IMPACT OF VIDEO ASSISTED INSTRUCTION ON STUDENTS LEARNING MOTIVATION-A POSITION PAPER

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The use of e-resources in curriculum delivery promises better methods of content delivery. Among the various technologies currently available, video technology can be used for teaching and learning. The purpose of this study was to investigate the impact of video assisted instruction on learning motivation. The study examined whether video assisted instruction developed using David Jonassen's constructivist principles and within the framework of Keller's (1983) ARCS (Attention, Relevance, Confidence and Satisfaction) model of motivation can affect students' learning motivation. The study concludes that videos are ideal for enhancing learning. However, this depends largely on how they are designed and used. It is also evident from this study that Jonassen's theoretical arguments, more so, the characteristics of meaningful learning and the "mind tool concept" are highly effective in using videos to enhance learning motivation.

Key words: Impact, Video Assisted Instruction, Learning Motivation

Introduction

The relatively recent introduction of technology into mainstream schooling has been widely expected to penetrate and transform teaching and learning across the curriculum. With the rapid increasing popularity of the internet in the recent years, the diversity of learning programs continue to shift and change according to the demands of society. The pace of change brought by new technologies has had a significant effect on the way people live, work and play worldwide. New and emerging technologies challenge the traditional process of teaching and learning (Fakeye, 2010). Whereas technology cannot replace teachers, it forms an important and additional resource for the teachers and learners (Ratemo, 2011). In today's digital world, the success of an education system depends on collective ability to close the gap between technology's mere presence and its effective integration into the curriculum. The use of e-resources in curriculum delivery in particular promises better methods of content delivery and expanding the teaching and learning resource base. The e-resources used in teaching and learning must thus, be geared towards meeting the educational goals and objectives (Ratemo, 2011).

Instructional Benefits of Videos

Among the various technologies currently available, video technology can be used for teaching and learning. It can convey information in a more interesting way and allow the portrayal of complicated concepts. In addition, compared with expository materials, stories in videos can help learners easily understand and remember the content learnt (Jonassen & Wilson 1999). Audiovisual materials provide a rich medium of teaching and learning. Videos, viewed either through television or computer is a good tool for teaching and learning. Ayot (1987) states that words alone are liable to distortion. Media facilitates the understanding of complicated concepts and ideas. They make learning a fulfilling experience. The video as an e-resource has supported education for many years. Video has the ability to convey material through auditory and visual channels, creating a multi-sensory learning environment (Hibbert, 2014). Research has shown that teachers, who use instructional video report that their students retain more information, understand concepts more rapidly and are more enthusiastic about what they are learning (McKinnon, 2014). However, the use of video as an instructional medium has not yet been entirely embraced to enhance teaching and learning. More so, not

much research has been done on the impact of technology based instruction on learning motivation based on theories and models that are most useful in addressing issues of educational technology.

Effective Ways of Using Instructional Videos in Teaching English

Research has shown that whether instruction-using video is successful or not depends on how it is designed and used. When using videos, studies show that their effectiveness increases when it becomes interactive. Statistics indicate that students retain 75-90% of what they see, hear and do. This is in contrast with the retention rate of 20% of what they hear and 30% of what they see (Eskicioglu, 2003). Interaction allows for deeper understanding and therefore better retention. A research carried out by Salomon (1984) showed that learners tend to fail in learning from televised instruction because they are not engaged in it. This shows that learning from television can be effective if learners actively process the messages from the television. The teacher should thus create situations where students actively view the media. They may ask questions, make predictions or even record their impression of the images or words. Another factor to consider is the amount of video used. Extraneous information especially at the beginning of a lesson can impede learning. This extra content can activate the wrong schema and make it difficult for students to interpret the meaning and apply it to the lesson (Collet et al 2006). To make videos more meaningful, the teacher may select video clips and focus on the specific content as it relates to the lesson.

With regard to the extent of student engagement in using video as an instructional media, three levels of video integration can be identified in the teaching and learning process (Brooke, 2003). In the first level, video materials can be used for simple viewing and listening to the content to elicit discussion and communication in the classroom. The next level of video integration in the learning process is using video for self-reflection, assessment of learning accomplishment and supporting hands-on class assignments. Video based assignments extend beyond passive video watching by requiring students to interact and respond to the video content. For instance, after watching the videos, the students are asked to complete follow-up exercises or answer questions about the presented materials. The highest level of using video technology involves students as creators of video scripts and video materials. This involves the following steps: planning the video, working on the language aspects, movie production and showing the completed video. This level is the most effective in promoting collaborative learning among students. The purpose of this position study was to investigate impact of video assisted instruction on learning motivation. To achieve this purpose, the study examined whether video assisted instruction developed using David Jonassen's constructivist principles and within the framework of Keller's (1983) ARCS (Attention, Relevance, Confidence and Satisfaction) model of motivation.

The Concept of Motivation

Motivation is a general term used to describe the conditions that cause one to begin an activity and pursue it with vigor and persistence (Twoli et al 2007). Ayot (1987) defines motivation as the degree of desire to learn new things, to put in more time to study and to find out more about what is being taught and to cooperate with the teacher in order to gain knowledge from his experience. There are two types of motivation: Intrinsic and extrinsic. Intrinsic motivation is also referred to as self-imposed motivation. The reason for doing something is in the action. The drive, wish or desire is from within an individual. This kind of motivation goes deep into our personality. Extrinsic motivation depends on other rewards that are external to the action itself. This type of motivation is supported and enhanced by external influences such as promised rewards, promotions and commendations. Extrinsic drives are external to the individual and do not support learning as much as intrinsic ones (Twoli et al, 2007)

Maslow has argued that human beings function in a hierarchy of needs, which must be satisfied for their well-being. The first four levels are called deficiency needs because when these needs are not met, motivation increases to find ways of satisfying them. When they are satisfied the motivation for fulfilling them decreases (Were, 2003). They are followed by security and safety needs (Shelter, warmth and self-defense). When one is physically comfortable and secure, he/she aspires to fulfill social needs for self esteem and ego needs. This includes the need to become independent, to receive esteem of others, to dominate and to acquire possession. When Maslow's theory is applied to education, it means that for children to learn, they must fulfill the deficiency needs. They cannot seek intellectual achievement when the basic needs for survival, safety, belongings and self-esteem have not been met. According to Were (2003), it is important to motivate the learners because motivation: (a) inculcates interests and enjoyment in the earning process, (b) arouses the learner's curiosity, (c) creates in the learner the desire to earn more, (d) makes the earners anxious to earn, and (e) sustains the learners' attention.

Motivation is an essential factor that learners should have for successful learning. It is key to any teaching and learning because it leads to discipline and effective learning. Developing life-long learners, who are intrinsically motivated, display intellectual curiosity, find learning enjoyable and continue seeking knowledge after their formal instruction has ended has always been a major goal of education (Small, 1997). Were (2003) expounds on the various ways that the teacher can motivate and/or sustain the learners' attention in learning. One way is maintaining success expectations. This can be done by seeing to it that students have large measure of success in class which raises their aspirations and makes them strive on, for example, by giving clear, challenging but reasonable assignments. Another way is by using interesting teaching strategies and methods. This means paying attention on heuristic as opposed to expository strategies. The teacher can in cooperate in the teaching games-like activities as well as use of audiovisual devices. The teacher may also provide learners with opportunities for active responses. Every learner must be actively involved in the lesson through activities, which are worthwhile and interesting.

Theoretical Perspectives

Research has shown that whether instruction using video is successful or not depends on how it is designed and used. This part focuses on theoretical perspectives for analyzing the instructional significance in using videos in teaching and learning. The study will thus provide insights into how videos can be used in a pedagogically meaningful way in the teaching and learning processes. The study, specifically, focuses on David Jonassen's constructivism principles and John Keller's ARCS (Attention, Relevance, Confidence and Satisfaction) model of motivation. Each of these two schools of thoughts posits basic principles and theories about learning. This informs the goals and models that the theories have for instruction, which in turn will influence the design and use of instructional media. The study, therefore analyzes the basic underpinnings of the two theoretical perspectives, previous research done and the application of each of the theories in integration of videos in teaching and learning.

David Jonassen's (1999 & 2000) Constructivist Principles

Constructivism is a learning theory that argues that knowledge is gained through personal experience. Constructivists view learning as a formation of abstract concepts in the mind to represent reality. They posit that learning occurs when a learner constructs internal representations for his or her unique version of knowledge. Constructivism argues that interactive activities in which learners play active roles can engage and motivate learning more effectively than activities where learners are passive (Zhang et al, 2006). According to this theory teachers move away from lecturing and become facilitators, pointing students in

the right direction and allowing them to gain knowledge on their own, combining current and past experiences. Constructivism as a paradigm posits that learning is an active, constructive process. The learner is an information constructor who links new information to prior knowledge. The originators of constructivism include Jonassen, Vygotsky, Piaget, Dewey and Rorty.

A reaction to approaches such as behaviorism and programmed instruction, constructivism states that learning is an active contextualized process of constructing knowledge rather than acquiring it. Knowledge is constructed based on personal experiences and hypothesis of the environment. Learners continuously test these hypotheses through social negotiations. Each person has a different interpretation and construction of knowledge process. The learner is not a blank slate but brings past experiences and cultural factors to a situation. Constructivists argue that knowledge cannot be simply transmitted from the instructor to the learners because the learners have not experienced all that the instructor has. Although the instructor and learner share an experience, learner interpretation would be very different from the instructor's because the instructor is relating to a very different set of prior experience. Therefore, constructivists think that learning is a process of helping others construct their own meaning from the experiences they are provided with (Choi & Johnson, 2005). Jonassen and Wilson (1999) proposed a model for designing constructivist learning environments. Since the epistemological belief of the constructivism that knowledge cannot be transmitted, the design puts emphasis on providing learning experiences that facilitate knowledge construction and in meaning making. Jonassen and Wilson (1999) describes the following essential components in the constructivist learning environment (CLE): (a) problem, question or project as the focus of the environment: The focus on problem, question or project constitutes a learning goal driving the learning process. The desired quality of this driving power is to be interesting, relevant and authentic. Three major components need to be included in the design of the problem: The problem context: a description of the physical, organization, and sociocultural context in which the problem occurs should be represented to the learners. The problem representation or simulation: the principle of representing the problem is to make the representation interesting, appealing and engaging. The representation of the problem needs to be authentic to present the same types of cognitive challenges as those in the real world, as well as to be interesting and relevant to the learners so that they can engage in solving the problems. The problem manipulation space: meaningful learning needs to be a mindful activity, in which the learners are provided opportunities to manipulate objects and interact with the environment. The problem manipulation spaces exactly provide such opportunities. They can be the causal models for students to test the effects of the manipulation by receiving feedback in the changes of the physical objects or the simulation, or they can be the students' argumentation to support their solutions to problems; (b) related Cases: Representing a set of related experience, the related cases support learning by memory, providing different perspectives, themes and interpretations, the related cases conveys the complexity of the problem and enhance student cognitive flexibility; (c) information Resources: CLEs have to provide just-in-time information to help learners comprehend and solve the problem; (d) cognitive tools: Cognitive tools are tools that help visualize, organize, automate, or supplant thinking skills. These tools include instructional media like computers, videos, audiocassettes, print media.

A term that Jonassen is famous for using is "mindtool" (Jonassen, 2000). This term is central to his educational philosophy that blends constructivist principles with modern educational technology. According to Jonassen, Mindtools are knowledge construction tools that learners learn with, not from (Jonassen, 2000). This allows learners to build their own knowledge base. Some examples of mindtools include videos, audios, computer programs, Using mindtools allows learners to analyze, evaluate, synthesize, problem solve, and reflect

on what they know in order to build their knowledge base (Jonassen, 2000). In today's classroom, where teachers are encouraged to move away from the traditional lecture style of teaching and incorporate more discovery learning, Jonassen's mindtools can become a very important part of every teacher's repertoire. Jonassen (2002) describes characteristics of meaningful learning:

Active. Within the constructivists' views on learning, students learn best if they take an active role in their own learning. According to Jonassen and Wilson (1999), active learning means that learners are engaged in the learning process in a mindful processing of information where they are responsible for the results. As active learners, they are encouraged to inquire, inform, evaluate and express new ideas. They are able to use different production and cognitive tools like videos actively in their learning environment (Jonassen, 2000).

Constructive and reflective. Constructive learning means that learners accommodate new ideas into their prior knowledge. Learners are encouraged to engage exploration, articulation and reflection; teachers should build on foundational knowledge of students. It is important to use learning experiences that facilitate knowledge. Activity is essential but insufficient for meaningful learning. We must reflect on the activity and observation and interpret them.

Collaborative and conversational. Working in learning and knowledge building communities makes it possible for learners to exploit each others' skills and provide social support and modeling for each other (Jonassen, 2002). Learning is a dialogue, that is, a process of internal or social negotiations. This exposes learners to different perspective. A meaningful use of videos is one in which the learners use conversation and collaboration. Moving images have been seen as being able to generate a rich classroom discussion (British Film Institute Primary education working group, 2003)

Contextual. Jonassen (2002) says that contextual learning is that which a resort to learning asks that are either situated in meaningful real-world tasks or simulated through a case based or problem based learning environment. Videos have the ability to create a representation of the real world environments that employ the context in which learning is relevant. Videos are also beneficial in depicting places, people, events and situations that would otherwise be very hard for the students to visit or encounter.

Intentional. Human behaviour is naturally goal-directed. When students actively try to achieve a learning goal that they have articulated, they think and learn more. For students to experience meaningful learning, they must be able to articulate their own learning goals and monitor their own progress.

David Jonassen's theoretical arguments are good frameworks in designing and utilizing programs on video assisted instruction, and therefore applicable to this study. Firstly, the concept of mindtools is significant; Jonassen describes mindtools as, cognitive tools, critical thinking devices, intellectual partners and a concept (Jonassen, 2000). Mindtools represent a constructivist approach for using videos to engage learners in representing, manipulating and reflecting on what they know, not producing what someone tells them. When using the videos as mindtools, knowledge is built by the learners, not provided by the teacher. The characteristics of meaningful learning are also applicable in relation to learning with videos.

These characteristics will provide insights into how videos materials can be used in meaningful way of teaching and learning, and more so, to enhance learning motivation. They may not be all met at the same time:

> Applying all these characteristics in assessing a teaching and learning does not mean that all of them should be present at the same time. If one or more of them fails to occur, learning can still be meaningful and constructive (Karppinen 2005 p 246).

Keller's (1983) ARCS Model of Motivation

The ARCS (Attention, Relevance, Confidence and Satisfaction) model of motivation was developed in response to a desire to find more effective ways of understanding the major influences on motivation to learn, and for systematic ways of identifying and solving problems with learning and motivation. The model is a systematic problem solving approach that requires knowledge of human motivation and progresses from learner analysis to solution design. Mere specifically, the process includes knowing and identifying the elements of human motivation, analyzing audience characteristics to determine motivational requirements, identifying characteristics of instructional materials and processes that stimulate motivation, selecting appropriate motivational tactics and applying and evaluating appropriate tactics (Gayla, 2009).

The model defines four major conditions that have to be met for people to become and remain motivated. These are attention, relevance, confidence and satisfaction. The ARCS motivation model was grounded in expectancy value theory, which assumed that people would be motivated to engage in activities if they perceive there is a positive expectancy, to be successful and if the activities are linked to the satisfaction of their needs. The ARCS model includes four conditions: Attention, relevance, confidence and satisfaction (Keller, 1983 cited in Choi & Johnson 2005). Keller (1987) breaks each of these four ARCS components down into strategy sub components:

Attention. The first and single most important aspect of ARCS is gaining and keeping the learners' attention. This can be achieved by sensory stimuli, inquiry arousal, thought provoking questions and variability. The variance can be in form of exercises and use of media. The use of videos in teaching and learning offers this variance.

Relevance. This involves establishing relevance in order to increase learners' motivation. To do this, the teacher may use simple language and illustrations that learners are familiar with and the use of media to create contexts of learning. With videos in the classroom, students often make new connections between curriculum topics and the world outside classroom. The teacher should also provide goal orientation, that is, presents the objectives and useful purpose of the instruction and specific methods for successful achievement and motive matching, which implies matching objectives to students' needs and motives.

Confidence. This involves the need to match learners' challenges to their capabilities. The learners should be informed about learning, performance requirements and assessment criteria. Success opportunities should also be provided to learners even under challenging and meaningful situations. The teacher should also enhance personal responsibility by link learning success to student personal effort and ability.

Satisfaction. The last component of Keller's ARCS model of motivation is satisfaction. The model presents a direct link between satisfaction and level of motivation. This involves the need to provide learners with intrinsic and extrinsic rewards. Learners should be proud and satisfied of what they have achieved throughout the learning. In providing intrinsic reinforcement the teacher should be encourage and support intrinsic enjoyment of the learning experience.

The ARCS model of motivation design is a heuristic approach to increasing the motivation appeal of instruction. ARCS provide a useful framework for both the design and improvement of the motivational quality of a range of informational entities. In this vein, video based instructions that provide these conditions should be able to promote learners' motivation. Research offers evidence of effectiveness of videos on learning motivation. A research carried out to investigate the effect of context -based video instruction (Choi and Johnson, 2005) revealed a significant difference in learners' motivation in terms of attention between the video based and traditional text based instruction. Moreover, learners reported that the video based instruction was more memorable than the traditional text based

instruction. In another research carried out to investigate the effect of physics instructional videos as an e-learning resource on performance among secondary school students in Githunguri District, Kenya (Gakuru, 2013), findings revealed that the experimental class exhibited more frequent motivational behaviors than the control class.

Conclusion

The study concludes that videos are ideal for teaching and learning. However, this depends largely on how they are designed and used. It is also evident from this study that both David Jonassen's constructivist principles and John Keller's ARCS model of motivation are significant and may be good frameworks in designing and utilizing programs on video assisted instruction. Particularly, Jonassen's characteristics of meaningful learning are quite applicable in relation to learning with videos. The most significant characteristics, which apply to the use of videos for instruction, are activity, interactivity, collaboration and contextualization. This study also concludes that simply using videos in the classroom does not necessarily enhance learning. The ARCS motivation provides useful assistance to designers and teachers in relation to use of videos to enhance learning motivation. Designing and using them in ways that stimulate learners' interests and curiosity may lead to better learning outcomes.

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