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# UNIT 7 LEARNER AS AN INDIVIDUAL-II\*

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## 7.1 INTRODUCTION

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We have already discussed about intelligence and personality as the factors affecting learning in unit 6. There are many more such factors which have role in the learning of a child and being a teacher we should be aware of these factors. Present unit is to be viewed in continuation to the previous unit and influence of factors like Learner Preparedness, Motivation, Attitude and Aptitude, Curiosity, Interest and Creativity of learner etc. in learning will be discussed in this unit.

Focus in this unit will be mainly on the role of these factors in facilitating learning. This unit will help you to understand your learner better and facilitate him/her for better and meaningful learning.

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## 7.2 OBJECTIVES

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

- understand the importance of learner preparedness in facilitating learning;
- appreciate the role of motivation in facilitating learning;
- examine attitude and aptitude as important factors in facilitating learning;
- understand the role of creativity in facilitating learning; and
- explain curiosity and interest of the learner as key factors for learning.

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## 7.3 LEARNER PREPAREDNESS

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In stimulus response theories of learning, you must have studied laws of learning, which were proposed by E.L. Thorndike. He conducted a series of experiments on learning processes. He propounded basic laws of learning based on his experiments. After the law of effect and the law of exercise he propounded the law of readiness. The law of readiness means that when a learner is ready for a modifiable connection and is ready to act and to do so is satisfying; whereas lack of readiness leads to dissatisfying act. Readiness is dependent upon both maturation and experience. It is supposed that without readiness for acquiring new knowledge the speed of learning will be slower than having readiness.

This propagates importance of preparedness for learning. Preparedness means readiness to learn anything which is new for an individual. Let us read following two situations and think for a moment:

### Case 1

A science has to teach Monika entered the class immediately after lunch break to teach the concept of friction. She started the class by asking questions like:- What is force? What are the types of force? Give some examples of various types of forces. How are these forces different from frictional force? She posed the last question as a problematic question and introduced the topic after it.

### Case 2

Sudarshan has to teach the same concept in a separate class. When he entered the class, he noticed that children were running in a hurry to reach the class, as lunch break was over. He asked few to stop or slow down and not to run fast towards their respective desks. When children slowed down, he asked, when you were running fast and I asked you to slow down, what helped you to control your speed? Children started thinking. He then threw some marbles on the floor and asked them to notice the movements of marble. Then he asked the learners, why did the marbles stop moving? What has opposed the free movement of marble? He used many such examples and even asked children to give more examples before starting the class.

Among the two cases given above, which one did you find better to start the class?

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What was that which Sudarshan did in his class and was missing in Monika's class?

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Answering to these questions will help you to understand that preparing learners for learning is very important for you. So, if you prepare them properly, they shall be ready to learn. But this does not mean that every time teacher has to prepare them for learning. Many times, you may observe that due to certain outside factors related to the classroom, learners are not ready to learn? You have to identify those factors and try to overcome those.

What a teacher can do to enhance learners preparedness for learning? Let us discuss it.

### 7.3.1 Classroom Implications of Learner Preparedness

- Teacher should know when the learner is prepared to learn. If any learner is not prepared then you should provide him/her with such experiences through which s/he becomes ready to learn.
- You should analyze the factors which may be hindering the preparedness of the learner. Identify those factors and try to overcome those.
- Interest of the learner in the subject/content is one of the important factors affecting learner's preparedness. Identify his/her interest and prepare him/her accordingly.
- Sometimes, learners with different learning styles are asked to learn with similar methodology taught by the teacher. Their learning styles and learning preferences affect their preparedness to learn. You should be aware of their styles and introduce flexibility in teaching-learning process which can be adapted to all kind of learners.
- The classroom environment should be made learner centered so that learners may become more inclined towards acquiring new knowledge and skill.

#### Check Your Progress 1

**Note:** a) Write your answers in the space given below:

b) Compare your answers with those given at the end of the Unit.

1 Suggest few strategies that can be tried in your class to enhance learner preparedness.

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## 7.4 MOTIVATION

Thomas when joined a secondary school as social science teacher, he was assigned Class VIII. On first two days in his class, he did not teach any concept. He just asked learners about them, their interests, their surroundings, weather, knowledge of historical monuments of the nearby area, newspaper headlines, about market, political happenings etc.

When he was talking, he had certain questions in his mind, whose answer he was trying to get before starting the formal teaching of the subject. Do you know, what were the questions in his mind? Let us have a look on those questions.

- What are the choices of topics about which learners talk more?
- What are the areas they take more interest in talking and explaining?
- Are they aware of their surroundings and recent developments?
- Do they take interest in these talks or not?
- Are they feeling engaged in such topics?
- Are they interested to know more and explore about issues related to weather, history, politics, market etc?

He set these questions to understand the motivation of learners to learn the subject social sciences.

*You can also try such activities/questions in your first few classes during the internship.*

With the help of above example, we can say that ‘motivation’ represents the reasons for people’s actions, desires, and needs.

### What is Motivation?

Motivation is a theoretical construct used to explain behavior. Motivation is defined as one’s direction to behavior or what causes a person to want to repeat a behavior and vice versa. A motive is what prompts the person to act in a certain way, or at least develop an inclination for specific behavior.

The word motivation is defined in many ways. According to Fredrick J. Mcdonald (1965) “**motivation is an energy change within a person and is characterized by affective arousal and anticipatory goal reaction**”.

There are **three elements** in this definition which are explained below for your better understanding :

- Motivation begins in an **energy change** in the person. The organic base for some energy changes (for example the hunger, thirst, and sex) is derived from physiological changes whereas in case of the psychological needs the exact organic nature of the energy change may not be known.
- Motivation is generally aroused by the **affective arousal**. The term affective arousal represents feeling state of the person. It may not be necessarily intense as in the case of the learner working on his desk.

- Motivation is also **characterized by the anticipatory goal reaction** which means that the person when motivated makes responses which lead him to goal.

In this way the three key elements of this definition present the model of the process of motivation from arousal to goal attainment.

It means **Motivation** is something which prompts, compels and energises an individual to act or behave in a particular manner at a particular time for attaining some goal or purpose.

**Maslow**, who proposed self-actualization theory, defines Motivation as *“Motivation is constant never ending, fluctuating and complex and that it is an almost universal characteristic of particularly every organismic state of affairs.”*

All these definitions give rise to certain questions like what motivates and what not? What is responsible for motivation? How motivation occurs and why does it vary from person to person?

In order to answer these questions, most of the psychologists are of the opinion that three key factors associated with motivation are needs, drives and incentive.

### 7.4.1 Needs, Drive and Incentive

The concept of motivation has evolved from instinct and drive to predisposition and precipitation now. The later are currently being used in psychology to denote the earlier concepts of drive and incentives. But the basic difference lies in the assertion that drive states are not the only source of predisposition and incentives but also that of precipitators. Now we will try to understand the key terms which have been identified as the activating forces i.e. needs, drives and motives.

**Needs:** Needs are general wants and desires. Everybody tries to strive for the satisfaction of his basic needs if he has to maintain or improve himself at his workplace. Basically there are two types of needs:

1. **Biological needs** like the need of air, water, food, rest, elimination of waste, optimum temperature, sexual urges as well as sensory needs.
2. **Socio- psychological needs** are associated with socio-psychological environment of the individual. These may include need for independence, security, love, affection, achievement, recognition, approval, company, self-assertion, self-expression or self-actualization.

**Maslow** arranged human needs into a **hierarchy of prepotency**. It means needs are inter-linked and satisfying one need depends on other.



Figure 7.1: Need Hierarchy proposed by Abraham Maslow (1954)

**Drive:** A need gives rise to a drive which may be defined as an aroused awareness, tendency or a state of increased tension that sets off reactions in an individual and sustains them for increasing his general activity level. Drive of any nature can be divided into two categories.

1. **Biological or Primary Drive:** Hunger, thirst, sex etc.
2. **Socio-Psychological Drive:** Fear, anxiety desire for approval, aggression, etc.

Whether a need is physiological or psychological, each individual tries to satisfy his/her need. The innate tendency to satisfy the need is drive which forces one to act accordingly. Drive directs a person to act for satisfaction of need. Intensity of drive depends upon nature of need.

**Drive and Incentive:** Drive is normally guided by incentives. Appreciation, rewards and bonus are some examples of incentives. Incentive works as the reinforcing agent since it adds more force to drive. **Incentive is basically an object or event which encourages or discourages any behavior.**

Teaching implies an arrangement of a situation where the learner finds an opportunity for the acquisition of knowledge, understanding, skill and value. Learning is a process by which these results are achieved. Both teaching and learning is possible more easily if the learner's motivation is available. You should understand this with clarity that motivation is necessary if not a sufficient condition for learning.

### **Motivated Behaviour**

If you analyze your learners, you will find that learners make choices about activities and tasks to engage, every day. Many learners choose to learn more about a subject or topic outside of class, whereas others limit themselves to classroom activities only. There are many learners who are strict in their regime like sleeping until noon each day. If someone asks them for pizza or for a party they directly refuse to come along.

In fact learners are **expected to be productive** all the time. Having fun or wasting time is a part of life! However, the choices they make play important role in determining the number of personal goals they will attain throughout life.

A second aspect of motivated behavior is **level of activity** or involvement in a task. Some learners are very involved in their courses. They spend considerable effort after the class on refining notes, outlining readings, and in general, using different learning strategies to make sense of what they are learning. Other learners are less engaged in their courses and do the minimal amount required to get by.

The third aspect of motivated behavior is **persistence**. The willingness of learners to persist when tasks are difficult, boring or unchallenging is an important factor in motivation and academic success. In many cases, learners have to learn how to control their efforts and persistence in the academic tasks they experience.

### **7.4.2 Intrinsic and Extrinsic Motivation**

From where does motivation arise? Is it within an individual or any outside force? This is the question which many of us ask? You may say that motivation may arise due to need, drive, or incentive. It may be due to fear, goal or social pressure. Some feel it is due to interest, belief or expectations.

Let us ask a question to ourself.

We all have read many books such as text books, story books, fiction books, historical books, reference books, etc. As a teacher, sometimes you feel the need to visit a library and refer a book on a particular topic. What drives you to do so?

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Answers may be,

- You want to clarify some doubts raised by your learners on that topic.
- You want to explain more to your learners but regular text-book does not have enough descriptions.
- While teaching, you reflected yourself that you need to know more to satisfy your own hunger for knowledge.....AND MANY MORE.

The above answers make it clear that there are external, internal, personal reasons for motivation. These reasons classify motivation into **Extrinsic** and **Intrinsic** Motivation.

Motivation created by external factors like promise of a prize or some other kind of gain which is external to the task is termed as **Extrinsic Motivation**.

On the other hand there are situations in which source of motivation lies inside the task. **Intrinsic motivation** is associated with activities that are their own rewards. In such cases the task itself is interesting and it does not need any external source of motivation. In this case the locus of control is inside the person.

We can say the difference between two is, whether **Locus of Causality** for the action is external or internal.

**ACTIVITY 1**

Enlist few activities of your learners and identify the need/locus of causality. Classify it as extrinsic or intrinsic in the form of following table.		
ACTIVITY	NEED/LOCUS OF CAUSALITY	TYPE OF MOTIVATION

### 7.4.3 Approaches to Motivation

Motivation has been explained by various schools of thoughts in different ways. In this section we will explore four major approaches to understand motivation i.e. behavioral, humanistic, cognitive and social.

**Behavioral approach** considers role of external rewards and punishment in motivation in classroom. According to this approach, role of positive and negative stimuli as incentives is very important in encouraging or discouraging a particular behavior. Role of reinforcement is also considered important in teaching and learning. This approach promotes use of grades, stars, rewards, certification, appreciation, etc., for enhancing motivation of learners.

**Humanist approach** laid emphasis upon learners' capacity for personal growth, freedom to choose their options for future and positive outlook. This approach advocates that intrinsic sources like sense of competence, self-esteem, autonomy, and self-actualization are the factors which encourage a person to act. Maslow's Need hierarchy is a good explanation of this approach. (See Figure 7.1 in the section 7.4.1)

**Cognitivists** are of the view that motivation occurs due to learners' thoughts. They don't have faith in role of extrinsic motivation for learning. They believe that learners' internal motivation to learn, their attribution (ability of an individual to explain, justify and excuse) and their belief to control their environment contributes to motivation. Learners are viewed as active and curious individuals who are searching information to solve their problems by themselves.

**Social perspective** believes that need of affiliation, appreciation and recognition in the social group motivates a learner. When a learner spends time with peers, makes close relations with peers, parents and relatives, wants to get recognition of their work in socio-cultural environment, s/he gets motivated. It emphasizes on participation, identities and interpersonal relationships within the community for various practices.

#### Check Your Progress 2

**Note:** a) Write your answers in the space given below:

b) Compare your answers with those given at the end of the Unit.

2. Compare behavioral, humanistic, cognitive and social perspective of motivation.

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### 7.4.4 Motivation for Learning

What is the role of motivation in learning?

Brophy (1988) defined motivation "to learn as 'a learner', tendency to find academic activities meaningful and worthwhile and to try to drive the intended academic benefits from them." (pp. 205-206).

Key characteristics of motivation to learn are:

- It involves more than wanting or intending to learn.
- It includes the quality of the learners' mental effort.



## Understanding the Learner

Every teacher assumes that his/her learners are motivated to learn but it is never true. As a teacher you have to achieve certain goals.

1. Involve your learners productively in all the activities of class, i.e. create a **state of motivation to learn**.
2. Develop a **habit of being motivated to learn** among your learners. Your learners should be ready to learn lifetime from various sources, whenever they get an opportunity to learn.
3. Make them **thoughtful** so that they can think deeply about what they study. For this, activities like summarizing, elaborating the basic ideas, outlining in their own words, diagrammatically representing the relationships etc. can be practiced with them.

### Role of a Teacher

To motivate learners, what can a teacher do? Here are few strategies, which you can try or you can devise your own too.

- You can develop some **learning centers** like, for languages, mathematics, science, social sciences, etc. where you can encourage learners to work individually or collaboratively on some projects of their own choice. You can also create some **interest groups**.
- Your enthusiasm, confidence, competence in subject area and presenting yourself as an intrinsically motivated teacher affects learners positively. You should build up the confidence level of children's abilities and skills.
- Make childrens academic work more enjoyable and interesting.
- Create an environment in classroom, where learners feel free to express, share, debate and discuss their views. Promote critical thinking and develop a habit of acceptance of criticism too.
- Begin your teaching from learners' level and gradually move upwards in small steps.
- Set those learning goals, which are possible to achieve. Your **clear, specific and possible to reach goal** will motivate the learners. A sense of progress in achieving small goals will motivate children to achieve bigger goal.
- Encourage a **habit of self-comparison** among learners i.e. they should develop a habit of listening what is wrong and reflect on their own that why it is wrong. Avoid comparing children's work among themselves.
- Develop a **habit of problem solving** among your learners. They should be encouraged to analyze the problems, identify the solutions and apply to know which one will be the best solution.

### Check Your Progress 3

**Note:** a) Write your answers in the space given below:

b) Compare your answers with those given at the end of the Unit.

3. What can you do as a teacher to increase the motivation for learning?

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## 7.5 APTITUDE

Learners of class VIII are being promoted to class IX. Rehana, their class teacher has introduced her learners to the new class teacher of class IX and used certain statements like:

Meet Rohit, he is very good in mathematics. He solves problems outside the course book also and is always curious to solve problems/questions and enjoys geometry and algebra.

She is Jenny, very confident debater of the class. She is always keen to participate in debates on contemporary issues. She has good imagination power and is a good writer too. She has potential to be a good fiction writer.

He is our chess champ, Abraham. He performs fairly well in academics, but very good in chess. He participated in National Junior Chess championship last year and got silver medal there.

.....on similar pattern Rehana introduced all learners one by one highlighting their strengths and appreciated their achievement in various areas.

What can you infer from the above scene? One thing you may say that Rehana is well aware of the individual's interests and achievements. Other thing you may get that everyone in the class is not same. Everyone has some specific abilities in certain areas. Sometimes some of us get confused about their interest areas. Being successful in any area does not always depend upon interest. Here comes the role of aptitude. **Aptitude and Interest are not same.**

### 7.5.1 What is Aptitude?

Aptitude refers to the set of abilities essential for acquiring knowledge and skills specific to an area of performance. Precisely, it denotes the set of abilities required to perform a specialized activity. For instance, when we say aptitude for engineering and aptitude for art, the set of abilities involved in learning and performing in engineering is different from that of art. The same is true for medicine, mathematics, science, music, teaching or athletics. The components of aptitude will tell us more about these sets of abilities.

#### What are the components of aptitude?

Intellectual processes in one of the major components of aptitude. It refers to multiple cognitive processes related to thinking such as memory processes, restructuring symbols and ideas, perception of relations and patterns between ideas, spatial comprehension or orientation, reasoning, problem solving, judgement, etc. These cognitive processes are important for recognition of information and for innovation, invention or discovery while performing a task.

Another is sensory component and it refers to the abilities related to sensory process such as vision and audition. Vision implies the ability for visual sensitivity (e.g. colour sensitivity, etc.). Audition means the ability to hear tones at different pitch levels (e.g. pitch discrimination, loudness discrimination, etc.).

Another is psychomotor component which refers to the kinds of abilities involved in the gross body movements or its parts – trunk, limbs, hands, fingers, etc. The

kinds of abilities involved are strength, impulsion, speed, precision and flexibility. Strength means strength of body parts - leg, trunk and hand (e.g. hand grip). Impulsion refers to the rate of initiation of a movement and can be identified using reaction time to light or sound (e.g. hand or finger or leg speed while performing an act). Precision implies steadiness in performing an act or movements (e.g. putting pins through tiny holes rapidly). Flexibility refers to the looseness of the joints (e.g. touch toes with fingers without bending knees).

It is important to note that when we speak of aptitude, say mechanical aptitude, this is a combination of separates related to cognitive process, sensory and psychomotor for performing mechanical activities such as writing with a pen. The same is true for mathematical, music, graphic art or athletic aptitude. Here you may ask why we discuss psychomotor component under cognitive domain. We need to discuss this psychomotor component when we deal with specific activities. These activities may be required for acquiring knowledge and skill for performing routine tasks. For instance, let us take the example of a pilot. While navigating an aircraft the pilot has to perform several complex operations with speed and precision involving specific abilities related to cognitive, sensory and psychomotor components.

How does aptitude differ from intelligence? While intelligence refers to set of mental abilities and skills, the term aptitude refers to the set of those abilities which directs individual performance in certain specific areas, such as teaching aptitude, mechanical aptitude, etc. You may like to know the difference between aptitude and academic achievement. Though both are important for determining future learning, academic achievement reflects the effects of learning of a specific subject or a set of subjects during a given period of time. Aptitude reflects the cumulative influence of a combination of a set of abilities and a multiplicity of experiences (including learning subjects) in daily life. For example, a learner of your class may be very intelligent but that learner may not have an aptitude for public speaking or dancing for that matter.

### **7.5.2 Do Individuals Differ in Aptitude?**

Yes, they do differ. An individual may have a mechanical aptitude, another may have an aptitude for mathematics or yet another may have an aptitude for language, music or athletics. Such differences are due to the differences in the combination of abilities related to the cognitive processes, and the sensory and psychomotor components. For instance, when we talk of mechanical aptitude, we may deal with ability for spatial relations, ability to acquire information on mechanical matters and ability to comprehend mechanical relations, besides sensory and psychomotor abilities. Similarly, when we discuss aptitude in music, we may identify ability for musical memory, pitch discrimination, loudness discrimination, time discrimination and judgement of rhythm. Likewise, abilities required for science or mathematics are different and each requires a separate set of abilities.

The differences in aptitude can be identified using aptitude tests. Aptitude tests for areas such as mechanical skills, mathematics, science, language, music and graphic art can be used to identify the aptitude of learners in each area of performance. You might have heard of the use of aptitude tests in medicine, engineering, business management, law or teacher training for selection of learners for studies in the respective fields. The aptitude test, in fact, provides a measure of the candidates promise or teachability in a field of study, say, medicine. In other words, the test would tell whether the candidate possess the required aptitude or readiness to profit from studies in the concerned field of study.

### 7.5.3 Instructional Strategy

The suggested approach for handling individual differences is **adaptive instructional system**. In this approach at least two alternative instructional treatments are needed to ensure academic success. Which is the most appropriate instructional treatment? It depends on learners existing level of attitude (learning readiness). Learners with high aptitude may choose unstructured instructional strategy. With minimum guidance from teacher, they may be encouraged to learn through the discovery oriented approach. You may use the inductive process but instructional treatment is essentially learner-centered.

In contrast, highly structured instructional treatment for low aptitude learners is designed in small units through sequential steps and feedback. Frequent summary and review with simplified illustration, analogy and precise explanation of concepts and principles to be learned will facilitate progressive learning. Periodic achievement and aptitude assessments and comparison of these scores with the aptitude scores obtained at the start of instruction would tell the degree to which each learner in the specific treatment group has achieved.

However, for those who are unable to profit from either of the alternative treatments presented above, **compensatory aptitude training** is suggested. This consists of directed reading skill, study habits, self-learning skills, note taking and related activities. The main aim of compensatory aptitude training is to develop readiness for entry into structured treatment. Periodic monitoring should be formulated to identify the learners who reach the required level for entry into alternative treatment.

#### Implications of Aptitude for teachers:

1. Aptitude includes both inborn capacity and the effects of environment on the individual.
2. Learning in any area is conditioned by the learners' readiness to learn.
3. A specific aptitude in the form of talent may show itself early and respond readily to training in future.

#### ACTIVITY 2

During your internship at school, administer general aptitude test battery or differential aptitude test on your learners. The test may be arranged from the psychological laboratory of your programme study center or any other teacher training institute in your area. Collect the data and prepare a report on your findings.

#### Check Your Progress 4

**Note:** a) Write your answers in the space given below:

b) Compare your answers with those given at the end of the Unit.

4. Which instructional treatment will you give to the learners with low aptitude?

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## 7.6 ATTITUDE

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Attitude is a personality trait which indicates individual's likes or dislikes. Attitude influences the way an individual behaves towards an object, institution or a person. Attitude towards a particular object is influenced by parents, teachers, school and society in which the individual lives. We shall discuss individual differences in the terms of attitude towards an object.

### 7.6.1 Nature of Attitude

Environment around us consists of all kinds of objects, people, groups and institutions. An individual's interaction with the environment brings the person face-to-face with varied experiences. But he does not always react to these experiences afresh in every encounter. The cognition, feelings and response dispositions that these objects recurrently evoke get organized into a unified and enduring system. A set of feelings and response tendencies is available to the individual wherever he is confronted with an object, person, situation or idea; attitudes predispose the individual to act in particular ways towards these objects, persons, situations or ideas and there is a degree of consistency in his response to these.

Many psychologists have given different definitions which are given below:

**Allport(1935)** defined attitude as mental neural state of readiness organized through experiences, exerting a directive or dynamic influence on the individual response to all objects and situations to which it is related.

**Schneider (1988)** Attitudes are evaluative reactions to persons, objects, and events. This includes your beliefs and positive and negative feelings about the object.

**Byron and Byrne (1987)** Attitudes can be defined as lasting, general evaluations of people (including oneself), objects or issues. Attitude is lasting because it persists across the time. A momentary feeling does not count as an attitude.

**Vaughan and Hogg (1995)** defined attitude as "A relatively enduring organization of beliefs, feelings and behavioural tendencies towards socially significant objects, groups, events or symbols or a general feeling or evaluation about some person , object or issue.

Typically when we refer to a person's attitude we are trying to explain his/her behavior. Attitudes are complex combination of things we tend to call personality, beliefs, values behaviours and motivations. As an example we understand when someone says, "He has positive attitude towards work" versus "someone has poor attitude towards his work". Attitudes help us define how we see situations, as well as how we behave towards the situation or the object.

### Positive and Negative Attitude

Since many attitudes cannot be neutral, learners acquire or learn positive or negative attitude from their parents, peers and schools. Negative attitudes lead to avoidance, disagreements, arguments, conflicts or other confrontations. Prejudice is a premature or snap judgment that is made before the examination of fact(s). It is a key factor in negative attitudes. The negative attitude generated by prejudice is usually directed towards people who are perceived to be different in some way

or the other. Negative attitudes tend to restrict an individual's interaction with objects, people, places or things and thereby restricts his/her experiences which may have been positive contributory factor in enlarging the vision. On the other hand, positive attitude can induce an individual to assist other people, to be caring and unselfish, to be at peace with his/her world.

### Acquisition of Attitude and Attitude Change

Initially, we all imitate the attitudes of our parents. Later, in school, teacher and peers contribute to the formation of attitudes. Attitudes are also acquired through one's own emotional experiences.

Attitude once formed, are resistant to an easy change. Explanation, unconditioning or rational analysis of errors in perception or fallacies are not enough because the attitude produces such stable sub-systems in the individual as to predispose him to defend it by substitution, avoidance and rationalizing. Attitudes, whether good or bad, do change. Many attitudinal changes are accompanied by changes in the personality and significant changes in the value system.

### 7.6.2 Facilitating Learning of Attitude

In order to facilitate learning of attitude, you need to identify the attitude to be acquired and clarify the meaning of attitude. Once this is done, you should share your experiences about attitude-building. It would be better if you could share your experiences about attitude building. It would be better if you can arrange appropriate contexts for practice and reinforcement of the attitude. For this you can also use group techniques to facilitate understanding and acceptance of that attitude. It would be worthwhile to encourage the learners to deliberately calculate the desired attitude.

**Dealing with Extreme Attitudes:** Conformity or agreement upon all attitudes and values is not the goal. However, there must be a sufficiently large core of common attitudes and values for people to live together. A balance, somehow, must be found between encouraging uniqueness in individuals and requiring conformity to reasonable group standards and to the codified laws of the land.

### 7.6.3 Individual Differences in Attitude

Individual differences in attitudes are observed in learners. Maturity levels, planned and random experiences, physical surroundings, extant of warmth exhibited, democracy and indulgence in home environment, schooling, playmates and exposure to media or social media are not the same for everyone. Similarly, the persons desires to be liked and whose attitude s/he tends to internalize, or the person s/he dislikes and whose attitude s/he generally rejects would not be same for all individuals. An object liked by one may be disliked by others and vice-versa. The result would be attitudinal differences among individuals.

An intellectually mature individual can change and modify his/her attitudes, should s/he realize that the attitude is narrow, biased or even wrong. The intellectually immature individual, by contrast, will cling to his/her attitude even though there is enough evidence to indicate that it is not desirable.

Attitude towards cheating and stealing is different in learners of different ages. Ten year old learner may have strong attitude against deceiving or tricking and stealing. The sixteen year old, depending upon the background and the level of

intelligence, frowned upon stealing but may show some acceptance to cheating particularly in examination situations.

A young child is reverent in his/her attitude towards religion. Religion at this age is formal. Adolescent children are reported to be skeptics and agonistics. Individual differences are also observed in the degree of rigidity and extent of dogmatic training received during childhood, more likely it is for the adolescent to doubt the formerly acquired religious concepts.

Adolescents differ in their attitude towards authority (teachers, principals, leaders and parents) depending on the satisfaction or figures of dissatisfaction they derived during the course of their interaction with them. Adolescence is generally marked by a rebellious attitude towards authority whereas childhood is marked by confirming attitude towards authority.

**Check Your Progress 5**

**Note:** a) Write your answers in the space given below:  
b) Compare your answers with those given at the end of the Unit.

5. How will you deal learners with different attitudes in your class?

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## 7.7 CREATIVITY

Pre-historic man did not travel either by plane or car, communicate by telephone, watch television, use computers, wear suits, live in concrete houses or eat the food available today. Infact, the human being's journey from the ancient period to modern times is the story of creativity. Let us understand the concept clearly.

### 7.7.1 What is Creativity?

Creativity is an overused expression in education. One often hears that the goal of schooling is to promote creativity in learners. What exactly is creativity? The definitions are almost as broad as the use of the expression itself.

Creativity refers to the ability to create or discover something that is novel and has some value for the society. For example, the discovery of penicillin, formulation of the concept of relativity, creation of television, Tagore's work Gitanjali and the like are acts of creativity. The definition of creativity stated that something that is created should be novel and of some value. Novel means the unusual nature of the thing that is created whether it is penicillin, the concept of relativity or Gitanjali. The emphasis is on the production of something new. Equally important is the value which means that products of creativity should be of some value to human beings and society. Further, Tagore's writings speak certain basic truths about humanity and seem as powerful now as when he conceived them. Psychologists in general, to name a few, Guilford, Hayes, Taylor, Torrance, Wallach and Kogan, accept the novelty and value aspects of creativity.

Some psychologists define creativity in terms of product where the emphasis is attached to the output of the creative effort. Others look at it in terms of a process which places emphasis on the thinking process (ability) involved in creating

the product. Whether we look at creativity from the perspective of product or process, both these are two facets of creativity. Our definition of creativity as the ability to create or discover (process) something that is novel and of some value (product) is based on both product and process views.

### 7.7.2 Do Individuals Differ in Creativity?

Like intelligence and aptitude, you may be curious to know whether individuals differ in terms of creativity. Well, the answer to this question depends upon your understanding of the components of creativity.

Let us turn to the components of creativity. The major component is divergent thinking which refers to the thinking process involved in generating alternative (more than one) ideas or answers to a given problem.

**Example** – List the things that are round in shape. One can list several answers here.

In fact, creativity involves a cluster of abilities based on the divergent thinking process. Let us examine those abilities in a hierarchical order.

**Ability to sense problems** : It means an awareness of the defects, needs and deficiencies in the environment.

**Example** : Sensing the need to improve the telephone or finding a cure to heart disease or finding a metaphor or symbol to describe the present situation.

**Fluency** : It refers to the ability to express or generate multiple solutions of a given problem or concept.

**Example** : List the uses of newspaper.

**Flexibility** : It refers to the ability to state a variety of solutions or answers to a problem and reflects the ability to change the direction of one's thinking. Variety of or alternative solutions created and not the number of solutions is considered under flexibility.

**Example** : The uses of the newspaper can be identified as source of news, packing material, material for preparing toys, mat for table, etc.

**Originality** : It means the ability to produce unique or new ideas. Inventions are the most common example of this aspect of creativity.

**Example** : Ability to suggest a new title of a poem.

**Elaboration** : It means the ability to develop well an idea or insight. A thinker's or writer's greatness lies in making the idea elaborate with explanations, situations and implications or plots, characters and dialogue.

**Example** : i) The idea that by providing mere information to learners does not develop their competencies, rather the task or activity-based approach would ensure learners involvement in learning and development of competencies. Task-based approach provides the rationale for designing and providing appropriate activities to develop learner's competencies, ii) Elaborate the phrase into a story.

**Redefinition** : It refers to the ability to improvise operations in situations where a familiar function is performed with an object which is not normally used to perform such a function.



**Example** – Using a bangle or a cold drink can to draw circles.

Though creativity is essentially based on the ability of divergent thinking, psychologists are of the view that components such as intelligence, knowledge and motivation are linked to creativity. In fact, intelligence involves cognition and convergent thinking i.e. form of thinking which is needed in a situation or a problem where there is only one acceptable answer or acceptable answers. The emphasis here is on acceptable and that Psychologists are of the view that a certain level of intelligence is required for creativity for instance, Machinnon's study of highly creative individuals (biologists, mathematicians, architects and social scientists) with IQs ranging from 120 to 177 indicate that while highly creative individuals had higher than average level of intelligence, they were no brighter than their noncreative colleagues. It means that there is no difference in the IQ scores of, say, the highly creative architect and the non-creative architect. The possession of higher than average level of intelligence alone does not ensure creativity. It implies that creativity is essentially divergent thinking process but there is a place for cognition and convergent thinking too. While being involved in creative problem solving besides generating alternative solutions, one has to make logical inferences, compare alternatives and choose the right alternative. For this reason quite often creative thinking consists of alternating phases of divergent (imaginative) thinking, and cognitive and convergent thinking.

In fact, creativity is directly linked to knowledge and motivation. It is not possible for a biologist or a musician to become creative without acquiring a great deal of knowledge in the field of biology or music. Devoted study over a long period of time enables one to gain knowledge in the field. Motivation to produce original work is another factor. Motivational factors, to name a few, consists of a desire to question, high intellectual persistence, tendency to put up with frustration of not being able to find solution and delight in trying with ideas and curiosity. Creative individuals spend an enormous amount of time in their work and, in general, tend to be satisfied only with originality. Thus you have seen that apart from divergent thinking abilities creativity requires above average intelligence, proficient knowledge and higher motivation.

What does this mean? It simply means that divergent thinking abilities, intelligence, knowledge and motivation help us to understand creativity and to identify individual differences in creativity. In fact, individuals do not possess the same level of divergent thinking abilities, intelligence, knowledge and motivation. Such difference create differences in creativity among individuals. Besides, the abilities – ability to sense problem fluency, flexibility, originality, elaboration and redefinition – are not usually found in the equal levels in the same individual. One may be highly fluent but may not be flexible in generating ideas. Similarly, differences in creativity. Thus, differences in divergent thinking abilities. intelligence, knowledge and motivation account for differences in creativity in the field of study or work chosen by individuals. For instance, one may be creative in Mathematics, another in literature and yet another in Chemistry or art or music or advertising. Every child is expected to have creativity but the nature of creativity may differ from child to child.

### **7.7.3 Can Creativity be Fostered?**

E. Paul Torrance who investigated the strategies of fostering creativity suggests that creative abilities can be enhanced if appropriate supportive behavior and classroom practices are provided. Let us discuss the techniques of attaining this.

- **Encourage unusual or odd questions:** As a teacher, you should encourage your learner's curiosity and accept unusual questions. For instance, a learner may ask you, how does a cloud form? Using the following activity you may illustrate the answer as follows:

The teacher takes a half-filled beaker with boiling water and closes the top with an ice piece. Learners are asked to observe what happens. They notice evaporation and a cloud-like formation in the upper portion of the beaker. In the ensuing discussion they relate water, heat, evaporation, temperature, cloud, and rain, and all this leads further to the concept of different states of matter.

Your acceptance of the questions encourages the learner's curiosity to know. Quite often teachers dismiss such questions by saying, 'you find out for yourself'. An indifferent or negative attitude of a teacher may obstruct a learner's thinking process and creative effort. Suppose you are asked by a learner- why does the moon change shape every night? If you don't know the answer, welcome the question and help him find out an appropriate answer through discussion or using reference materials.

- **Provide activities to promote creative thinking/abilities:** For instance, ask learners to list unusual uses they can think of the following:

Ball pen	Paper	Rope
Shoe	Book	Candle

Discuss the answers and help each learner understand his or her fluency, flexibility and originality. Continue the exercise using different items.

- **Organise brainstorming sessions:** This is a strategy where each member of the group generates ideas to find solutions to given problem. The leader (you, as a teacher) presents the problem to the group and directs each member to state one idea at a time. After one round, the session moves on to the second and is on leading to several rounds. One is encouraged to generate an idea. Ideas thus generated, are further scrutinized by members for choosing the idea with the most potential to solve the problem.
- **Use synectics:** Synectics is a strategy based on analogies to generate ideas. Analogies provide a structure to generate ideas by connecting a familiar content with a new content, or looking at a familiar content from a new perspective. You can use direct analogy or personal analogy. In direct analogy you compare two objects or ideas. To help learners get an insight into the mechanics of a car, for instance, compare it (the mechanics of a car) with the movement of a bird. The learners list the connections they see between a car and a bird.

<b>Bird</b>	<b>Car</b>
brain	engine
food	petrol
nervous system	mechanical connections
sick	breakdown

Now ask learners to write a short paragraph indicating the analogical connections. In personal analogy an individual is asked to empathise with an

object or an idea to be compared. If the discussion is about air, ask learners to imagine themselves to be in the air and express what they feel.

- Provide learners situations to evaluate their own ideas of thinking: Learners who make evaluation of their own thinking are less likely to be inhibited in future questioning.
- Extra credit for creative thinking: While evaluating learners performance in your subject, look for creative ideas. Learners exhibiting creative effort should be recognized and rewarded by extra credit. Well, creativity can not be fostered unless as a teacher, you display originality in your classroom behavior.

**Check Your Progress 6**

**Note:** a) Write your answers in the space given below:  
b) Compare your answers with those given at the end of the Unit.

6. What are the techniques of attaining creativity among learners?

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## 7.8 INTEREST

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Interest is a commonly used expression in day-to-day life. Interest has a great influence on human behavior. This is an important aspect of the affective domain that we discuss in this section.

### 7.8.1 Nature and Aspects of Interest

The concept of interest is primarily considered to be an affective one. The term is used to designate a concept pertaining to factors within an individual which attract him to or repel him from various objects, persons and activities within his environment.

Webster defines interest as excitement of feeling accompanying special attention to some object or concern, such as, an interest in Botany. An interest has been explained as something with which the child identifies his personal well-being, interest is a source of motivation which drives people to do what they want to do when they are free to choose. They specify a condition or cause of attention. We read a book, go to watch a football match or attend a lecture on religious discourse. We do all these because we are interested in them. The term 'interest' is also used to connote the feeling of pleasure resulting from giving attention to something. Interest defined as a feeling of pleasure resulting from attending to something is not a cause but a result. It is when we draw pleasure in an activity that we say that the book, game or lecture is interesting.

Interests become stable by the time development and growth reach a level of maturity in an individual. Slow maturers encounter other problems. Their interests are those of children depend upon learners readiness and to some extent the opportunity to learn.

Interests are influenced by cultural factors and are emotionally weighted. An unpleasant emotion weakens interests while pleasant emotion strengthens them.

**Aspects of interest:** Interest has both subjective and objective aspects. In the subjective aspect, the emphasis is on the feeling component. In the objective aspect, the emphasis is on the motor behavior of the individual. All interests have cognitive, affective as well as motor aspects. Components that make up the cognitive aspect of interest are based on personal experiences gained from various means of communication at home, at school, and in the country. The activities that satisfy the personal needs or give pleasurable experiences to an individual develop into an interest.

Interests give rise to certain activities. The attitude towards these activities is part of the affective domain. It is developed from personal experiences as well as from the attitudes of others especially parents, teachers and peers towards the particular activities.

### 7.8.2 Growth and Development of Interest

The individual has two kinds of interests—inborn and acquired. Interest grows out of three kinds of learning experiences:

- trial and error learning,
- identification with people they love or admire, and
- guidance and directions they receive from others.

The development of interest closely parallels the child's physical and mental development. Limitations in his physical and mental capacities or in his experience set limits on his interest.

Interests develop through:

- contact with wide range of desirable activities,
- activities proportionate to capacities, and
- presence of conditions insuring satisfaction.

### 7.8.3 Identification and Importance of Interest

Children's interest can be identified through:

- observation of their activities
- the questions they ask
- the topics of their conversation
- the books they read
- their spontaneous drawings
- their wishes, and
- their self-reports of what is of interest to them.

What kind of a person or a child will become is determined to a large extent by the interest developed during the childhood years. Interests are a contributing factor in motivation to learn. Learners who are interested in an academic activity,

whether it is through play or work, put more effort in learning than those learners who are less interested. It affects their aspirations and lends enjoyment in getting engaged in the activity of their interest. Failure to understand learner's interest reduces effectiveness of teaching.

**Role of interest in adolescent development:** Interests have important role in adolescent development. Interests lead one to choose activities of his/her choice and acquire knowledge about them. A wide range of wholesome interests tend to ensure breadth of experience and personality. Interests facilitate substitution in case of thwarting and help in maintaining mental health. Intense and abiding interests are desirable for efficiency.

### 7.8.4 Individual Differences in Interest

Physical and psychological characteristics, socio-economic backgrounds; the familial and environmental support, social pressures, attitudes, access and exposure to information and learning opportunities are not the same in the case of all learners. Therefore, individuals differ among themselves in their interests.

Clear-cut differences in interest of children and adolescents are discernible in sports and games, school activities and various areas of subject matter at the school level and in almost every classroom. Their interests range from very low to very high. For example, some children may like playing most of the time while others prefer reading.

**Infants present evidence of interest in the form of attention.** During first two or three years exploratory activities are the interests of the child. Nursery school children between 2-5 years of age are interested in toys. This interest in movement seems to increase with age for boys and shows a decline for girls.

At the age of five or six patterns of likes and dislikes are not the same. Marked sex differences are observed in what children like or dislike. Boys dislike anything called inappropriate. Girls avoid physical activities, and seldom exhibit aggression.

The sexual characteristics differ before and after childhood. Small childrens play with children of both sexes. Pre-school group turns to unusual friendships. Children of the age group five to eight feel neither embarrassment in playing with opposite sex nor do they feel embarrassed in getting physical affection from adults. During adolescence both sexes shows interest in heterosexual group activities. Adolescents are more interested in sex, personal attractiveness and getting along with the other sex.

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## 7.9 CURIOSITY

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Albert Einstein once opined, "The important thing is not to stop questioning. Curiosity has its own reasons for existing." If you think about the last time any book, movie or conversation sparked your curiosity, it will surely give you the utmost pleasure. When something ignites your curiosity, regions of your brain associated with reward, memory, and motivation actually "fire up" with activity. In other words may, curiosity may be a great thing that readies the brain to learn sincerely. Many researchers suggest a link between motivation, learning and curiosity. It's no secret that curiosity makes learning more effective and enjoyable. Curious learners not only ask questions, but also actively seek out answers. Without curiosity, Sir Isaac Newton would have never formulated the laws of physics, Alexander Fleming probably wouldn't have discovered penicillin, and

Marie Curie's pioneering research on radioactivity may not exist. Apart from this many more researches would not have been possible. To understand the role of curiosity let us go through the points given below.

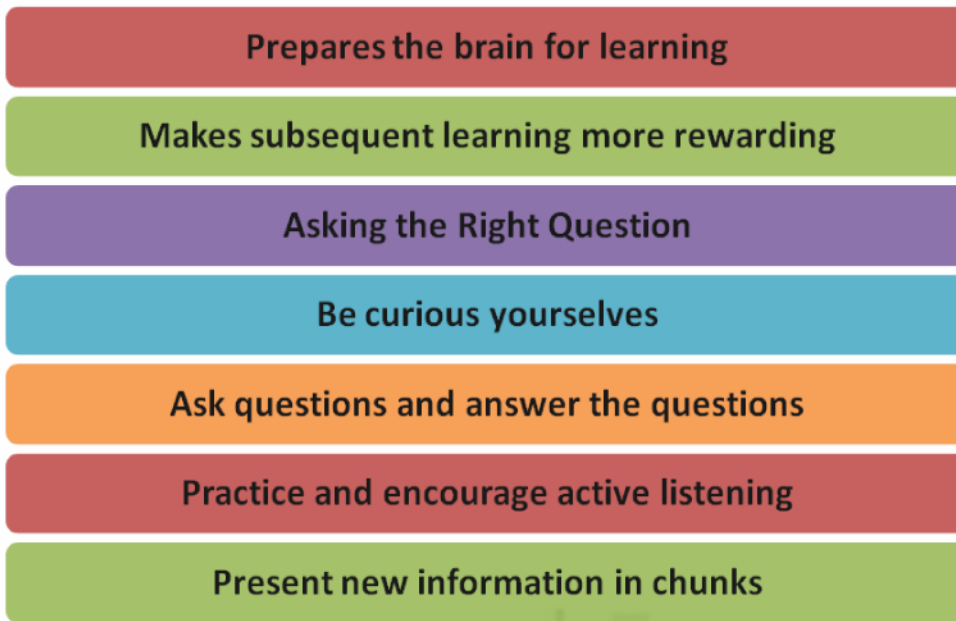


Fig 7.2: Strategies to Promote Curiosity

1. **Curiosity prepares the brain for learning:** It might be no big surprise that we are more likely to remember what we have learned when the subject matter seems interesting to us. It turns out that curiosity helps us to learn information which we do not consider all that interesting or important. If you as a teacher are able to arouse learners' curiosity about something they're naturally motivated to learn, they'll be better prepared and motivated to learn things that they would normally consider boring or difficult.  
*For instance, if a learner struggles with math, personalizing math problems to match their specific interests rather than using generic textbook questions could help them better remember how to go about solving similar math problems in the future. This is the responsibility of the teacher to shape the learners to learn anything with ease which is otherwise complicated.*
2. **Curiosity makes subsequent learning more rewarding:** Apart from preparing the brain for learning, curiosity can also make learning a more rewarding experience for learners. The modern researchers have found that when the learners' curiosity had been sparked, there was not only increased activity in the hypothalamus, which is the region of the brain involved in the creation of memories, but also in the brain circuit that is related to reward and pleasure. So not only will arousing learners' curiosity help them remember lessons that might otherwise go in one ear and out the other, but it can also make the learning experience as pleasurable as games, chocolate or pocket money.
3. **Asking the right question:** Naturally, there are still a few things that remain unclear about curiosity's role in learning. For one thing, scientists have yet to determine its long-term effects. For instance, if a learner's curiosity is stimulated at the beginning of a school day, will it help them to absorb information better, all day long? Another thing the researchers are keen to investigate is why some people are more naturally curious than others, and

which factors most influence how curious we are. So rather than jumping straight into the answers, let's try to starting learners off with the sort of questions that encourage them to do their own seeking.

- 4. **Be curious yourself:** Curiosity is contagious. Try a new sport, start a new hobby or take an online course in an unfamiliar subject. Seek out people with different backgrounds and viewpoints, and then actively listen to what they say. As you take on these new challenges, share your experiences with your learner—the excitement, the rewards, and the challenges. In this process, you'll inspire your learner to tackle new subjects and persevere through the initial discomfort that often comes with learning something unfamiliar.
- 5. **Ask questions and answer the questions:** You've heard the saying, "It's the journey, not the destination." When it comes to curiosity, it's the question, not the answer that engages learners. The destination has value and will reward a learner's hard work. The journey, however, makes that end result more exciting and satisfying. Curiosity starts the journey and motivates a learner to keep going, no matter how rocky the path is.

To draw learners in, you need to ask open-ended questions that encourage them to seek out their own answers—questions that cannot be answered with a yes or a no or a shrug of the shoulders. Open-ended questions can begin with phrases like:

- What would happen if ...
  - What would it be like to ...
  - Why did ...
  - How do we know that ...
  - What did you think when ...
- 6. **Practice and encourage active listening.** Of course, great questions are pointless if no one is listening. When you actively listen to your learner, you're also demonstrating how he or she can live curiously and communicate effectively. By example, show your learner how to listen with full attention, how to play back or paraphrase the speaker's comments, and how to ask questions that generate more information and maybe even more questions.
  - 7. **Present new information in chunks.** For arousing curiosity information should be presented in small chunks. If information is presented in small chunks then the learner will be forced to think about the next chunk.

**Check Your Progress 7**

**Note:** a) Write your answers in the space given below:  
b) Compare your answers with those given at the end of the Unit.

- 7. How does curiosity help in learning process?  
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## 7.10 LET US SUM UP

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In this unit we have studied the learner preparedness, motivation, attitude and aptitude, curiosity, interest of learner etc. with the focus on role of these factors in facilitating learning. Learning begins from the birth of the child and continues till his death. Learning is not possible unless the different desirable factors do not contribute to the process of learning. In educational psychology, preparedness means readiness to learn anything which is new for an organism. It is a concept developed to explain why certain associations are learned more readily than others. For example, a learner in a classroom who does not intend to learn then his learning outcome will be less than that learner who intends to learn. Motivation is a theoretical construct used to explain behavior. It represents the reasons for people's actions, desires, and needs. Motivation can also be defined as one's direction to behavior or what causes a person to repeat a behavior and vice versa. A motive is what prompts the person to act in a certain way, or at least develop an inclination for specific behavior. Attitude has always been the subject of interest of many psychologists. It is considered to be exciting and mysterious. Attitude is the learned predisposition to act or react in a certain way towards any object. Hence it's an outcome of aptitude yet, it's not limited to mere factual learning done by aptitude. It involves both factual and emotional components. In acquiring certain knowledge or skill some prove more efficient than their peers in certain specific field. This happens only due to some specific abilities which are called aptitude. Aptitude may be described as a special ability or specific capacity distinct from the general intellectual ability which helps an individual to acquire the required degree of proficiency in specific field. It is the ability to learn. This learning can be innate or can be acquired through effort. For example a technical bent of mind is an innate aptitude while acquiring an engineering degree is a learnt aptitude.

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## 7.11 UNIT END EXERCISES

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1. Mention any one use of aptitude test.
2. Define attitude.
3. Explain the basic concept of motivation.
4. Give your views with regard to arousing curiosity for better understanding.
5. Discuss the relationship between drive and incentive.
6. Discuss the difference between intrinsic and extrinsic motivation.
7. What is the benefit of learner preparedness in teaching learning process?
8. How interest for learner may be important for the teachers as well as learners.

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## 7.12 REFERENCES AND SUGGESTED READINGS

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## 7.13 ANSWERS TO CHECK YOUR PROGRESS

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1. Suggest based on your reading of section 7.3 and your own experiences.
2. Answers on the basis of 7.4.3.
3. Answer should be based on role of teacher in motivations.
4. Frequent summary, review with simplified illustrations, analogy and precise explanation of concepts and principles, etc.
5. Write on the basis of your classroom experiences.
6. Answer on the basis of your study of section 7.7.
7. Answer should be based on reading of section 7.9