management problems usually crop up during non-instructional time. In well-managed classrooms with high instructional time, discipline-related problems are considerably reduced.

Engaged time is in fact the “time-on-task” and it contributes to higher achievement. Engaged time is quite a reliable index of teachers impact on students. A teacher can easily make out whether one’s students are indeed involved in learning. Eye contact with the teacher during instruction is a dependable indicator of learners engagement in the task. During individual work, observing student’s eye movement can indicate whether they are processing and responding to the learning material. During pair or group work, if students’ use task-related language in their interaction, one can conclude that they are engaged in the learning task. Research on engaged time and learner achievement indicates that the relationship between the two is not linear; it is rather complex. High ability learners and low-ability learners differ not only in their amount of engaged time but also in when they go off-task. High ability students first finish their task and then go off-task. Low-ability students, on the other hand, go off-task before becoming on-task, that is they take time to become on-task and also go off-task during the task.

Teachers usually stream out students to form mixed-ability groups; however some teachers prefer homogeneous ability groups, also called ‘sets’. While mixed-ability groups are considered desirable from the viewpoint of social interaction, their influence on achievement is mixed. Research on student streaming provides evidence that while high-ability students perform better in ‘sets’ i.e. homogeneous ability groups, low-ability students perform better in mixed-ability groups.

Effective use of the instructional techniques plays an important role in boosting students’ achievement. This implies that the teacher should have mastery over a large number of instructional techniques, both teacher-centered as well as student-centered. Besides, the teacher should know when to use a particular instructional technique and with which group of students. The teacher should not only provide effective inclusive education in the whole class settings but also cater for students with different learning styles. The teacher should use various instructional techniques in such a way that he/she is able to provide manageable cognitive challenge to students and ensure that he/she does not use high density concepts and difficult words in an instructional session. Effective use of instructional techniques by the teacher demands reflection on what the teacher does in the classroom, the urge to improve one’s practice and to approach one’s job with an open mind to be able to learn from other colleagues. It is true that classroom teaching does not have a very high correlation with student achievement but other things remaining constant, effective teaching does make a significant difference in student achievement. Proper time management plays a key role in effective teaching.

Teacher expectations also influence students’ achievement. It has been observed that when a teacher expects more of one’s students, they work harder and try to come up to the teachers expectations. On the other hand, when the teacher does not care much about students’ achievement or expects less of them, they perform at a much lower level.

The role of environment-related factors in learner achievement is described in detail in Section 7.7.

7.4.2 Learning Capacity

It has already been described that an individual’s **learning capacity** acts as a ceiling on one’s learning and on the amount (how much) one can learn, and rate of learning. Learning capacity may be described as the total resources that an individual can make available to support one’s own learning. Theoretically, no individual can learn more

than what one's learning resources allow. Most individuals perform at a level far below what one's total learning resources provide for. Nor does one know of the total learning resources one have and uses. Thus one's learning capacity can be neither measured nor monitored. It is essentially a theoretical construct that enables us to explain and understand how much an individual learner can learn.

As already stated, learning capacity is a function of one's mental resources and how one uses them. According to Howe (1999), human learning is particularly influenced by three factors: (a) what mental activities the learner engages in; (b) to what extent the learner repeats what he has learnt; and (c) how the learner builds on one's existing knowledge. Newton (2000) is of the view that an individuals' learning capacity is a function of one's mental capacity, which in turn depends on one's memory. Individuals differ from each other in terms of their mental capacity. Mental capacity decreases when a person is fatigued, highly anxious, distracted or is doing something else at the same time. In other words, maximum mental capacity is not available to an individual all the time. Besides, as storage demand increases, mental resources available for processing further information decrease. According to the information processing theory, young learners can process limited amount of information at a particular age. If they are asked to process more information than they are capable of handling, information overload occurs and processing of information slows down and often becomes erratic.

Check Your Progress 2

Note: Write your answers in the space given below.

- 1) List three learner-related factors that influence academic achievement.
 - (a)
 - (b)
 - (c)
- 2) List three teacher-related factors that influence students' academic achievement.
 - (a)
 - (b)
 - (c)
- 3) Differentiate between 'allocated time', 'instructional time' and 'engaged time'.

Allocated time

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Instructional time

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Engaged time

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4) What is 'learning capacity'?

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5) List five factors due to which the learner's total learning capacity may not be available to him/her at a particular time.

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7.5 STUDY HABITS

"Why do some learners learn better than others"? It is an interesting question because differences in achievement cannot be entirely explained in terms of differences in intelligence. Educational psychologists have tried to answer this question through research. They attribute differences in achievement to three factors : (a) family environment and support; (b) personal motivation; and (c) study habits. One finds many instances of learners whose family environment was far from stimulating and supportive of learning, and yet the individual was able to display exemplary achievement solely because of higher personal motivation and good study habits. In this section we will examine learners' study habits that can help them enhance their achievement. Chief among these are the following:

Regularity

Psychologists are of the view that it is difficult to achieve accomplishment in difficult areas of skills and expertise in the absence of long regular practice and training. It has been estimated that in order to become a professional player, a musician, a scientist or a mathematician one needs regular practice and training to the tune of 10,000 hours or more. And most of it is solitary practice. Regularity in one's study can indeed take a person quite far in terms of one's achievement. Regularity also implies an absence of procrastination i.e. postponing things till tomorrow or the day after.

Focussed Attention

Achievement demands total and sustained attention, 'focussed attention' in other words. As teachers and parents, we know how some students sit down with a book in their hands, but their attention flits from one thought to another. Physically, the student is present in the room, but mentally one may be miles away from one's physical environment. Without focused attention to the task in hand, the time invested cannot be very productive.

Perseverance or Task Persistence

Perseverance or task persistence implies that one continues to make effort to achieve one's aim even if the task in hand is uninteresting and not much stimulating. In fact perseverance happens to be another personality characteristic viz; the willingness to postpone immediate gratification. You would be aware of students who work on their studies even when it may mean missing their favourite television programme or spending time with friends.

Orderliness and Neatness

When one is orderly and cares for neatness in whatever one does, one is on the highway to perfection. Orderliness and neatness in one's work are big assets as study habits and reflect one's personality and concern for others. One may dash off a letter to a friend in a shoddy hand and forget about how the friend may struggle to read it. Academic assignments and projects are to be read and assessed. Legible writing, orderliness in one's task and neatness in whatever one writes make definitely positive impressions on the teacher. One would however do well to remember that orderliness and neatness are not an end but additional desirable features that enhance the worth of a well-done task; they cannot take the place of a well done task.

7.6 LEARNER AS A MEMBER OF A PEER GROUP

Human beings are social by nature and they always prefer to live in groups. Living and growing up in a group is a powerful medium of socialization. Learners, whatever their age, always enjoy interacting with their age-mates i.e. '**peers**'. They may quarrel with one another; they may stop speaking to their friends, and yet they cannot live without them. Injuries and insults are soon forgotten and the joys of playing together, sharing experiences, things and even '**secrets**' prove weightier and more attractive. Such is the attraction of the peer bonds that even the dictates of parents are conveniently forgotten and violated.

So far as the processes of socialization and education are concerned, peer groups account for a lot of learning, and they are a powerful agency of socialization. Peer groups may be '**open**' or '**closed**'; they may comprise members of the same sex (all boys or all girls) or may be mixed. **Open peer groups** are those that admit new members and their composition keeps on changing because some members may drop out or move away, while others may take their place. **Closed peer groups**, also called '**cliques**' do not allow non-members to penetrate them. Their members continue with the same peer group over years and the peer group resists desertion by its old members and admission to new members. Much of what is learnt by an individual depends on the nature and characteristics of the peer group. Research on peer groups has established that:

- peer groups may hinder or facilitate learning depending upon the attitudes and values promoted by it. If a peer group considered greater academic achievement desirable, it will facilitate learning and support academic achievement. If it pooh-poohs academic achievement and brands it as undesirable, then it will hinder learning;
- frequent interaction among peers especially those who are members of a clique can shape each others' attitudes and behaviour; some cliques have negative view of school and school authorities and they may brand higher academic achievement as a sign of treachery by its members;
- peer groups tend to support a specific set of norms. If peer norms are anti-school, they may undermine a student's resolve to attend class or do homework regularly. On the other hand, positive peer group norms may foster positive attitude towards school, college, attendance and achievement.
- peer groups may reveal gender, race, caste and ethnicity related preferences in selecting its members and may promote such preferences to the extent of fostering prejudices;
- peer groups usually have a status hierarchy within its members; the leader supported by some members may dictate what would be desirable and what is expected of the peer members. Rivalries and jealousies often result from the urge to become "the leader of the pack".

Teachers can often use such findings and promote a healthy learning-oriented ambience in the class and the school. This is important, otherwise a peer group may undo the hard work of the teacher. Effective teachers usually support the emergence of open groups and try to see that cliques do not form in their class. Through seating arrangement and judicious work arrangement, they strongly support the development of friendship ties. However, teachers would do well to ensure that through these practices, they do not flout the social norms of the community and keep an eye on what goes on in various peer groups. **Secondly**, teachers may provide increased opportunities to students to interact with one another through group tasks and collaborative learning. This can promote the development of inter-caste, cross-ethnic and cross-religion friendships. **Thirdly**, the teachers may ensure that peer pressures do not become anti-academic and they do not hurt the dignity and feelings of any learner. **Fourthly**, the organizational role of the teacher and the students can strongly influence the classroom social system and ensure that it does not go against academic norms and human values. **Fifthly**, the assessment and evaluation techniques used by the teacher should be fair as well as objective so that they are perceived to support merit and achievement. **Lastly**, in integrated settings for providing inclusive education, the teacher can use 'peer tutoring' for ensuring greater peer acceptance of the slow learner, the underachiever and the challenged. The manner in which peer tutoring is organized and the purpose for which it is used will ensure that the class group as well as the school community not only accept these learners, but also value them and their contribution.

Teachers can promote national integration through peer groups by supporting the formation of multi-religious, cross-ethnic groups in which members from different sections of the society are accepted and respected in spite of their social disadvantages and disabilities.

Check Your Progress 3

Note: Write your answers in the space given below.

- 1) Briefly describe the importance of study habits in learners' academic achievement.

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- 2) Describe the role of 'regularity' in learner achievement.

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- 3) List three study habits other than regularity that you as a teacher would like to promote among your students.

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- 4) List four characteristics of peer groups you would like to support as a teacher.
 - a)
 - b)
 - c)
 - d)
- 5) How will you promote national integration through classroom peer groups?

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7.7 LEARNING ENVIRONMENT: COMPETITIVE OR COOPERATIVE

Classroom instruction is invariably organized for a group of learners. The sight of one teacher teaching a single student is only an exception. Learner groups may be small or large in size. However it is the amount and nature of learner interaction in a group that defines whether the learning environment is competitive or cooperative. If the individual learner is encouraged or asked to work by himself or herself and treat all others as one's rivals, the learning environment would be competitive. If, on the other hand, learners are encouraged to help each other, discuss and cooperate to support each other's learning, then the learning environment would be **cooperative**. Till recently, classroom environment in Indian schools has been largely competitive. One often hears of teachers who would spot talent in an individual learner and groom him/her to outperform everyone else. The competitive learning environment was based on the doctrine, "Each one for oneself and the devil take the hindmost". Competitive learning environment promotes cut-throat competition wherein everything is fair so long as it helps an individual put up better performance than others, especially in tests and examinations.

The spread of constructivism has changed it to a good extent. Competitive learning has been gradually replaced by cooperative learning. Vygotsky's (1986) view that social interaction is central to learning and knowledge construction has supported the use of cooperative learning environments. No wonder more and more teachers all over the world now use cooperative learning techniques to provide learners the freedom to develop their own thought and to share these with other learners in the group, their teacher(s) or even their parents. However, the freedom given to learners in cooperative learning environment is in general structured and purposeful. It involves responsibility as well as accountability.

A simple answer to the question "Why should teachers use cooperative learning environment?" is that these work well and students find learning in such environments more interesting and effective. During the last twenty years, researchers have conducted numerous studies on cooperative learning, which have been examined in detail by Johnson and Johnson (1994), Slavin (1995) and Pintrich and Schunk (1996).

Cooperative learning environments are provided to students in mixed-ability learner groups of four to six members. These groups are formed on short-term basis and for accomplishing specific tasks. Other features of cooperative learning environments are as follows:

- Each learner group has clear goals and specific objectives for which the group works;
- The teacher provides clear guidelines for behaviour even though the group decides who would do 'what' and 'how';
- The group works as a whole and performs collectively. Each student's success depends on the help and participation of other group members;
- Since students are new to this approach, the teacher often guides them initially about what steps to follow and what to do at each step. This guidance provided by the teacher is called a '**script**' and the cooperation based on it is called "scripted cooperation".
- The teacher monitors how learner groups are working and whether their interaction and cooperation is geared to task-accomplishment. The teacher also works as a resource and provides critical inputs when the group does not know what to do and requests the teacher to guide them.
- Each member of the group is expected to demonstrate that he/she has learnt how to attain the goal by performing the task. This reinforces individual accountability for achievement;
- Each group, after achieving its goal, analyzes and evaluates in what respects it performed effectively and in what respects it needs to improve its performance. The teacher may assist the group in its self-evaluation.

Cooperative learning environments need to be properly used so that learners may benefit optimally from these and the teachers may attain their planned objectives. Teachers who have developed their skills for using cooperative-learning environments effectively and use these often suggest the following guidelines for promoting the use of cooperative learning by other teachers.

- Form small mixed-ability groups of learners;
- Formulate clear goals for each group and share these with each group;
- Help each group to allot a clear role to each student;
- Monitor how members in each group interact and for what purpose(s);
- Help a group when it is unable to proceed further by providing necessary clue(s) or minimal essential information;
- Reinforce group success;
- Encourage each group to evaluate its success and how it may be improved; and
- Change the tasks given to different groups and also the duration of group work.

Even though cooperative learning techniques used by teachers reveal a healthy variety, most teachers stick to just one or two techniques. Teachers should ideally try new techniques and expand their repertoire so that depending upon the characteristics of learners and educational objectives, they are able to use techniques that work effectively. Student team learning, Jigsaw, Learning together and Group investigation are the four cooperative learning methods used by most teachers. These have been described in detail by Slavin (1995).

Research on cooperative learning environments reveals that using these environments increases learner achievement. However, different cooperative learning methods result in different levels of increase in learner achievement depending upon how well these are organized by the teacher and used by learners. **Secondly**, their use improves social relations among individual learners and help develop their interaction skills.

Learners who learn through cooperative learning environments have been observed to show greater tolerance for opinions and views that are different from theirs. **Thirdly**, the use of cooperative learning environments reveals greater acceptance of inclusive education and more positive attitude towards the challenged learners in integrated classrooms. **Fourthly**, the use of cooperative learning environments reveals enhancement in learner's self-esteem, as each learner feels that he/she has contributed to group success in some measure. However some researchers (e.g. Snyder and Sullivan, 1995) have found that even though the use of cooperative learning is considered an effective way of developing learners' knowledge, it often fails to promote their conceptual learning. Therefore, teachers may not like to transact the entire curriculum through cooperative learning only. Nevertheless, they can use it as a major strategy to support student learning and help develop their skills to work with other students and promote each other's learning.

In spite of the obvious differences between competitive and cooperative learning environments, we know that some learners perform better in competitive learning environments than in others. This holds good especially for relatively advanced learners. These learners enjoy freedom to learn as much as they can and try to learn as fast as they can; they love to go as far as they can and explore while they learn. They also like to lead others and show them how one can look at a problem in more than one way. Surely, there are many others who learn better in cooperative environments. Thus an effective teacher may provide competitive as well as cooperative learning environment to one's students depending upon their strengths, weaknesses, preferred learning styles and personality characteristics. We should remember that in spite of making these inputs available to one's students, the teacher may have to provide for individual learning (see Section 7.9).

Check Your Progress 4

Note: Write your answers in the space given below.

- 1) Describe the basic difference between competitive learning and cooperative learning environments.

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- 2) What is a 'script'?

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- 3) List any three benefits to students when they learn in cooperative learning environments.

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- 4) List any major shortcoming of using cooperative learning environments.

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7.8 MASS MEDIA PERSPECTIVE

These days, children grow up and live in a mass media dominated world. In the developed world, they live in a mass media saturated world. In this section we will examine learners from mass media perspective. Mass media are mainly three types : (a) print (b) radio and (c) broadcast television, but not closed circuit television (CCTV). These mass media appeared and developed in this very order : the print was invented first and the television the last. Radio and television are also called electronics-based mass media. These mass media are used for teaching as well, but that is not our concern here; our focus in this unit is on the learner.

Print mass media has permanence about it; it continues to exist and enables the learner to revisit and reuse it whenever one feels like doing so. For years, both radio and television have been considered ephemeral i.e. short-lived because the sound and images once heard and viewed, vanished without leaving any trace. The invention of storage devices e.g. audiotape or cassettes and video cassette, floppy, compact disc (CD) and dense video disc (DVD) has given us the technology to record radio as well as television broadcasts and use these later with the help of retrieval devices. Storage devices have extended the life of messages delivered through electronic media and given them near permanence. Of the three mass media, print and radio are based on a single sense i.e. sight in the case of print and hearing in the case of radio while TV involves the use of sight as well as hearing. Thus it can be said that print is a visual mass media, radio an audio mass media but TV is an audio-visual mass media. Print mass media include newspapers, magazines and general books.

All mass media are basically delivery media because they deliver i.e. communicate information from the sender-end to the receiver-end. The learner is a receiver and consumer of the information conveyed through the mass media. Proper use of the media requires the use of well developed media-specific skills. When these skills are not well developed, the message may be misinterpreted or uncritically received, accepted and responded to. For using mass media constructively, learners need to learn how to critically interpret combinations of words, pictures, maps, diagrams and specialized symbolic expressions. They need to understand the different conventions in framing, communicating and interpreting messages through different mass media and in different genres of fine arts. This sets specific goals for education and teachers are expected to address these issues/tasks.

In the absence of the mass media specific skills, learners may misinterpret or uncritically accept the messages the mass media seek to convey. Aware and critical learners can use mass media for attaining various educational objectives, chief of which are the following:

- As a means of entertainment or infotainment i.e. information-cum-entertainment.
- As a means of enriching classroom learning.
- As a major learning resource.
- As a means of developing and refining creative expression.
- As a means of further development of media-specific sensory skills and higher order cognitive skills.
- As curriculum support.

The mass media can be used to support various types of educational systems. Electronic mass media are in a way the lifeline of open distance learning systems. They can be used in the face-to-face system as well, but students and teachers need to be properly trained for effective use of mass media.

Television as a mass media needs to be used with caution because indiscriminate viewing of many TV programmes can adversely affect the attitudes and values of learners. Parents and teachers may try to inculcate one set of attitudes and values, but the excessive and uncritical viewing of TV programmes by learners may completely undo their (i.e. parents' and teachers') efforts. Soft pornography promoted by various private TV channels may incalculably harm young viewers. Some TV programmes especially those on Discovery, History Channel, National Geographic, Animal planet, and occasionally on Doordarshan National and DD Bharati are extremely informative and can help viewers develop a concern for environment, ecosystems and society in general. A constructive use of mass media can enable the learners to transform their understanding of their society and themselves, and thus help formal education become more meaningful for every learner. If the end-purpose of education is to prepare the individual for creative and decisive response to life's uncertainties, the proper use of mass media can indeed prove to be a real asset. Mass media can provide a glimpse of alternative possibilities and help learners reconstruct a new map of knowledge, with greater focus on powers of synthesis and intellectual analysis.

7.9 INDIVIDUALISED LEARNING

We have learnt through various sections in this unit that learners differ from each other in many ways, and these differences need to be provided/catered to by all conscientious teachers. Individualised learning provides the answer to the needs and individual differences of all learners.

As teachers, you would do well to remember that in a strict technical sense, all learning is essentially individualized because of the mental processes one may use and the learning capacity one may have. Even when students are members of a small working group or attending the teacher's lecture in a whole class setting, they learn individually, each one for oneself. Learning can never take place by proxy. What is actually stored by a learner in one's memory would depend upon how one structures the new information and how does one link it up with one's previously acquired knowledge. However, most teachers have to provide individualized learning because learners differ in terms of time they take for learning something to a predetermined level of mastery. Another reason for providing individual learning practice to students is the pace at which a learner can learn comfortably. Educational psychologists believe that without individual learning practice, '**automaticity**' and '**unitization**' cannot be properly developed. Since these terms are related to specific concepts, let us describe these in brief. '**Automaticity**' refers to the processes becoming so deep-rooted in the learners' long term memory that they do not have to think and make any conscious attempt to respond to certain stimuli or situations. Articulation of the proper sounds of a language, writing various letters of the alphabet, reciting multiplication tables etc. are ready examples of automaticity. One often has to overlearn in order to achieve automaticity. Individual learning practice is the most effective technique for enabling students to achieve automaticity. However, individualized learning sessions have to be supervised by the teacher in order to ensure that correct learning indeed takes place.

'Unitization' refers to the blending together of facts and procedures into reponse sequences that can be actually used for problem solving. Unitization thus is the process of integrating various facts, concepts and processes so that a person is able to work more effectively for solving given problems. Unitization, like automaticity, has to be initially developed under teacher's guidance.

So far as techniques of providing individualized learning are concerned, self-instructional materials and Keller plan are two widely recommended strategies. However, we are concerned here with techniques that the teacher can use in the classroom without depending upon or making use of a specially developed instructional materials and strategies. The following classroom techniques have proved useful for most teachers and they may serve you well:

- **Individual Worksheets:** These worksheets are developed by the teacher and the tasks listed on each sheet are pitched at the ability level of the individual learner and his/her current level of achievement in the concerned subject. For example, if a student is weak at working out square roots of more than four-digit numbers, then the tasks listed on his/her worksheet would address this weakness and will be graded in such a manner that he/she is able to get over this problem to a considerable extent. Similarly, if a student is poor at transforming given simple declarative sentences into their interrogative forms, then the tasks listed on his/her individual worksheet will help him/her in achieving correct transformations of given sentences. Preparing individual worksheets for providing such desirable practice often involves considerable table work for the teacher. The school administration has to provide necessary time to the teacher to accomplish this task and plan these inputs for each learner.
- **Differentiated seatwork:** Students working at different achievement levels and with different abilities are given different tasks as their seatwork. While this technique is obviously helpful for each learner, the teacher has to spend more time to develop a list of such differentiated and graded tasks. One must remember that differentiated seatwork does not mean differentiated syllabi for learners. Differentiated seatwork should therefore be tied up with and must lead to the attainment of the objectives of the lesson/unit.
- **Differentiated Home Assignments:** These are based on graded questions that enable learners to receive extended practice on classroom tasks. These questions are of a difficulty level that enables the learner to attempt them independently at just a notch above his/her current level of achievement. Framing a set of these differentiated home assignments is certainly more time consuming for the teacher.
- **Individual Learning Plans (ILP):** While individual worksheets enable all learners to follow the group learning plan, individual learning plans imply that each learner is given freedom to learn a subject according to one's pace, ability and the sequence best suited to him/her. This means greater teacher inputs, more teacher time and overall more teachers in the school. If the school management chooses to provide individual learning plans to all students in the school as a policy, then it may lead to higher tuition fees. Another drawback of this strategy is that all students do not get the opportunity to learn a full rich curriculum within the same session.

These are the four major techniques that most teachers have found workable as well as effective. Whatever the technique used by a teacher for providing individualized learning to one's students, it would always demand more time than the whole class teaching. The problem of enabling learners to learn the full curriculum would need to be addressed differently. The individualized learning sessions need to aim at developing automaticity, otherwise learners' peculiar weaknesses will spill over from one topic to the subsequent ones. Unitization should also be an aim to be attained through individualized learning sessions. If unitization is not attained, the unit objectives and consequently the subject objectives may not be fully realized by the learners.

Check Your Progress 5

Note: Write your answers in the space given below.

1) List four possible uses of mass media by learners.

- a)
- b)
- c)
- d)

- 2) List any two skills that teachers need to develop among their learners to enable them to use mass media constructively and critically.
 - a)
 - b)
 - c)
 - d)
- 3) In what respect can learners benefit from the use of mass media?

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- 4) Why do teachers need to provide individualized learning to their students?

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- 5) Describe 'automaticity' and 'unitization'.

Automaticity

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Unitization

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- 6) List four techniques that you as a teacher can use for providing individualized learning to your students.

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- 7) Describe 'individualised learning plan' as a technique for providing individualised learning to students. What are its short comings?

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7.10 LET US SUM UP

We have discussed in this unit six perspectives on learners. Different learners display different preferences in terms of their learning styles. Field-dependence vs. field-independence and impulsivity vs. reflectivity are two major dimensions of learning styles. Field-independent learners approach problem-solving in a more analytical manner. Field-dependent learners are more global in their approach. Reflective children while solving a problem review the possibilities and tend towards the abstract in their preferences. Impulsive children act intuitively and usually try out hypotheses by testing them in reality. Other cognitive styles are focusing vs. scanning and holistic vs. serialist.

There are learners who have preferred sensory modalities for learning (visual, auditory or motor). Visual learners learn easily and better through sight. Auditory learners acquire information through ear gate. Auditory learners may be aural (learning by listening to others) or oral (learning by talking and hearing themselves). Motor learners learn through motor activity. Academic achievement of the learner is influenced by factors like intelligence, language competence, self esteem, self concept, interest, aptitude, motivation and study habits. There are external factors that influence the achievement of the learner. These are of two types: (a) teacher-related and (b) environment related. Cooperative learning environments increase learner achievement. But some learners perform better in competitive learning environments. Another external factor that influences learning is the mass media. It offers alternative possibilities and help learners reconstruct a new map of knowledge, with greater focus on powers of synthesis and intellectual analysis. Since learning is influenced by one's own internal as well as external factors, individualized learning should be provided to meet the needs and differences of all learners.

7.11 UNIT END EXERCISES

- 1) Identify your students according to their learning styles.
- 2) Choose a topic of your choice and plan activities for individualized learning.
- 3) Create cooperative and competitive learning environments in your classroom. Examine the impact of different learning environments on learner achievement.

7.12 REFERENCES AND SUGGESTED READINGS

- Alexander, P. & Murphy, P. (1994). *The Research Base for APA's Learner-centred Psychological Principles*. American Educational Research Association
- Bruner, J.S., Goodnow, J.J. & Austin, G.A. (1965). *A study of Thinking*. New York: Wiley.
- Gardner, H. (1993). *Frames of Mind* (2nd edn.). London: Fontana.
- Howe, M.J.A. (1999). *A Teachers' Guide to Psychology of Learning*. Oxford : Blackwell.
- Johnson, D. & Johnson, R. (1994). *Learning Together and Alone: Cooperation, Competition and Individualization*. (4th edn.). Needham Heights MA : Allyn & Bacon.
- Kauchak, D.P. & Eggen, P.D. (1998). *Learnig and Teaching: Research-bases Methods*. Needham Heights MA : Allyn & Bacon.
- Leaver, B.L. (1997). *Teaching the Whole Class*. Thousand Daks: Corwin Press.
- Pintrich, P. & Schunk, D. (1996). *Motivation in Education: Theory, Research and Applications*. NJ: Prentice-Hall.
- Slavin, R. (1995). *Cooperative Learning*. (2nd edn.). Neelam Heights MA: Allyn & Bacon.
- Snyder, T. & Sullivan, H. (1995). Cooperative and Individual Learning. *Contemporary Educational Psychology*, 20: 230-235.
- Vygotsky, L. (1986). *Thought and Language*. Cambridge: MIT Press.