MTEC202: Learners and the Learning Process

Unit III – Understanding the Process of Learning

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UNIT III – UNDERSTANDING THE PROCESS OF LEARNING

INSTRUCTIONAL OBJECTIVES

On completion of this course the students will be able to:

- Critically analyse the process of learning from the point of view of Cognitive Psychology and the implications of constructivist learning
- Visualise multiple dimensions and stages of learner's development and their implications on learning
- Understand the learner in terms of various characteristics
- Learn the factors affecting learner's environment and assessment
- Conceptualise a framework for understanding and evaluating teaching-learning situation as well as the method of analysing and reflecting upon learning episodes

INTRODUCTION

For a long period our system of education especially school education centred on teacher. Now there is change. The Learner came to limelight. The learner plays a pivotal role in the education process. There are five dispositions that the learner should have to help them become active and autonomous learners: be inquisitive, take initiative, be confident, be inventive, and be reflective. First, the learner should be inquisitive. An inquisitive learner is one that asks many questions and wants to find out new information and will investigate. Second, the learner should take initiative. A learner

that takes initiative is one that is able to make decisions independently and is a problem solver. Third, the learner should be confident. Confidence is important in the role of a learner because when one has to construct knowledge, one cannot be afraid to take risks and express their thoughts and ideas, and need to be able to handle frustration and disappointments. Another disposition is to be inventive. When constructing individual knowledge, it is important to be able to think about things in new ways and to transfer ideas into different contexts. The last disposition is to be reflective. Learners who reflect will more than likely use their prior experiences to direct them in new situations and experiences.

COGNITION IN LEARNING

According to Oxford Learning, "cognitive learning" is the function based on how a person processes and reasons information. It revolves around many factors, including problem-solving skills, memory retention, thinking skills and the perception of learned material. Cognitive learning happens both consciously and unconsciously, meaning information is acquired and processed at all times. Individuals differ when conscious learning occurs; some people are visually cognitive, while others learn best from hearing the information. An example of this is watching a video tutorial on how to use a tool, as opposed to reading the instruction manual. For individuals with challenges in learning, changes in how information is received can increase retention.

"Cognition" is "the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses." It encompasses processes such as knowledge, attention, memory and working memory, judgment and evaluation, reasoning and "computation", problem solving and decision making, comprehension and production of language, etc. Human cognition is conscious and unconscious, concrete or abstract, as well as intuitive (like knowledge of a language) and conceptual (like a model of a language). Cognitive processes use existing knowledge and generate new knowledge.

The processes are analyzed from different perspectives within different contexts, notably in the fields of linguistics, anesthesia, neuroscience, psychiatry, psychology, education, philosophy, anthropology, biology, systemics, logic, and computer science. These and other different approaches to the analysis of cognition are synthesised in the developing field of cognitive science, a progressively autonomous academic discipline. Within psychology and philosophy, the concept of cognition is closely related to abstract concepts such as mind and intelligence. It encompasses the mental functions, mental processes (thoughts), and states of intelligent entities (humans, collaborative groups, human organizations, highly autonomous machines, and artificial intelligences).

Thus, the term's usage varies across disciplines; for example, in psychology and cognitive science, "cognition" usually refers to an information processing view of an individual's psychological functions. It is also used in a branch of social psychology called social cognition to explain attitudes, attribution, and group dynamics. In cognitive psychology and cognitive engineering, cognition is typically assumed to be information processing in a participant's or operator's mind or brain.

Cognition can in some specific and abstract sense also be artificial. The term "cognition" is often incorrectly used to mean "cognitive abilities" or "cognitive skills."

Etymology and Origins

The word cognition comes from the Latin verb cognosco (con 'with' and gnōscō 'know'), meaning 'I know, perceive' (noun: 'knowledge') meaning 'to conceptualize' or 'to recognize'.

Cognition is a word that dates back to the 15th century, when it meant "thinking and awareness". Attention to the cognitive process came about more than eighteen centuries ago, beginning with Aristotle and his interest in the inner workings of the

mind and how they affect the human experience. Aristotle focused on cognitive areas pertaining to memory, perception, and mental imagery. The Greek philosopher found great importance in ensuring that his studies were based on empirical evidence; scientific information that is gathered through observation and conscientious experimentation. Centuries later, as psychology became a burgeoning field of study in Europe and then gained a following in America, other scientists like Wilhelm Wundt, Herman Ebbinghaus, Mary Whiton Calkins, and William James, to name a few, would offer their contributions to the study of cognition.

Wilhelm Wundt (1832–1920) heavily emphasized the notion of what he called introspection: examining the inner feelings of an individual. With introspection, the subject had to be careful to describe his or her feelings in the most objective manner possible in order for Wundt to find the information scientific. Though Wundt's contributions are by no means minimal, modern psychologists find his methods to be quite subjective and choose to rely on more objective procedures of experimentation to make conclusions about the human cognitive process.

Hermann Ebbinghaus (1850-1909) conducted cognitive studies that mainly examined the function and capacity of human memory. Ebbinghaus developed his own experiment in which he constructed over 2,000 syllables made out of nonexistent words, for instance EAS. He then examined his own personal ability to learn these non-words. He purposely chose non-words as opposed to real words to control for the influence of pre-existing experience on what the words might symbolize, thus enabling easier recollection of them. Ebbinghaus observed and hypothesized a number of variables that may have affected his ability to learn and recall the non-words he created. One of the reasons, he concluded, was the amount of time between the presentation of the list of stimuli and the recitation or recall of same. Ebbinghaus was the first to record and plot a "learning curve," and a "forgetting curve." His work heavily influenced the study of serial position and its effect on memory, discussed in subsequent sections.

William James (1842–1910) is another pivotal figure in the history of cognitive science. James was quite discontent with Wundt's emphasis on introspection and Ebbinghaus' use of nonsense stimuli. He instead chose to focus on the human learning experience in everyday life and its importance to the study of cognition. James' major contribution was his textbook Principles of Psychology that preliminarily examines many aspects of cognition like perception, memory, reasoning, and attention, to name a few.

Cognition and Psychology

The sort of mental processes described as cognitive are largely influenced by research which has successfully used this paradigm in the past, likely starting with Thomas Aquinas, who divided the study of behaviour into two broad categories: cognitive (how we know the world), and affective (how we understand the world via feelings and emotions). Consequently, this description tends to apply to processes such as memory, association, concept formation, pattern recognition, language, attention, perception, action, problem solving and mental imagery. Traditionally, emotion was not thought of as a cognitive process. This division is now regarded as largely artificial, and much research is currently being undertaken to examine the cognitive psychology of emotion; research also includes one's awareness of one's own strategies and methods of cognition called meta-cognition and includes meta-memory.

Empirical research into cognition is usually scientific and quantitative, or involves creating models to describe or explain certain behaviours.

While few people would deny that cognitive processes are a function of the brain, a cognitive theory will not necessarily make reference to the brain or other biological process. It may purely describe behaviour in terms of information flow or function. Relatively recent fields of study such as cognitive science and neuropsychology aim to bridge this gap, using cognitive paradigms to understand how the brain implements these information-processing functions (see also cognitive neuroscience), or how pure information-processing systems (e.g., computers) can simulate cognition. The branch of psychology that studies brain injury to infer normal cognitive function is called

cognitive neuropsychology. The links of cognition to evolutionary demands are studied through the investigation of animal cognition. And conversely, evolutionary-based perspectives can inform hypotheses about cognitive functional systems' evolutionary psychology. The theoretical school of thought derived from the cognitive approach is often called **cognitivism**.

Cognition and Social Process

For every individual, the social context in which he or she is embedded provides the symbols of his or her representation and linguistic expression. The human society sets the environment where the newborn will be socialized and develop his or her cognition. For example, face perception in human babies emerges by the age of two months: young children at a playground or swimming pool develop their social recognition by being exposed to multiple faces and associating the experiences to those faces. Education has the explicit task in society of developing cognition. Choices are made regarding the environment and permitted action that lead to a formed experience.

Language acquisition is an example of an emergent behaviour. From a large systemic perspective, cognition is considered closely related to the social and human organization functioning and constrains. For example, the macro-choices made by the teachers influence the micro-choices made by students..

How Do Students Think and Learn?

American Psychological Association (APA) outlines the most important principles from psychology in context of Pre-school to 12 classroom teaching and learning. Of these "Top 20 Principles," eight relate to cognition and learning. In other words, how do students think and learn? We encourage consideration and practice of these twenty principles throughout all teacher preparation programs. Providing educators with a strong foundation of psychological knowledge will help them develop positive student-

teacher relationships, improve overall student outcomes and potentially reduce teacher attrition.

Principle 1: Students' beliefs or perceptions about intelligence and ability affect their cognitive functions and learning. Students with a growth mindset focus on learning goals, are more willing to take on challenges, and rebound more easily from negative feedback and failures compared to students with a fixed mindset. **Tips for teachers:** To foster a growth mindset among students, teachers should:

- Convey to students that performance can be improved with added effort or the use of different strategies.
- Be judicious in their use of praise, particularly when a task is moderately easy.
- Recognize situations in which students expend minimal, modest or incomplete effort as signs that students might fear embarrassment.
- Hold high expectations for all students, not just the most successful, and offers of help to all students, not just those who are doing poorly.

Principle 2: What students already know affects their learning. Students come into the classroom with pre-existing knowledge from everyday experiences such as social interactions with peers and/or other settings. For that reason, learning consists of either: (1) Adding existing student knowledge (conceptual growth - due to consistency between existing and new knowledge). (2) Transforming student knowledge (conceptual change - due to inconsistency between existing and new knowledge). Challenges for teachers include addressing and mitigating the effects of student misconceptions, particularly when students (like anyone) can be very reluctant to change familiar thinking that is incorrect. **Tips for teachers:** Teachers can be strategic when dealing with student misconceptions by: (1) Precipitating cognitive conflict in the minds of students by helping students recognize the discrepancy between their own thinking and correct curricular materials or concepts.

Principle 3: Student's cognitive development and learning are not limited by general stages of development. Students are capable of higher level thinking and behaviour in

some knowledge domains more than others, especially when they have access to more capable others or challenging materials, and are situated in familiar contexts. **Tips for teachers:** In designing instruction, teachers can facilitate high levels of student reasoning by: (1) Encouraging students' reasoning in areas where they already have substantial knowledge. (2) Presenting topics and domains pitched at a moderate distance beyond students' current level of functioning. (3) Using heterogeneous groupings to allow for interactions with higher level thinkers. (4) Recognizing and facilitating challenge for those at the highest levels of achievement. (5) Familiarizing students who lack such experience with the culture of classrooms and schooling practices.

Principle 4: Learning is based on context. Generalizing learning to new contexts is not spontaneous; it needs to be facilitated. Student transfer or generalization of their knowledge and skills is not spontaneous or automatic; it becomes progressively more difficult the more dissimilar the new context is from the original learning context. Moreover, students' ability to transfer learning is an important indicator of the quality of their learning - its depth, adaptability and flexibility. **Tips for teachers:** To best facilitate and support proper transfer or generalization of student knowledge, teachers can: (1) Make connections between students' current knowledge and the teachers learning goals. (2) Teach a topic or concept in multiple contexts. (3) Help students recognize similarities and differences between contexts. (4) Promote learning by understanding rather than just considering the surface level elements of domain. (5) Help students apply learned knowledge to the real world.

Principle 5: Acquiring long-term knowledge and skill is largely dependent on practice.

The transfer of information from short-term to long-term memory is an effortful process, accomplished through different strategies. Practice is key to this transfer process. Effective practice involves attention, rehearsal and meaningful repetition. As a result, this knowledge can reach automaticity, allowing for focus on more complex knowledge or skills over time. **Tips for teachers:** Teachers can elicit, encourage and maximize effective student practice by: (1) Using reviews and practice testing. (2) Providing students with a schedule of repeated opportunities for rehearsing with tasks

that are similar or using several methods to approach the same task (interleaved practice). (3) Designing tasks with students' existing knowledge in mind.

Principle 6: Clear, explanatory and timely feedback to students is important for learning. Occasional and inattentive feedback does not help students feel motivated or understand the curricular materials better. Instead, student learning improves with regular, specific, explanatory and timely feedback. **Tips for teachers:** When providing feedback to students, teachers should: (1) Be clear about what the students are or are not understanding related to specific learning goals. (2) Reference what students need to do to achieve those learning goals. (3) Compare and explain any incorrect responses to correct responses from quizzes and practice tests. (4) Use positive tone in offering feedback. (5) Provide frequent praise following small degrees of improvement when students are learning a new task or struggling with an existing one.

Principle 7: Students' self-regulation assists learning; self-regulatory skills can be taught. Student self-regulatory skills, such as attention and organization, can help to master materials to be learned. Although such skills may increase over time, they are not subject only to maturation. These skills can also be taught or enhanced. **Tips for teachers:** Teachers can help students learn self-regulatory skills in several ways: (1) Clearly present lessons' goals, tasks and criteria for success. (2) Break tasks into smaller and meaningful components. (3) Exercise adequate practice, processing time and activity for long-term retention. (4) Help students identify short- and long-term consequences of their decisions. (5) Use cues to increase student attention.

Principle 8: Student creativity can be fostered. Creative approaches to teaching with increased student engagement and modelling of real-world application can inspire a zestful learning process. Contrary to the conventional wisdom that creativity is something "you either have it or you don't," creative thinking can be developed and nurtured in students, making it an important outcome of the learning process for both students and educators. **Tips for teachers:** Teachers can foster creative thinking in students by: (1) Valuing diverse perspectives. (2) Seeing highly creative students as enthusiastic rather than just disruptive. (3) Using activity prompts such as create,

invent and discover. (4) Promoting questioning, challenging prevailing beliefs, making unusual connections, envisioning radical alternatives, and critically exploring ideas and options. (5) Providing opportunities for problem-solving in groups. (6) Modelling creative thinking.

The Different Cognitive Processes

We have all seen a classroom of students sitting and watching their teacher impart upon them the ancient wisdom of their elders (or teaching them state capitals; both are important). Did you ever wonder what was going on inside their heads? Just how does the information they are taking in become actual knowledge? Well, wonder no more, because today we're going to walk through the process of how we learn through cognition.

The first thing we need to do is define two key words: cognition and learning. Cognition is the process of acquiring and understanding knowledge through our thoughts, experiences, and senses. Learning involves acquiring knowledge through experience, study, or being taught. If you think that these two concepts are awfully similar, you're right. Both are inexorably linked - learning requires cognition and cognition involves learning. Whenever you see or hear something new, you go through a series of cognitive processes, which are the processes that result in learning.

The first step in the cognitive learning process is attention. In order to begin learning, a student must be paying attention to what they are experiencing. As anyone who has been in a class full of children knows, attention isn't unlimited and can be quite fleeting. Educational psychologists have come to the conclusion that the average person can hold approximately two or three learned tasks in their attention at the same time. This means that if you are trying to dust and vacuum simultaneously you may be able to pull it off, but throw in eating a sandwich and odds are good you'll take a bite out of your duster and smear lunchmeat on the walls.

We also know the average person can only attend to one complex task at a time. Trying to drive and do long division? Not going to happen. Talk on the phone while waltzing? Unlikely. In case you're wondering, this is also a compelling reason to not talk on the phone and drive - you just don't have enough attention to do each task completely.

Next, the information that you are paying attention to has to be put into memory in a process called storage. There are three levels of memory through which information must travel to be truly learned. Let's say that for the first time you hear that the capital of the state of Kerala is Thiruvananthapuram. This information is now in your sensory register, which holds everything you are exposed to for just a second or two. By the end of this sentence, you may have already forgotten the capital of Kerala.

If you pay attention and reread the sentence, however, that information will move from the sensory register into short-term memory. This area of your memory will hold information anywhere from 20 seconds up to a minute. If you rehearse the information, such as repeating it to yourself, taking notes or studying it, it has the chance to move to your long-term memory. This area will hold information indefinitely and has an unlimited capacity. The challenge, as we shall see, can be in finding things in there.

Now that you've paid attention and moved the information into memory, it's important that your brain organize this information so it can be retrieved later. Encoding can work through a number of processes, such as developing verbal mnemonics or the delightfully named method of loci, but the ultimate goal is to assign a specific meaning to something you have learned. The mnemonic for remembering the planet's order comes to mind: 'My Very Educated Mother Just Served Us Nachos.' Remember this and you can quickly recall the names and order of all the planets. Retrieval goes hand-in-hand with encoding by simply reversing the process of encoding. If you want to remember which planet is fourth from the sun, just run through your mnemonic and you have your answer. Since the fourth word is mother, the fourth planet is Mars!

LEARNING AS CONSTRUCTION OF KNOWLEDGE

Constructivism is a theory of knowledge (epistemology) that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. During infancy, it is an interaction between their experiences and their reflexes or behavior-patterns. **Jean Piaget** called these systems of knowledge schemata. Constructivism is not a specific pedagogy, although it is often confused with constructionism, an educational theory developed by Seymour Papert, inspired by constructivist and experiential learning ideas of Jean Piaget. Piaget's theory of constructivist learning has had wide ranging impact on learning theories and teaching methods in education and is an underlying theme of many education reform movements. Research support for constructivist teaching techniques has been mixed, with some research supporting these techniques and other research contradicting those results.

Constructivism: History

In past centuries, constructivist ideas were not widely valued due to the perception that children's play was seen as aimless and of little importance. Jean Piaget did not agree with these traditional views, however. He saw play as an important and necessary part of the student's cognitive development and provided scientific evidence for his views. Today, constructivist theories are influential throughout much of the learning sector. Some of the educators who influenced constructivism include:

- John Dewey (1859–1952)
- Maria Montessori (1870–1952)
- Jean Piaget (1896–1980)
- Lev S. Vygotsky (1896–1934)
- Jerome Bruner (1915-)

Constructivist theory

Formalization of the theory of constructivism is generally attributed to Jean Piaget, who articulated mechanisms by which knowledge is internalized by learners. He suggested that through processes of *accommodation* and *assimilation*, individuals construct new knowledge from their experiences. When individuals assimilate, they incorporate the new experience into an already existing framework without changing that framework. This may occur when individuals' experiences are aligned with their internal representations of the world, but may also occur as a failure to change a faulty understanding; for example, they may not notice events, may misunderstand input from others, or may decide that an event is a fluke and is therefore unimportant as information about the world. In contrast, when individuals' experiences contradict their internal representations, they may change their perceptions of the experiences to fit their internal representations. According to the theory, accommodation is the process of reframing one's mental representation of the external world to fit new experiences. Accommodation can be understood as the mechanism by which failure leads to learning: when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure, or others' failure.

It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture or following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences. However, constructivism is often associated with pedagogic approaches that promote active learning, or learning by doing.

Constructivist learning intervention

The Nature of the Learner

- ***The learner as a unique individual:*** Social constructivism views each learner as a unique individual with unique needs and backgrounds. The learner is also seen as complex and multidimensional.
- ***The importance of the background and culture of the learner:*** Social constructivism encourages the learner to arrive at his or her version of the truth, influenced by his or her background, culture or embedded worldview. Historical developments and symbol systems, such as language, logic, and mathematical systems, are inherited by the learner as a member of a particular culture and these are learned throughout the learner's life.
- ***The responsibility for learning:*** Furthermore, it is argued that the responsibility of learning should reside increasingly with the learner. Social constructivism thus emphasizes the importance of the learner being actively involved in the learning process, unlike previous educational viewpoints where the responsibility rested with the instructor to teach and where the learner played a passive, receptive role.
- ***The motivation for learning:*** Another crucial assumption regarding the nature of the learner concerns the level and source of motivation for learning. This links up with Vygotsky's "Zone of Proximal Development" (Vygotsky, 1978) where learners are challenged within close proximity to, yet slightly above, their current level of development. By experiencing the successful completion of challenging tasks, learners gain confidence and motivation to embark on more complex challenges.

The role of the instructor

Instructors as facilitators: According to the social constructivist approach, instructors have to adapt to the role of facilitators and not teachers (Bauersfeld, 1995). Whereas a

teacher gives a didactic lecture that covers the subject matter, a facilitator helps the learner to get to his or her own understanding of the content. A few strategies for cooperative learning include:

- **Reciprocal Questioning**: students work together to ask and answer questions
- **Jigsaw Classroom**: students become "experts" on one part of a group project and teach it to the others in their group
- **Structured Controversies**: Students work together to research a particular controversy (Woolfolk 2010)

The nature of the learning process

- **Learning is an active, social process:** Social constructivism, strongly influenced by Vygotsky's (1978) work, suggests that knowledge is first constructed in a social context and is then appropriated by individuals. According to social constructivists, the process of sharing individual perspectives-called collaborative elaboration - results in learners constructing understanding together that wouldn't be possible alone.
- **Dynamic interaction between task, instructor and learner:** The instructor and the learners are equally involved in learning from each other as well.
- **Collaboration among learners:** Learners with different skills and backgrounds should collaborate in tasks and discussions to arrive at a shared understanding of the truth in a specific field.

Social Constructivism

In recent decades, constructivist theorists have extended the traditional focus on individual learning to address collaborative and social dimensions of learning. It is possible to see social constructivism as a bringing together of aspects of the work of Piaget with that of Bruner and Vygotsky. The term Communal constructivism was

developed by Leask and Younie (2001) through their research on the European School Net project which demonstrated the value of peer to peer learning i.e. communal construction of new knowledge rather than social construction of knowledge as described by Vygotsky where there is a learner to teacher scaffolding relationship. Bryn Holmes in 2001 applied this to student learning as described in an early paper, "in this model, students will not simply pass through a course like water through a sieve but instead leave their own imprint in the learning process."

Educational implications of Constructivism

Constructivism has roots in philosophy, psychology, sociology, and education. But while it is important for educators to understand constructivism, it is equally important to understand the implications this view of learning has for teaching and teacher professional development. Constructivism's central idea is that human learning is constructed, that learners build new knowledge upon the foundation of previous learning. This view of learning sharply contrasts with one in which learning is the passive transmission of information from one individual to another, a view in which reception, not construction, is key. Two important notions orbit around the simple idea of constructed knowledge.

- The first is that learners construct new understandings using what they already know. There is no ***tabula rasa*** on which new knowledge is etched.
- The second notion is that learning is active rather than passive.
- Third, if students must apply their current understandings in new situations in order to build new knowledge, then teachers must engage students in learning, bringing students' current understandings to the forefront.
- Fourth, if new knowledge is actively built, then time is needed to build it. Ample time facilitates student reflection about new experiences, how those experiences line up against current understandings, and how a different understanding might provide students with an improved (not "correct") view of the world.

Constructivism represents one of the big ideas in education. Its implications for how teachers teach and learn to teach are enormous. If our efforts in reforming education for all students are to succeed, then we must focus on students. To date, a focus on student-centered learning may well be the most important contribution of constructivism.

MOTIVATION IN LEARNING

Motivation is defined as the process that initiates, guides, and maintains goal-oriented behaviours. Motivation is what causes us to act, whether it is getting a glass of water to reduce thirst or reading a book to gain knowledge. It involves the biological, emotional, social, and cognitive forces that activate behaviour. In everyday usage, the term motivation is frequently used to describe why a person does something. For example, you might say that a student is so motivated to get into a clinical psychology program that she spends every night studying.

"The term motivation refers to factors that activate, direct, and sustain goal-directed behaviour... Motives are the "whys" of behaviour - the needs or wants that drive behaviour and explain what we do. We don't actually observe a motive; rather, we infer that one exists based on the behaviour we observe." (Nevid, 2013) Psychologists have proposed a number of different theories of motivation, including drive theory, instinct theory, and humanistic theory.

Components of Motivation

Anyone who has ever had a goal (like wanting to lose ten rupees or wanting to run a marathon) probably immediately realizes that simply having the desire to accomplish something is not enough. Achieving such a goal requires the ability to persist through obstacles and endurance to keep going in spite of difficulties. There are three major components to motivation: *activation, persistence,* and *intensity*.

- **Activation** involves the decision to initiate a behaviour, such as enrolling in a psychology class.
- **Persistence** is the continued effort toward a goal even though obstacles may exist, such as taking more psychology courses in order to earn a degree although it requires a significant investment of time, energy, and resources.
- Finally, **intensity** can be seen in the concentration and vigour that goes into pursuing a goal. For example, one student might coast by without much effort, while another student will study regularly, participate in discussions and take advantage of research opportunities outside of class.

Theories of Motivation

- **Instinct Theory of Motivation:** According to instinct theories, people are motivated to behave in certain ways because they are evolutionarily programmed to do so. An example of this in the animal world is seasonal migration. These animals do not learn to do this, it is instead an inborn pattern of behaviour. William James created a list of human instincts that included such things as attachment, play, shame, anger, fear, shyness, modesty, and love. The main problem with this theory is that it did not really explain behaviour, it just described it. By the 1920s, instinct theories were pushed aside in favour of other motivational theories, but contemporary evolutionary psychologists still study the influence of genetics and heredity on human behaviour.

- **Incentive Theory of Motivation**: The incentive theory suggests that people are motivated to do things because of external rewards. For example, you might be motivated to go to work each day for the monetary reward of being paid. Behavioural learning concepts such as association and reinforcement play an important role in this theory of motivation.

- **Drive Theory of Motivation:** According to the drive theory of motivation, people are motivated to take certain actions in order to reduce the internal

tension that is caused by unmet needs. For example, you might be motivated to drink a glass of water in order to reduce the internal state of thirst. This theory is useful in explaining behaviours that have a strong biological component, such as hunger or thirst. The problem with the drive theory of motivation is that these behaviours are not always motivated purely by physiological needs. For example, people often eat even when they are not really hungry.

- **Arousal Theory of Motivation:** The arousal theory of motivation suggests that people take certain actions to either decrease or increase levels of arousal. When arousal levels get too low, for example, a person might watch an exciting movie or go for a jog. When arousal levels get too high, on the other hand, a person would probably look for ways to relax such as meditating or reading a book. According to this theory, we are motivated to maintain an optimal level of arousal, although this level can vary based on the individual or the situation.

- **Humanistic Theory of Motivation:** Humanistic theories of motivation are based on the idea that people also have strong cognitive reasons to perform various actions. This is famously illustrated in Abraham Maslow's hierarchy of needs, which presents different motivations at different levels. First, people are motivated to fulfil basic biological needs for food and shelter, as well as those of safety, love, and esteem. Once the lower level needs have been met, the primary motivator becomes the need for self-actualization, or the desire to fulfil one's individual potential.

So what are the things that actually motivate us to act? Psychologists have proposed a number of different theories to explain motivation:

- **Instincts**: The instinct theory of motivation suggests that behaviours are motivated by instincts, which are fixed and inborn patterns of behaviour. Psychologists including William James, Sigmund Freud, and, **William McDougal** have proposed a number of basic human drives that motivate behaviour.

- **Drives and Needs**: Many of our behaviours, such as eating, drinking, and sleeping, are motivated by biology. We have a biological need for food, water, and sleep, therefore we eat, drink, and sleep. Drive theory suggests that people have basic biological drives and that our behaviours are motivated by the need to fulfil these drives.
- **Arousal Levels**: The arousal theory of motivation suggests that people are motivated to engage in behaviours that help them maintain their optimal level of arousal. A person with low arousal needs might pursue relaxing activities, while those with high arousal needs might be motivated to engage in exciting, thrill-seeking behaviours.

Extrinsic Vs. Intrinsic Motivation

Different types of motivation are frequently described as being either extrinsic or intrinsic. Extrinsic motivations are those that arise from outside of the individual and often involve rewards such as trophies, money, social recognition or praise. Intrinsic motivations are those that arise from within the individual, such as doing a complicated cross-word puzzle purely for the personal gratification of solving a problem.

CONCLUSION

An educational institution performs a significant function of providing learning experiences to lead their students from the darkness of ignorance to the light of knowledge. The key personnel in the institutions who play an important role to bring about this transformation are teachers. Understanding the learners by the teachers has become obligatory in these days of competitive era. Due to the advancement of technology; especially in the age of information technology of the 21st century, knowledge regarding the emerging trends in the teaching-learning process has become very essential. The present day pedagogy is learner- based and child-centred. Learner is

the core of the whole educational system. In all the teachers training programmes at the global level, the emphasis is on understanding the learner and its learning process. So the prospective teachers must know and understand who is learner and what the learning process is.

MODEL QUESTIONS

1. "Cognitive development of an individual is the result of his successful attempt for equilibration". Explain the statement in terms of the key concepts formulated by Piaget.
2. Distinguish Extrinsic and Intrinsic Motivation.
3. What are the implications of Vygotskian view point?
4. What is "Scaffolding" according to Lev Vygotsky?
5. Who are the theorists supporting constructivism?
6. Which are the important principles put forward by Piaget?

REFERENCES

1. *Cognition and Learning.* retrieved on 04-11-2016 from http://www.apa.org/ed/schools/teaching-learning/cognition-learning.aspx?tab=8

2. *Cognition.* retrieved on 04-11-2016 from https://en.wikipedia.org/wiki/Cognition

3. *Cognitive Processes in Learning: Types, Definition & Examples.* retrieved on 04-11-2016 from http://study.com/academy/lesson/cognitive-processes-in-learning-types-definition- examples.html

4. Thamarasseri, I. (2012) *Trends and Developments in Social Science Education.* New Delhi: Kanishka Publishers

5. Thamarasseri, Ismail. (2012) *Teaching of Social Science for the 21st Century.* New Delhi: Kanishka Publishers.

6. Thamarasseri, Ismail. (2016). *Learner & Learning.* New Delhi: Dominant Publishers & Distributors (P) Ltd.

7. Thamarasseri, Ismail. (2016). *Psychology of Learning.* New Delhi: Dominant Publishers & Distributors (P) Ltd.

8. *What is the definition of "cognitive learning"?.* retrieved on 04-11-2016 from https://www.reference.com/education/definition-cognitive-learning-7840c78e3190d29c#