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INNOVATIVE VIRTUAL REALITY IN ON-LINE LEARNING

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ABSTRACT: -

On-line learning is an approach to allow teachers and learners to interact with each other either in real time or asynchronously. Increasing demand in education, training and skill upgrades a shift from a labor - intensive to a knowledge intensive global economy. Now-a-days technology has become complex due to the rapid worldwide development in all domains of activity. The major concern of educators is how to enhance the online educational technology and the outcome of the learners. Accelerating technological change, rapidly accumulating knowledge, increasing global competitions and using workforce capabilities around the world make the 21st century as the virtual world. Virtual reality has been identified as a tool to improve performance and conceptual understanding on a specific range of task.

KEYWORDS: Innovative Virtual Reality ,On-line learning ,training and skill upgrades .

INTRODUCTION - ON-LINE LEARNING - BOON TO GLOBAL LEARNERS

Online collaborative learning is a central way to prepare more students at a higher level of success and to become global citizens. It allows learners to learn essential skills by stressing self-directed learning, collaborative communication, time management and technical literacy in the context of problem solving and global awareness. Learners of this generation are ultra communicators. (i) Online virtual learning promotes and implements the modern ideas for both the initial and continuing education and team based activities (ii) creates a framework for e-learning approaches in teaching learning process in educational management (iii) assists the facilitators in the usage of the modern technologies in teaching real world (iv) increases the teachers' role and responsibility to design, develop and use of the modern virtual techniques and approaches in an online fashion (v)improves the cooperation among the learners, teacher educators, pedagogues and psychologists (vi) integrates the young graduates in research and development projects

Communication capability of the Internet allows for a variety of forms of learner -content, learner -learner and learner - teacher interaction, which can be used to augment the learners' independent interaction with the printed course contents and leads to
• Access course materials all hours
• Attend class anytime, anywhere using web
• Enable learner centered teaching

• Enhance the ability to communicate effectively through the innovative virtual real technology.
• Get network with co-learners from a wide range of backgrounds and locations. Everyone gets a chance to contribute and asks for clarification of any comments that are unclear.
• Access instructors through chat, discussion forums, or email, without having to wait for office hours and make instructors more approachable.
• Facilitate team learning by providing classrooms and web conferencing for review meetings and joint work. It is more effective and helps learners to get higher grades. A meta-study (2009) from the Department of Education found that learners learn at their own pace, taking more time to read, review and discuss.
• Learn innovative strategies for virtual teamwork by using electronic communication to interact with a group. Employers highly value this skill and the learners benefit from a flexible schedule which is extremely helpful in balancing education with work and family life.

VIRTUAL ENVIRONMENT - REINFORCER OF ONLINE LEARNERS

Virtual learning environment is designed to support teaching learning process in an educational setting and in a computer program that facilitates computerized learning. Such learning systems are called learning management system and content management system. The web based system uses virtual reality and multimedia as communication tools to support collaboration among the learners. This process usually begins with the installation of the virtual learning software in computer system. The internet helps the learner to get connected with training room. The learners in the virtual learning room have the feature to ask doubts to which the teacher can be able to respond immediately.

To develop a real time virtual environment, a computer graphics library can be used as embedded resource coupled with common programming languages. The use of multi threading accelerates 3D performance and enables cluster computing with multi-used interactively. The virtual classroom provides a perfect environment for online effective learning at low cost and integrates the best learning practices with power of internet to provide a dynamic learning platform to the learner.

VIRTUAL REALITY - ENHANCER OF ON-LINE LEARNERS

Virtual reality applies to compute simulated environments to stimulate physical presence in places in the real world, as well as in imaginary world and a wide variety of applications commonly associated with immersive, highly visual and 3D environments. Current virtual reality environments are primarily virtual experiences displayed either on a computer screens or through special stereoscopic display, but some simulations include additional sensory information such as sound through speakers and headphones. Virtual reality covers remote communication environments which provide virtual presence of learners with the concepts of telepresence and teleexistence. Online learners interact with a simulated environment similar to the real world or virtual artifact either through the use of standard input devices or through multimodel devices. In practice, it is currently difficult to create high-fidelity, virtual reality experience, due largely to technological limitation on process, power, image resolution and communication bandwidth. The development of CAD software, graphics hardware acceleration, head mounted displays, database groups and miniaturisation have helped to popularise the reality. According to Zhai (2005) virtual reality could be made to have an ontological status equal to that of actual reality.

KEY BENEFITS OF VIRTUAL REALITY IN ON-LINE LEARNING

i.The online virtual reality platform allows for hands-on interactivity and overcomes physical constraints of typical classroom education.
ii.It provides multiple channels of communication with learners. This includes the use of images, audio, video voice, and public and private text. The platform also supports multiple languages and chat translation.
iii.Visualisation is achieved more effectively through online virtual reality. Normally, something that is hard to explain or show to learners is easily demonstrated in three dimensions.
iv. It can be used for research and as a way for instructors to hold office hours, meeting with students in the online

world to save travel costs.
v. Virtual reality online learning gives hands to
• concept clarity and quick understanding
• create curiosity and more involvement in lifelong learning
• develop psycho-analytic attitudes and aptitudes
• induce clear goal setting thought
• activate reasoning ability, logical and creative thinking
• enhance scientific research and findings

Virtual reality develops the techniques to influence learners' behaviour, interpersonal and communication skills. As we spend more and more time in virtual space, there will be a gradual migration to virtual real life resulting in important changes in global technological world and leads to realistic awareness. The design of virtual environment develops basic human rights in virtual space and promotes human freedom and social stability.

CONCLUSION

In the modern information society, there is an emergence of lifelong learners who have to access knowledge via ICT to keep pace with the latest development. Using online virtual reality in online learning is the most realistic option. The learners are more self motivated and willing to learn and interact fully with the technology as well as with the instructor and encouraging to take responsibility for their effective advanced learning.

REFERENCES

Ahmad Kharaz, Ouyang Xun, Thorn Richard. (2006). Constructing Virtual Environments for Real Time E-learning. International Journal of Computer Science and Network Security.

Brooks, Jr. F.P. (1999). What's real about Virtual Reality? IEEE Computer Graphics and Applications.

Burdea, G. & Coffet, P. (2003). Virtual Reality Technology (2nd Ed). Wiley - IEEE Press.

Kaura, H.K. (1998). Information Technology in Education and Research, R. Vogil & N.M. Singhi (eds). Indian National Science Academic & Jain, Inter Science Press, Delhi.

Mychilo Cline. (2009). The Future of Virtual Reality "Introduction to the Future of Virtual Reality" Virtual Reality University Village Press.Com.

Pimental, K. & Teixeira, K. (1993). Virtual Reality, New York, McGraw Hill.

Rheingold, H. (1992). Virtual Reality. Simon & Schuster, New York.