REVIEW PAPER ON ANIMATION IN TEACHING

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ABSTRACT *This article presented an overview of previous researches related to the research study. Researcher has taken an attempt to review carefully the research journals, books dissertations, thesis and other sources of information related to the problem of investigation. After reviewing the related literature the researcher knows about the recommendations of the previous researchers listed in their studies for further researches. The overview of the previous researches provides the researcher the background of the problem area. In this process, researcher takes an advantage of the knowledge, which has been already accumulated in the past as a result of constant human endeavour in the form of researches. Review of the related literature allows the researcher to acquaint her with the current knowledge in her area of research. The review of related literature updates the researcher by providing background for understanding the latest knowledge on the topic under research.*

Keywords:

LITERATURE ON ANIMATION

According to **Lowe, (2004)** The researches carried out so far has failed to establish systematic learning benefits of animated graphics over static ones, even in the case of dynamic systems. We hypothesize that animation promotes the understanding of dynamic systems if delivery features decrease the perceptual and cognitive load of processing the animation. Therefore an experimental study was presented to investigate the effects of two prominent features: the continuity of the information flow (animation vs. series of static graphics) and the permanence of critical snapshots from the animation. The animation group outperformed the static group for retention and transfer performance. However, the presence of snapshots of critical steps had no significant effect.

As per the study conducted by **Clark, & Mayer, (2008)** they found that the design of dynamic and interactive visualization most often driven by aesthetics or visual presentation appeal more than pedagogical or cognitive considerations. This chapter reviewed some major researches advanced into the use of animations for explaining dynamic systems. Hence an experiment was conducted that investigated the use of snapshots as means to reduce cognitive burden during multimedia learning.

According to **Schnotz and Lowe (2003),** the concept of animation can be characterized using three different levels of analysis: technical, psychological and semiotic. The technical level refers to the format of animation: real movies with all details in each picture versus simplified or abstract computer-generated or static pictures, the degree of abstraction has an effect on cognitive processing **(Dwyer, 1987**) and can be manipulated for pedagogical purposes. The psychological level refers to the perceptual and cognitive processes involved when animations are displayed to learners.

The study also assesses whether anime is an important bridge between conventional animation and live action cinematic forms **(Palmer, & Elkerton, 1993)**. It was proposed that anime breaks down the distinctiveness which previous typologies of cinematic form have attributed to modes of production using live actors in a cinematic representation of reality, and animated processes which manipulate drawn images in an increasingly hyper-realistic style. This hypothesis has been drawn on the creative work of Mamoru Oshii who stated in an interview in 2004 that all cinema scan be considered as animation now **(Suchenski, 2004).**

The Association of **Japanese Animation (AJA)** was formed in 2002 as a trade body to support the diversification of anime into new multi-modal global markets and to protect academic property rights in online contexts. This was partly an acknowledgement of the competition from other East Asian countries such as South Korea and China for the anime market whereas previously Japanese studios outsourced work to these countries.

According to **Schnotz, Böckheler, &Grzondziel, (1999)** Animation is the process of making the illusion of motion and the illusion of change by means of the rapid display of a sequence of images that simply differ from each other. The illusion—as in motion pictures in general—is thought to rely on the phenomenon. Animators are artists who are specialized in the creation of animation. Animation can be recorded with analogue media, a flip book, motion picture film, video tape, and digital media, including formats with

animated GIF, Flash animation, and digital video. To display animation, a digital camera, computer, or projector are used along with new technologies that are introduced.

According to **Anna (1974)** in animation, the views or scenes are completely moulded into a new dimension. The characters are brought to life, short stories are told and background places are created through animation.

According to **Jayanthi and Kumar (2016)** Animation and Information and communication technology (ICT) are influencing all aspects of human life to a great extent. In modern scenario animation is being utilized as an instrument for teaching English language to a great extent as teachers have comprehended its capacity to make effective and child centred learning conditions in which slow learners and poor performers can learn English effortlessly. Conventional strategies for providing advanced education have turned out to be less persuading. Here, innovation in terms of animation assumes an imperative part in making advancement and inspiration for the students.

Nusir, Alsmadi, Al-Kabi and Sharadgah (2012) the incessant inventions and evolutions in the field of information technology has opened new channels and opportunities to enhance teaching and educational methods. On one hand they can improve the abilities of educators to present information in an interactive way as compared to the traditional methods and on the other hand it may help students or learners by providing them the information through the methods that can be easier to understand, deal with, and retrieve. Such alternative methods of teaching can be useful especially for children, people with special need and students in rural areas where they can have virtual or remote instructors. The purpose of this study is to investigate the impact of utilization of multimedia technologies in enhancing the effectiveness of teaching students at early stages in Jordanian primary schools. Results showed that such methodology and techniques at this age, using programs or multimedia enhanced the effectiveness of teaching for getting students' attention especially when cartoon characters were used.

O'Day (2007) the present study aims to know the effectiveness of animations versus graphics in the long-term retention of information, a primary and critical issue in studies of teaching and learning. The study involved the responses of 393 students, three different animations and two graphics—one with and other without a tale—were used to determine the long-term retention of information. The results showed that the students retained more information even after 21 days of viewing an animation, without narration as compared with an equivalent graphic whether that graphic had a tale.

Faloye (2013) This paper investigated the effectiveness of utilizing censored animated cartoons in teaching and learning English Grammar at St Louis Nursery and Primary School, Iker Ekiti, Nigeria. An empirical study was conducted to compare the result of animated cartoons and traditional approach to vocabulary development on the experimental group and control group respectively. The subjects for the study consisted of eighty four students selected from the primary classes of the private school. T-test was used for statistical analyses of the data. The results of the study showed that there was significant improvement in the academic performance of the experimental group as compared to the control group.

Hwang, Tam, Lam and Lam (2012) say it is difficult to explain dynamic concepts in traditional media such as still slides. Such concepts can be represented in a better way through animations. Animations can present procedural information (more explicitly as they show the steps in an organized manner as compared with static images and text). The studies conducted on this concept have showed that animations have promising result on learning. However there are also some limitations as designing and developing quality animations for teaching and learning. It can certainly be a great challenge.

Kim, Yoon, Whang, Tversky and Morrison (2006) Animation designs are certainly efficient in mastering and educating as well as attractive and encouraging. The students of 4thand 6th standard learned the operation of a bike push from design that was: (i) provided simultaneously; (ii) provided successively; (iii) self-paced, or (iv(animated. The demonstration method affected assessment of recognized comprehensibility, interestingness, entertainment and inspiration, but not understanding test score. Fourth graders who were low in need for knowledge ranked the animations as more enjoyable and encouraging, whereas 6th graders found self-paced design more interesting and encouraging. The assessments of 6th graders match results of many studies on the present research. Cartoon design is not as much interesting and encouraging as self-paced design in mastering, and they were not found appealing and exciting by 6th graders.

LITERATURE ON TEACHING

Another common principle is that learners find animations more motivating than text and motionless pictures and would therefore be inclined to process the material more deeply. However, the processing of animation requires heavy perceptual and cognitive processing. The learners tend to pay more attention to perceptually salient features than to conceptually relevant changes in the animation **(Lowe, 2003).** If it is not interesting to learner, it shows that they can get benefit from animation and after they are taught through animation they may just not use the text at all **(Pane, Corbett, & John, 1996)**

The literature reviews that computer animation is potentially beneficial to learning. However, research often failed to find this advantage, even when the instructional animation was carefully designed. The most common explanation is based on the idea that learning from animation may be cognitively too demanding for novices of a domain. An experimental study carried out by **Schnotz, Böckheler and Grzondziel (1999)** provided evidence that animation can impair learning in some circumstances.

According to **Tversky, Morrison, &Bétrancourt (2002)** some of the animation links catalogued by some inventors will give educators very basic tools and histories of animation while others have the animation already created and set in motion, it's just a matter of sharing it with students.

As stated by **Hicks Marsh Russell (2000)** Educators need to decide which tool is best for them. If they want to create their own animation from scratch, then they need to go to sites such as Anymore. If they want to select from animations which are already created then they may get help from Explained that will make more sense for them.

In this way to support the educators, Increate to Educate helps teachers and schools from primary to higher education to become better learners by making animation more accessible in the country like Europe **(Lowe, 2003)**. It offers some great resources and valuable animation software and resources. It also provides a free stop-motion animation tool called SAM.

According to **Mayer, (2003)** animation means the subject that is already set in motion. It has been tried and experienced and found to be successful. So educators simply search for their subject or their purpose and avail the videos to help their students grasp the concepts or even learn difficult material that otherwise may have puzzled them.

Pun (2013) in his paper attempts to find out the use of technology to teach English language in the non-native speaking countries and to points out the problems faced by both teachers and learners of English. The speedy development of science and technology such as multimedia technology has provided a better tool to explore the innovative teaching methods. Multimedia technology has played a vital role in English language teaching. It also aims to make English language teachers aware of the strategies to use in an effective manner.

Wafi (2013) the paper aims to find out the effectiveness of using animated pictures program in learning English vocabulary by the fifth graders in Gaza. The main areas were productive and receptive. The animated pictures program was used for teaching the experimental group while the traditional method was used with the control group in the second term of the school year (2012-2013). For the purpose of this study achievement vocabulary test was designed and validated to be used in pre and post test to assess the vocabulary learning in the English language of the fifth graders. The data of the study were analysed using t-test independent sample, which was used to determine significant differences between the groups.

Collier, Burkholder and Branum (2013) the students of the modern age are often called "digital-age learners" as they reflect their technological savvy and free-agent approach to learning. They use their iPods, I Phones, computer games, social media pages, and text messaging; these digital-age learners have access to resources and knowledge beyond traditional school structures and practices. These students are "less dependent upon traditional education institutions for knowledge acquisition and are much more self-reliant, exercising their internet-based skills to aggregate data and information.

LITERATURE ONTEACHING IN ANIMATION

As observed by **Godfrey, Bob; Jackson, Anna (1974)** that schools give training to the students to learn and know about animation techniques are also included in Teaching Cross Discipline subjects. This type of animation training programme not only promotes creativity but also motivate the students to produce animations of their own choice and interest.

According to **Faber, Liz; Walters, Helen (2004)** Student animation is one of the most exciting advancement in education technology, allowing students the opportunity to be endlessly creative in designing their own comic strips, movies and more.

According to **Furniss, Maureen (1998)** one of the most appropriate tools for creating student animation is Toon tactic that gives chance to kids to create some pretty impressive stuff with very little efforts by just dragging characters and objects around the screen with their fingers, kids can animate just about anything. It takes a long time to create a frame by frame flipbook or animation, but it doesn't mean that kids cannot create a lot in a small amount of time.

Animation provides a great platform to students to make a simple animated movie **(Finkielman, Jorge 2004)**. The tools are relatively simple to use but there are a lot of choices so this is suitable for mid-level students. It is particularly useful for senior students where the focus will be on characters – whether recreating a novel or producing their own play or sitcom – as it allows the options to choose from details such as facial expressions and human activities such as talking on a phone or using a loud speaker, as well as actions like thinking and whispering.

McClean et al. (2005) blue right-pointing triangle carried an extensive study. In their study a small groups of students were shown a protein synthesis in three dimension animation with different blend of individual study and a formal lecture against individual study which was pursued by a lecture without the animation. It was seen in all cases that the groups who were shown the animation achieved higher score considerably in the follow-up test as compared to the group which was not shown it. It was observed in a study that animations was used to teach a part of chemistry, where learners have problem with the models that are related to mental. They are about the particular nature of matter in which learners obtain significantly higher test scores when the animation was presented as section of a lecture or as a complement to a particular separate study compared with a control group of learners who have not accessed the animation (**Williams and Abraham, 1997** blue right-pointing triangle). Studying this findings studies, it was concluded that learners have better understanding of a complex signal transduction trail better after seeing an animation that is narrated than a graphic with a corresponding legend (**O'Day, 2006 a** blue right-pointing triangle). Therefore, some studies that have been carried out, reveal that animations provide learners an insight into biological processes in such a way that conventional lecturing and still graphics cannot.

According to **Drazin, Charles (2011)** the study presented here evaluates the extent to which computer animation has been contributing and adding to learning process. With the increasing utility of computers, and everyday usage in life, it is important to know how computers can develop children's interest and likings in discovering the created knowledge through animated simulations in the environment which is computer-based.

Babu (2016) in his study viewed animation that includes multimedia and network technology not only provide 152 students wealthy sources of genuine and reliable education materials but also an striking and a pleasant interface, vibrant pictures and pleasing sounds, which to a large degree overcomes the want for an genuine language environment and develops students' interest and concentration in learning English.

Jolly (2003) The main and basic objective of this research paper is to investigate the usefulness and efficacy animation and comparison between animations-with-text and graphics-with-text in comprehending logical and scientific understanding of fourth, fifth and sixth graders. This research intends to investigate the difference between the amount of knowledge and information that was gained by a participant by asking him questions and the information given to them. The students of fourth, fifth and sixth visited the Butterfly Pavilion at the Folsom Children's Zoo Lincoln, Nebraska.

CONCLUSION:-

Finally it has concluded that Animation is considered as computerized replication of process that includes the use of images to develop a synthetic moving picture. In reference to the learning process and find out that the use of the illustrative and graphical form of communication or exchange of ideas can lead humans to develop and improve understanding of knowledge and retention. Power of human visual system can be effectively appealed by the use of animation.

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