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Use of Animation and Multimedia as A Tool of Learning

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ABSTRACT

This paper is to describe the necessity of animation in our learning and education system. With the help of an animation, the data could be presented in motion pictures which could be more catchy and effective. Scholar Richard Lowe argues that educational animation is very effective when they replace static images that attempt to show motion and changes.

Keywords : Animation in Teaching and Learning, Squash and Stretch, Arcs, Straight ahead action

I. INTRODUCTION

In recent times when teaching methods are carried out online, therefore, the teaching techniques should be catchy and more presentive where a student or trainee could understand the things at one view itself. Animation with multimedia technology such as animation, sound, graphics and text makes the training and learning process a wider and more rich environment for students. Animation also produces motion illusion in the viewers and 3D animation movies make it more prominent for the viewers to understand with the dimensional presentation.

Basic principles of animation have been identified in 1980 by the need to determine rules of the 2D animation world, they need to be taken in account to obtain realistic motion in 3D animation platform.

- Squash and stretch
- Anticipation
- Staging
- Straight ahead action & pose to pose
- Follow-through & overlapping action
- Slow in & slow out
- Arcs
- Secondary action
- Timing
- Exaggeration
- Solid Drawing
- Appeal

II. ANIMATION AND MULTIMEDIA FOR EFFECTIVE TEACHING AND LEARNING

For the effectiveness of teaching and learning through animation and multimedia planning and collection of data is a must. MIDLETON (2009) specially referred to the principles for the use of animation in education while OKON (2010) refers to the 'ASSURE' model-

- A - analysis of teacher's and learner's characteristics.
- S - stating the instructional objectives.
- S - selecting instructional methods.
- U - utilization of instructional technology.
- R - requiring teachers and learners.

- E - evaluation and revision of the instructional process.

Some major factors to be considered in the use of animation in teaching depends on the type of learning, learning materials and teacher's style.

III. PRINCIPLES GUIDING THE USE OF ANIMATION IN TEACHING AND LEARNING.

For effective instruction and output, careful planning is necessary. The use of animation in teaching and learning is no exception. Gagne (1985), Kumar (2008), Sampath; et al (2006) have stressed that the theories of teaching and learning that are translated into general principles are guided by the socio-psychological principles which cover the following:

- The learning environment
- Students motivation
- Reinforcement pattern
- Feedback

Sampath, et al (2006) specifically, referred to the principles for the use of instructional resources as a system approach to instruction, while Heinichetal (2002) had referred to it as the "ASSURE" model. In the ASSURE model "A" stands for the analysis of the students' or learners' characteristics, "S" for stating instructional objectives, the following (next) "S" for the selection of instructional method and materials to be used and "U" for utilization method and materials, "R" represents requiring their participation and "E" the evaluation and review of the instructional process. This system approach (the model) is an attempt to coordinate all aspects of a problem towards specific objectives. This can be actualized and achieved through available resources such as animated instructional materials. These will assist in achieving desired learning objectives by the most efficient means available. The key factors in the system approach using animation are PLAN, IMPLEMENT and EVALUATE. The success or failure in considering these three factors depends on the teachers, for he or she must select and arrange the materials and activities and provide guidance to the students.

While using animated instructional material the teacher must look out for, and identify existing gaps between current and desired levels of skills and knowledge and then select instructional methods and strategies to meet the need. Michael (2008) agrees with Paul (2006) that successful use of animation in the teaching-learning situation can not take place without a clear knowledge of the instructional method and materials and adequate knowledge of the learners and learning environment. These will adequately address what, when, where, why and how the learning activities might best be accomplished.

Barriers to the use of animation concepts and practices in teaching and learning situations are varied and numerous. As clearly stated by Ema (2010) these barriers fall into two main categories and are Extrinsic and Intrinsic barriers.

Extrinsic has to do with the following:

Access, time, support services, resources and training Intrinsic has to do with the following: Attitudes, beliefs, practices and resistance. These concepts and practices impact is in one way or the other on the level and frequency of use of instructional materials in the classroom. An inadequate level of understanding of animation concepts and practices may lead to rejection and discontinuance of its because of the stress, strain and frustration likely to be encountered. It is highly recommended that flyers or booklets serving as guides should accompany any animated instructional material to provide information dealing with the functioning principles underlying how the material works in the teaching and learning process. Every technology or material used in class is subject to the teacher's control. The level of the teachers' creativity and performance skills will determine the level of success or failure of the activities.

The type of animation to be used should vary according to the grade level of the learners and the subject matter to be studied. In whatever form and level of usage the teacher must know "how" and "why" they should be used.

IV. SUMMARY

In the present age it is recommended for teachers and learners including all other professionals of education to follow the trend of technology and adopt the animation and multimedia tools for building up the learning process. The visualization of students increases more when all the five multimedia components are used in the best way.

V. CONCLUSION

This study tried to provide a comprehensive review of the effectiveness of using animation in education and discussed the existing and possible benefits of using animation for individuals with special needs. Based on the results obtained from the present study, the following recommendations for further research and practices are provided:

Experimental research might be carried out to show the effectiveness of animation in enhancing the learning performances of individuals with special needs.

The effectiveness of animations in teaching individuals from different disability groups such as attention deficit hyperactivity disorder, hearing impairment and giftedness might be examined. Inservice training might be organized to increase special education teachers' knowledge and skills on using and integrating animations in teaching. Teacher training programs in universities might include more courses on integrating technological tools into special education environments to create awareness among preservice special education teachers. Academic skills, especially reading, writing and mathematical skills should be investigated as well as whether animations are effective tools for teaching academic skills to individuals with special needs.

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