you should put and questions for each topic ////

topic 1 /Term Paper

APPLICATION OF LEARNING THEORIES IN SCIENCE STUDIEIntroduction

The Learning process requires the participation of both the teacher and the student. The three goals of education are: retention, understanding, and active use of knowledge and skills (Driscoll, 2005). Most of the work should be done by the students. Science studies are mainly concerned with the relationship between science and the environment including the humans. A learning theory seeks to link a change in performance and the method used to make the changes. Learning theories can be used to develop new ideas or strategies that can be used to improve the performance of students. For example, a professor in the field of medicine may use the cognitive approach to come up with ideas on how to improve his teaching methods which will make it easier for his students to process or understand information given during learning. The teacher can also decide to award the best performing students as a way of motivating the students to work hard in his subject. The behaviorist approach will be applicable in such a case. Science subjects are deemed to be hardest therefore most of the students may have a negative attitude towards the subject. The behaviorist approach explains the relationship between the negative attitude towards the science subject and the performance of the same subject. The professor may also choose to use the constructivist approach which shows the importance of student active participation in learning process. For example, the professor can arrange experiments to be conducted in the labs where each student will be required to generate new concepts such as identifying the vitamin content of a certain food based on prior knowledge of the components of the food in question. Students’ participation is of main concern because the norm has long being the teacher is the one with the bulk of work to do and the students’ work is to sit back and wait to be taught and after the lecture go home. The spoon feeding method has not yielded good results hence the need to develop a good system that will encourage student participation in class.

Behaviorist theory in science studies

Behaviorism is associated with B.F Skinner and Ivan Pavlov. It involves the experimental analysis of behavior that provides the principles of behavior management. Skinner defined learning as a process that causes a more or less permanent change in behavior. There are two classes of behavior, namely: Operant behavior (operant conditioning) developed by B. F. Skinner and Respondent behavior (classical conditioning) developed by Ivan Pavlov. Operant behavior is whereby an organism voluntarily emits the behavior for example, a dog barking when it sees a stranger. Respondent behavior is elicited involuntarily in reaction to a stimulus for example, withdrawal of your hand when burned by something. There is a relationship between behavior and the environmental events that surround the behavior. For example a student is able to concentrate more when in a classroom environment than when at home. For every behavior, there are consequences that determine whether the behavior will continue or not. For example, a lazy student studying a course related to science is likely to work hard in the subject after failing in an exam. One can choose to either strengthen or weaken the operant behavior. Operant behavior is strengthened by presenting a reinforce upon response or terminating an aversive stimuli. There are two types of reinforcements namely: positive and negative reinforcements. Positive reinforcements are provided for after a desired behavior whereas negative reinforcements are provided for after an unpleasant behavior. For example, a teacher in a science class can decide to give gifts to any student who completes their assignment on time or reduce the penalties that come with not finishing it on time. Operant behavior is weakened by presenting an aversive stimuli or removing a reinforce. For example, having penalties for every late assignment or not giving gifts to those who submit their assignments late. Science subjects require more experimentations than any other subject. That means that most of the work is done in the labs. Learning science has a benefit of changing a student’s attitude towards nature. For example, a physics student is able to know why an object thrown on air is able to fall down. This is because of the new knowledge acquired about the law of gravity. If the student had not learned of such laws, they will not be aware of what is happening around them. Another example is about a student studying nutrition. They are able to change their eating behaviors after learning about balanced diet.

The Social learning theory developed by Bandura, focusses on attention, memory and motivation of a student and can be integrated in the behaviorist theory whereby a student can learn from the consequences of another student’s behavior. For example, if a student fails to attend a chemistry practical class, they are more likely to fail in their practical exam which will serve as an example to other students not to miss any practical lesson. People learn through the behavior of others. Paying attention to other people’s behaviors is the first step in social learning. For example, a student can learn how to titrate after paying attention to the teacher demonstrating that. Apprenticeship is a good way of novices to learn how to become experts in their field of study. Students should go for practicums whereby they are able to get the hands on experience. An engineering student is able to gain better understanding of what is taught when they actually handle the machines. Motivation is a process whereby an intended behavior is sustained, (Driscoll, 2005). Many students studying science subjects have various reasons why they opted to study the subject. It may be because it’s a passion, out of curiosity or because of pressure from parents. Motivation can be both positive and negative. If the student’s motivation out of free will, then it is positive. If a student is motivated because they have no other option, then it is negative motivation. Parents should therefore stop forcing their children to study something they do not want because it will not yield good results as it would have if the student was willing to learn. Discoveries have come about when someone became curious. For example, Isaac Newton discovered the law of gravity after he observed an apple falling from a tree. It is due to Isaac’s curiosity that the law of gravity came to existence. Science subjects revolve around these phenomena whereby most of what is read is something that has been discovered or researched on. A student who is curious or inquisitive is best at science subjects than any other subjects. Motivation can be used as a positive reinforce to enhance positive behavior or to stop a bad behavior.

Cognitive approach in science studies

Cognitive theory of learning focuses on the mental activities of thinking, learning, encoding, retention and retrieval of information. Jean Piaget’s theory of development states that acquiring knowledge is a continuous process that depends on change of environment. Science subjects are taught in stages depending on the content. For example, science taught in high school is more advanced than science in grade schools. This is because of the different stages of development that a child undergoes. For example in the formal operational stage (11-adulthood), hypothetico-deductive reasoning which involves forming a hypothesis in a testable form is used. It is therefore very important in science and mathematics which involve a lot of assumptions. Metacognition is thinking about thinking. This can only be done in the formal operational stage since it is a higher order of thinking. This explains why much of the science teaching is done when one has attained the age of about 6 years whereby a student is able to solve concrete problems. Science studies require one to use their cognitive function in order to learn. Since science subjects are deemed to be difficult, cognitive approach to learning will be important. The stages of memory include: encoding, retention and retrieval, (Matlin, 2005). Science is easily encoded by finding meaning to what one has learned. If this is not achieved, then the information will not be stored permanently in the long term memory (LTM). As opposed to rote learning, Meaningful learning involves use of prior knowledge, stored in the Long term memory, in learning new information, (Ausubel , 2000). Therefore this means that if there will be no memory stored in the Long term memory, then the learning will not be meaningful. Science is not a subject where one can make their own guesses but it is a subject that requires one to clearly understand what they are learning to be able to get the exact concepts. For example, the law of gravity is not subject to change even if the syllabus changes. This is so because science deals with facts and not fiction. Retrieval of information is easy for information stored in long term memory than one stored in short term memory. However, the only challenge is that only little information can be stored in the long term memory at a time. Therefore science subjects should not be taught late in the day when a student is likely to have learned a lot of information and the memory ‘crowded’. Teachers need to schedule science lessons early in the day if they want their students to get more out of the lessons. Science exams should also be done in the morning for easy retrieval of information. Cognitive motivation assumes that information learned is responsible for behavior. This is very important in science subjects because if a student fails in a science exam, this experience is likely to influence their performance in the consequent exams positively or negatively. If it influences them positively, then the student is motivated to work harder next time in order to attain a good grade. If it influences negatively, then the student will not be motivated. The social cognitive theory developed by Bandura can also be integrated in the cognitive approach. Self- efficacy being part of this shows how a student can withstand the pressures that come with learning science and the ability to succeed in it. For example, the mathematical concepts are not easy to understand but some students exhibit a high level of confidence in them hence are able to perform well.

The social development theory, argues that success comes after social interaction with the environment, (Vygotsky, 1978). Vygotsky also stated that the zone for proximal development is the ability to know what to do and how to do what is learned. Mayer (2008) explained the zone of proximal development as the difference between the child's current level of performance and the level of performance that the child could attain with expert’s guidance. This is much applicable in science subjects since most of the work is practical. A student is shown how to operate machines or how to solve mathematical concepts with the help of a teacher and then left to do it by them. If they are able to do so, then learning has occurred.

Cognitive apprenticeship theory as the name suggests is whereby an expert in a certain skill teaches an apprentice the same skill. For example, a person with a doctorate in engineering is the best instructor for a graduate of the same. The graduate however should be attentive and willing to be taught. Apprenticeships also help a student apply what they have learned. For example, a nutrition student is able to advise a diabetic client on what foods to eat just as they had learned. Such information is said not to be wasted but to be useful.

Constructivism in science studies

Constructivism is a process of attempting to learn through experiences, (Driscoll, 2005). Experience is the best teacher but it is a tough one because it gives a test before a lesson. Teachers are therefore supposed to guide students in learning rather than telling them what to do. This sounds as being too harsh to the students but the truth of the matter is that it helps them gain more knowledge and understanding as opposed to if they rely on the teachers for knowledge. After all, about 70% of the learning process is supposed to be done by students. This however is not the case in many schools and this is very disappointing bearing in mind that science is a practical subject that requires one to move past knowing. This means that cramming is detrimental in the performance of science. In fact it will be fatal if a student studying to be a doctor spends most of the time cramming and yet we know how sensitive the human body is. This is probably why most students say that science is difficult because it requires a student to invest much of their time trying to get meaning of the information learned. Learning should be an active process. Discovery learning, developed by Bruner (1961), is important in problem solving whereby a student uses their own experiences and prior knowledge to come up with solutions. Experiments are best ways of making use of the student’s experiences and prior knowledge. Science subjects involve building up on already acquired information. For example, a medical student needs to first understand the human anatomy before they are taught the human physiology. The human anatomy serves as the prior knowledge that is used in finding meaning to the human physiology. What this means is that if something goes wrong and the student does not understand the human anatomy, then the chances of understanding the human physiology are minimal. We learn by doing, (Meloy, 2012). Teachers should be keen on making sure the students get the basics before proceeding to the advanced material. Discovery learning also helps in motivating students. For example, when a student performs an experiment and actually end up getting the correct results, they will be more confident next time they perform another experiment. The goals for constructivist theory are: problem-solving, reasoning, critical thinking, and active and reflective use of knowledge Problem based learning (PBL), originated from the medical school of thought therefore showing the importance of problem solving in science subjects. Students should be left to solve problems on their own but of course with the guidance of their teachers. For example, teachers can give students worked out examples of a mathematical question then give a similar question afterwards for them to solve. This will also help in meaningful learning in that the student can be able to solve any other problem of a similar concept. Constructivist theory has helped teachers develop a much easier way to make science subjects learning more interactive. Teachers can use discussion groups whereby students are able to share their own experiences and give their own opinion regarding a certain topic of discussion. Through the sharing of experiences, students are able to use their colleague’s experiences to learn. Learning through experiences enhances permanent storage of information in the long term memory hence important for science subjects.

Applications

Instructional designers can benefit from the three learning theories: behaviorism, cognitism and constructivism. The three can be integrated together to come up with a more effective way of facilitating the learning process. For example, the curriculum can be structured in a way that it allows students to learn in familiar contexts, use their mental capabilities and come up with their own method of rewarding or punishing depending on their behavior. The constructivist approach will apply whereby there will be some time allocated for theory work in a classroom setting and practical work depending on their area of study. A medical student for example can spend half of the day in a classroom studying the theory of what they are going to practice in the hospital in the afternoon. This helps create a balance between knowing and doing. The behaviorist approach will help minimize the conflicts between a teacher and a student because in case of a mis-conduct, the student will not blame anyone for the consequences unlike when the teacher is the one who came up with the punishment. Instructional strategies can be used with the learning theories to enhance learning. For example, mnemonics can help in retaining information given for a long time and the information is easily retrieved when required. This is possible in the cognitive approach of learning. This means that it is impossible to separate the instructional strategies and the learning theories. A learning theory can only be functional if it is accompanied with an instructional strategy. Chaining method is often used in learning subjects that involve a series of steps therefore very much applicable in science subjects and support the theory of cognitivist. Instructional designers should therefore have background information of the learning theories in order to come up with relevant strategies.

Conclusion

From this, we can conclude that science is a very demanding subject that requires attention, encoding, storage in memory and application through retrieval of information. It also requires a lot of manual work for it to have meaning. Teachers should strive to motivate students to want to study science for the right reasons. This will be of benefit to them and the society. Much of the work should be done by the students and not the teachers. Teachers should only act as facilitators and not behave like they are the ones studying. Science will be tough on those students who do not like going an extra mile in their studies and are contented with what is given to them by their teachers. This should be of concern to teachers and they should come up with effective ways of making students go ahead and discover new things by themselves. For example, students should develop their own mnemonics that will be easy for them to remember. This will be of much more impact than when using a mnemonic that the teacher has developed. If all these theories are well applied in the curriculum, science will no longer be a difficult subject as it is known to be./////////////////////topic 2 / BEHAVIORISM IN HISTORICAL HUMAN STUDIES

Introduction:

Learning theories link the outcome of learning processes to what is thought to have brought the change (Driscoll, 2005, p 9). The change is facilitated by instruction. A theory consists of results which are to be explained by the theory, means, which are the process by which the results will be explained and inputs, which trigger the process. Behaviorism theory will be used to explain the behavior patterns of humans in the past. Behaviorism seeks to explain the relationship between the environment and the human behavior. For example, people living in cold environments are more likely to wear protective clothing than those in warm areas. The cold environment has forced the people in that area to develop an adaptive behavior. The human environment can also mean their cultural beliefs whereby they are governed by a set of principles. If anyone dares go against this, they are punished severely. For example, some cultural beliefs restrict people from wearing certain clothing. If anyone goes against that, they may be treated as an outcast or even fined. This will create a certain dress code for that community.
Historical human studies have been of concerned because they have been used to explain the origin of certain human behaviors and how the changes in the behavior has affected the humans. Anthropologists use the behavioral approach to explain the behavior of their research subjects. The behavioral approach will also be useful to history students whereby they will be able to understand the subject clearly. The rationale for this paper is to explain the progress and journey of behaviorism in historical human studies and how it is used at different levels. It will also deal with different types of learning we can achieve using behaviorism.

Literature Review:

Human Behavior: A learning process

Human behavior is a normal process that can be initiated by ourselves and learned as we progress. A process that can be learned an also be reversed and removed from our minds, thus all behavior can be unlearned and new behaviors can be re-learned so that we behave in a different way at different places. “Behaviorism is concerned primarily with the observable and measurable aspects of human behavior” (Bustamante, Howe-Tennant, & Ramo, 1996). Different settings and environment creates different behaviors for humans. So a particular human behavior can become unacceptable at times and when they do become we need to unlearn it as soon as possible so that we have ample space for learning the acceptable behavior for that situation.

Most of the traditional, orthodox behaviorists assume the real things in this world are only those that we can see and feel and keep us with ourselves for continuous study. The things that we cannot feel and observe are nothing for them. As normal people, we won’t be able to see the mind of a person and his thoughts or how they would act and react and behave in different conditions. But from the behavior analysis or through behaviorism we may be able to make inferences about the minds and the brain. This paper will directly focus on the different ways in which we can understand the different behavioral patterns in humans. What people do and the situation in context is the object of the study of this paper and not what they feel and would want to do. A typical behaviorist assumes that all the human behavior represents certain learned habits and he sets out on a path to learn how these habits were developed and gained over the time.
Most of the researchers and behaviorists are not interested in the working process of the mind, or its more rarified equivalents such as psyche and soul. They believe that human behavior study and analysis can depict a lot about the origins of the human and how they will act in the future. Inferences about the conditions that maintain and reinforce human behavior can be made from the study of different behavioral patterns of the past and then that information can be utilised to design new behaviors and scenarios that can be learned and judged upon.

Types of Learning

Learning has two basic types Classic and Operant. Both these types are differentiated on the basis of the reaction of the person to the external conditions and stimulus.
“Classical conditioning is demonstrated when a neutral stimulus acquires the eliciting properties of the unconditioned stimulus through pairing the unconditioned stimulus with a neutral stimulus. Behavior is controlled by association.” (A.K.Nayak, 1985)
“Operant conditioning is demonstrated when the reinforcing consequences immediately following the response increases its future likelihood; aversive consequences immediately following the response to decrease its future likelihood.” (A.K.Nayak, 1985)
There were many different theories for child behaviors and psychology and to learn more about the behaviorism in children, many psychologists sparked the formation of a new theory known as the observational or the social learning theory. This theory can be used by instructional designers to improve upon their instructions and their design pattern by learning from observing the work of others. “Albert Bandura demonstrated that modeling or observational learning is the basis for a variety of children's behaviors. He stated that children acquire many favorable and unfavorable responses by simply watching and listening to others around them” (A.K.Nayak, 1985).
Examples of some of the normal behaviors adopted by children just by observing their close ones are: A normal school boy goes always late to hi school because no on arrives early, a student who shaves her hair because her friends did etc.

Observational Learning

The social learning theory or the observational theory of Bandura focuses on the importance of observing, taking reference from and modeling the attitudes, behaviors and reactions to different circumstances and situations of others. Bandura (1977) states: "Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do.
The observational learning process is very simple and easy to understand for the instructional designers too. The steps are as follows:
• Pay attention to events and try to model them in your own situation
• Observe characteristics which can include sensory, perceptual sets etc.
• Retention of all the things that you have observed through symbolic coding, symbolic and motor rehearsals etc.
• Reproducing what you have learned and observed through continuous practice and dedicated effort and feedback from others.
• Motivating yourself every day to learn and observe more.

Examples of observational learning include: modeling, imitation, vicarious learning, identification, copying, social facilitation, contagion, and role play.

Application:

Unlike behaviorism which directly depends on the situation and the environmental settings, social learning process consider learner as the focus of the design process. “It facilitates the process of designing instruction as it is grounded upon an objective view of knowledge transfer” (McLeod). Implications of the social learning or observational theory on the design of instruction are prominent throughout the task analysis and learner analysis phases of instructional design models.
Another concept developed in the field of cognitive psychology that was relevant to instructional theory was learner production of knowledge. Investigations in cognitive strategies that guide internal learning and thinking processes resulted in specific strategies for such processes as problem solving, organizing information, reducing anxiety, developing self-monitoring skills, and enhancing positive attitudes. Researchers also investigated meta-cognition (a process of being aware of specific cognition skills) and the executive strategies experienced learners use to develop awareness and control of their own acquisition and employment of knowledge.

Conclusion:

From the strength and negatives of the behaviorism theory, the psychology world has moved on to the new learner based design process for instructions but this design process has some flaws and new theories needs to be developed to cover up those. They need to develop more of instructional theories that combines and effectively uses sets of knowledge and skills and through this systematic integration of theories they can achieve a way to conjure the following limitations:
• An emphasis on components instead of integrated wholes,
• A closed instructional system that makes incorporation of new knowledge difficult and which results in essentially passive instruction, and
• The labor- intensive practice in design and development of instruction. (Tennyson, 2010)

Future trends in Instructional theory designs:

In future all the instructions and theories will be developed in accordance with the suitability of the humans and human relation and sources will be at the epicentre of all this design process. Area of motivation and learners variable are clearly the trends for the future generations. Instructors and design co-ordinators too have a very important role to play in the coming years as the design process s more shifting on varied applications rather than concentrating on one single aspect. Deep research is going to be the norm including both qualitative and quantitative research strategies will be employed to analyse the facts and results. “Instructional design field will finally abandon the pursuit of a single, all-encompassing instructional theory and concentrate on establishing an interactive network of meta-theories” (Tennyson, 2010)./////////// topic 3 / Abstract
This study aims at finding out the impact of motivation on the students’ academic achievement covering the motivation theory, the importance of motivation theory for instructional designers as well as the application of this theory. In order to accomplish the above objective, extensive research and data collection was done by exploring different scholarly articles including peer-reviewed articles. The review is structured this way; it starts with motivation theory and what it entails, importance of motivation theory for instructional designers, the impact of motivation on students’ academic performance, and lastly how instructional designers can use motivation theory. These review assisted in gathering adequate information concerning the topic and effectively exploring the theory of motivation and its impacts on the learning process and academic achievement.

Introduction
The term motivation focuses on energizing, directing and sustaining individuals’ behavior towards the achievement if a particular goal. Motivation is a very important aspect in learning settings as it positively impacts on the students’ academic performance. The two types of motivation, intrinsic and extrinsic, affect students’ behavior and academic performance in one way or another. intrinsic motivation are the forces inherent to the students and related to the task they are performing while extrinsic motivation are the external reinforcers unrelated to the tasks being performed. Findings indicated that motivation play a leading role in improving the academic performance and achievement of students. More so, scholars report that there is a strong correlation between students’ motivation to learn and their academic achievement (Hancock, 2004).
Problem statement
Agreeably, every student is interested in achieving their goals and succeeding academically and this is determined by many factors including teachers support and motivation. Although many students are interested in learning and acquiring adequate knowledge, they need to be encouraged and motivated to remain focused on achieving these. Motivation is the key for achieving a specific goal or target (Tengku and Sepideh, 2012). Lack of motivation may result in lack of interest in academic achievement and this will in turn lead to increased school dropout. More so, students perform poorly due to lack of encouragement and motivation and this will result in loss of interest in learning and achieving their goals. This is because some students especially those who will not choose academics as their first priority, need to be motivate to effectively perform tasks assigned to them and engage in class activities.
Literature review
Motivation theory
From an educational point of view, the concept motivation comprises of various meaningful connotations concerning learning and educational development, and academic achievement refers to the accomplishment of an important development task. Motivating students is an important aspect of effective learning and some people are convinced that motivation is a necessary factor for learning. More so, satisfactory school learning cannot occur when there is lack of motivation to learn. Undeniably, motivating students to learn is very crucial practice in the field of education and its impact on student’ academic performance significantly contributes to effective learning process. Motivation plays a significant role in improving the academic performance of students, which in turn enable them to attain their academic achievement. Motivation can be manifested in students’ choices of learning activities, their persistence and dedication in the learning process as well as how the students cope with different obstacles in the course of their learning process. The various views of motivation for learning include interest theory, which states that students are motivated to learn if they interested in the material. Secondly, self-efficacy theory posits that students are motivated to learn based on their competency, and capability to handle a particular task. The attribution theory argues that students do learn better if they attribute academic achievement and failures to effort in the process of learning. Lastly, goals oriented theory states that students are motivated to learn when they want to understand something (Mayer, 2008).
Arguably, the most common types of motivation that are appropriate in the learning process and academic achievement are intrinsic motivation and extrinsic motivation. Intrinsic motivation occurs when students perform tasks and engage in activities that they enjoy doing while extrinsic motivation is the kind of motivation results from the reinforcers or external factors. Forces within themselves motivate learners exhibiting intrinsic motivation and inherent to the task they are performing i.e. they engage in a particular activity because it gives them pleasure and assist them to gain an important skill. These students learn and engage in certain activities without any external reward (Tennyson and Dijkstra, 1997); thus, they are more focused on a particular activity. They engage in learning process and various activities amongst which they feel are enjoyable (Tengku and Sepideh, 2012). On the contrary, students exhibiting extrinsic motivation are motivated by factors external to themselves, and unrelated to the task that they are undertaking (Cheng and Yeh, 2009). In most cases, such students are interested in getting good grades since they are motivated to learn as a means to an end. In most cases, a lot of emphasis is placed on intrinsic motivation in explaining the academic achievement of students because learners who are intrinsically motivated do engage in class activities and perform assigned tasks willingly and they are eager to learn and process the information effectively. However, both intrinsic simultaneously motivate students and extrinsic factors so as succeed in their academic work, for instance, they can enjoy learning and at the same time focus on getting good grades. Studies show a positive relationship between intrinsic motivation and increased urge to learn and improved academic performance (Dahl and Smimou, 2011). Motivation also arises from environmental conditions at school, that is, the environment can enhance students’ motivation to learn certain things or behave in a particular manner, and this is called situated motivation.
The ARCS model is used to improve the motivational appeal of instructional materials, instructor’s behavior and the way in which modules or courses are designed. It incorporates a motivational design model, which can be successfully integrated with other instructional design models (Cheng and Yeh, 2009). The four conditions identified by this model, attention, relevance, confidence and satisfaction, should be met for an individual to become and remain motivated according to Keller (Driscoll, 2005). To begin with, attention is the main prerequisite for learning and the major concern of motivation is to gain and sustain attention. Stimulating and sustaining the students’ attention requires the instructor to introduce unexpected issues that will arouse the students’ interest. Secondly, relevance is a condition that follows attention and it occurs after the students’ attention has been obtained. In most cases, students are motivated when the content of the instruction responds to their needs. Relevance can originate from the manner in which the students are taught and the strategies used in classroom. In addition, confidence helps in influencing the students’ persistence and achievements. Lastly, this model focus on promoting satisfaction, for instance, if students’ efforts are in line with their expectations, they will feel motivated to learn.
Importance of motivation theory for instructional designers
An instructional designer deals with the creation and delivery of educational training materials such as manuals, handouts, and e-learning courses among others to various educational institutions. Instructional designers are mainly concerned with motivating learners because in most cases, students are not motivated to learn, as they are busy. In particular, they focus on ways to understand, improve, and apply different instruction methods (Reigeluth, 2013). Motivation is very important for instructional designers because these designers mainly aim at increasing student motivation. Students’ motivation and engagement in class activities depends on the instructional strategies. When students are intrinsically motivated to learn, they learn more and have a more positive experience. For instructional designers, good quality instructions are motivating and so there are focused on creating good quality instructions to motivate students. Mostly, motivation is considered as something that occurs prior to instruction like attracting attention and orienting learners rather than focusing on it as key element in the instructional design. The traditional instructional design is concerned with issues such as learning different from those of motivation, which is mainly concerned with emotional issues. Instructional design involves the breakdown of what students in the institutions of learning learn and how best to deliver these materials to enhance effectiveness and efficiency. More specifically, instructional design comprise of developing instructional materials and tasks, implementing the delivery system as well as evaluating the instruction and students activities.
Impact of motivation on the student achievement
Motivation assists in directing and regulating students’ behavior in such a way that their behavior is purposeful and persistent. That is, when a motivated student is assigned a particular task in school, they put more effort to ensure that these tasks are done correctly and in a more effective manner. In cases where they fail to achieve this, they continue putting more effort and energy towards the achievement of their set goals. The kind of achievement goals established by students influence their task persistence and problem solving efforts (Driscoll, 2005). In addition, the impact of motivation on students can be seen the classroom settings, for instance, it gives the students the energy to be active in the learning process and arouse them for actions. Motivation also sustains their behavior and comforts for a longer time. In addition, it helps in increasing their efficiency and ability to face their class work with interest and as a result, they will increase their academic performance and achievement. Moreover, motivation assists students to direct their behaviors towards the achievement of a specific goal, which they have set for themselves. For instance, when determined to attain high scores and good grades, students can decide to behave appropriately like studying wisely to achieve their set goals.
Motivation assists in energizing, directing and sustaining individuals’ behaviors and so it helps learners to keep moving in a certain direction, which in this case is academic achievement. Individuals can be motivated depending on the motive behind their activities. More so, motivation is enhanced when students are convinced that they are making significant progress in the learning process (Mayer, 2008). Notably, students’ motivation can be revealed in their cognitive, emotive and behavioral commitment in their school undertakings. Students are motivated differently as one student may be more interested in class work, be active in class discussions and perform better in assigned projects, and another may be more interested in the school social activities such as interacting with other students and attending extracurricular activities among others. In addition, another student may be interested in athletics, playing sports or being active in physical education classes. More so, other students especially those with unrecognized learning disability may feel motivated to avoid academic work, social situations or athletic activities among others. Instructors ensure that they do what they can so as to motivate learners and help them behave in a manner that will enable them improve their performance and succeed academically. Furthermore, gender also affects students’ academic success as studies reveal that females tend to be more external whereas men tend to be internal in their attributions of academic success (Siann, Lightbody, Stocks, and Walsh, 1996).
Motivation affects students’ behavior and learning in many ways; first, it leads to improved energy and effort. Motivation determines how much effort students need to spend while performing tasks especially those affecting their interests and needs. Secondly, motivation directs students’ behavior towards specific goals, that is, it determines the specific goals towards which students strive and so it influences the choices made by students. More so, motivation affects cognitive processes as it influences what students pay attention to and effectively process the information they have learnt. Most importantly, motivation enhances performance, as students who are motivated to learn tend to perform better academically. On the contrary, students who not motivated to learn are more likely to drop out of school especially if they have little interest in academic achievement. The influence of motivation on students’ academic achievement should not be destabilized. Therefore, there is need to motivate students in order to arouse them their interest in learning and acquiring knowledge and improving their performance accordingly.
Application
How instructional designers can use motivation theory
Motivation is very important element needed in the learning process and instructors have variety of instructional materials to present appropriate information to students (Rodgers and Withrow-Thorton, 2005). Intrinsic motivation has been associated with the instructional conditions like feedback and reward structures, and teacher surveillance among others (Tennyson and Dijkstra, 1997). Motivational design can be applied to the instructional design model, for instance, instructional designers can adapt motivational design procedure to any instructional design model. The ARCS model is composed of various factors influencing the motivation to learn including attention, confidence, relevance and satisfaction. This model helps individuals to solve problems and so it assists instructional designers to point out and solve certain motivational problems associated with instruction. This model provides a methodical structure for creating motivational approaches for students, and can be incorporated with lesson schemes and instructional objectives that help in effecting motivational strategies. Therefore, effectively evaluating the instructional material, the learner as well as the tutor can benefit the designer to incorporate active motivation. The instructional material should be designed in such a manner that the information conveyed is important to the students and are linked with their interests (Rodgers and Withrow-Thorton, 2005).
Conclusion
Motivation is an important aspect in education and the learning process and it positively impacts on the students’ academic achievement. Motivation manly focuses on energizing, directing and sustaining individuals’ behaviors towards the achievement of a specific goal. Notably, students are motivated when they effort that they put in a particular task is successful and when they have control over their performance. motivation plays a leading role in the learning process in that, students who are motivated tend to perform better and continue as compared to students who are not encouraged and motivated as this group give up and drop out of school in most cases. Motivation is a necessary factor in the learning process and it can be seen the students’ choices of learning activities, their persistence and dedication in the learning process and also how these students try to cope up with various challenges in the process. Both intrinsic and extrinsic motivation significantly contribute to the academic achievement of students because students do engage in the learning process and class activities since they enjoy doing that while at the same time, these students may be active in these activities so as to achieve something in form of reward or recognition associated with academic success. The ARCS model has for condition namely, attention, relevance, confidence and satisfactory, which has to be met in order to achieve academic success. Motivation theory is very important to instructional designers as their major concern is motivating learners and increasing student motivation. Motivation helps students to improve their academic performance as it increases the amount of energy and effort the student put in a given task, direct their behaviors towards the achievement of a specific goal and so on. Therefore, motivation is inevitable in the effective learning process and so students should be motivated to help them achieve their academic goals. ///////

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