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Education

WEB BASED LEARNING IN CHEMISTRY

P. Bakkianathan Research Scholar, Department of Education (DDE), Alagappa University, Karaikudi.

Dr. S. Leo Stanly* Associate Professor, Department of Education (DDE), Alagappa University, Karaikudi. *Corresponding Author

ABSTRACT In E-Learning, a teacher's approach has an impact on students' understanding of content and their motivation for learning. Many studies suggested integrating technology that includes You tube, in teaching and learning may increase students' understanding, attention and interest in exploring scientific ideas. It is a world wide demand for integrating technology in science teaching and Learning. This paper presents an analysis of the web which includes You tube videos, MOOC, Cloud Computing. That were used in the field of Chemistry as well as identification of exemplars the advantages and disadvantages of these techniques, particularly in the field of Chemistry. The Advantages are: first, the use of these You tube, MOOC and Cloud Computing are self accessible, second, interesting, third, Safety for students to conduct the hazardous experiments.

Our intention is to discover a novel pedagogical design which will enhance the learning experience in You Tube, MOOC, Cloud Computing thus implement and evaluate a prototype of a learning intervention where web platform can be utilized to increase the effectiveness.

KEYWORDS : Web Based Learning, Chemistry, YOU TUBE, Animations, MOOC, Cloud Computing.

INTRODUCTION

Technology is today meshed with every aspect of our lives, from helping to perform daily chores more efficiently to performing highly complex industrial and technical tasks that are difficult for a normal human being, it is making life as we know easier, simpler and more fulfilling.

Technology is also significantly transforming the way we learn. Use of technology in chemistry has helped us to transcend barriers which were once deemed impossible to breach. Its effects can be felt in almost every aspect of Chemistry. Today's young People "digital natives", have grown up in an immersive computing environment, where a note book and pen may have formed the tool kit of prior generations, Today's students come to class armed with smart phones, iPods and Laptops.

"Technology allows students to become much more engaged in constructing their own knowledge and Cognitive studies show that ability to key to learning success" Says New York city based Queens college, Vice President of Institutional advancement, Susan Henderson.

INTEGRATING TECHNOLOGY IN CHEMISTRY LEARNING

Besides biology and physics, chemistry is one of the strands in science. Chemistry deals with materials and concepts that are not possible to be seen in real life; they are more abstract than real. It requires for both teachers and students to use their imaginations and visualizations of things.

The organic chemistry topic is tough to learn since the concepts are abstract. Moreover it's vital for students to actually comprehend the concept in advance of entering college or University because an information deprived, concept or misconception developed in secondary school may have a greater influence on their understanding during the tertiary stage of education. Therefore acquisition of basic concept in secondary school is imperative leading to an improved understanding and problem solving ability in Chemistry, Humor and sound effect precisely contribute momentously in stimulating the students imagination.

Therefore with the improvement of technology, chemistry learning has to be more attractive and interactive to provide meaningful learning to the student Technology, as a learning aid, can provide picture of the concept behind the process that is applied. Innovative and interactive approaches to teaching and learning of Chemistry engage students more intimately as compared with the customary classroom method Students of this new age, possess noteworthy information and communication technology skills. It would then be advantageous to utilize these cultivated or enhanced skills in learning chemistry. For instance web based learning, add the advantage in learning because they reflect and recognize the intensely diverse learning style of the present day generation of students.

CHEMISTRY LEARNING THROUGH YOU TUBE

A widely used channel to post a video is You tube. without any limitation and regulation, where anyone having his /her own account, one can post any video one wants, either created or taken from other sources with consideration of ethical issues through proper acknowledgement.

Students generally accept natural resources, but some, in particular, demonstrated a degree of fear and dislike (Chemo phobia) for attending a chemistry class in secondary schools.

You tube offers a rich learning improvement through which students of chemistry and members of general public can be engaged, as well as chemo phobia can be addressed. Other benefits of such videos include the development of learning activities in which students are optimally engaged with acquisition of mostly presentation skills, enhanced creativity and are empowered to become global educators. By making and creating the learners own video, publishing and sharing it with the public this activity also helps members of the general public to feel closer to science as well as to make science easier to learn and apply. It is evident that video making is a means of engaging students in the propagatam and explanation of science. They enjoy themselves and became creative. It can increase open appreciation of Chemistry as an important instrument to satisfy the needs of a society, to develop young people's keen interest in studying Chemistry.

ADVANTAGES OF YOU TUBE

The advantages are (i) self - accessible (ii) Interesting & (iii) safety.

MASSIVE OPEN ONLINE COURSES (MOOC)

E-Learning has been practiced for more than 10 years. The term E-learning is described as the use of electronic medium to learn remotely. In practice E-Learning was less followed and in person class room - based didactic lectures were identified as a major source of educating students. However with the time, technological development and the trending sociological culture, E-Learning became a solution for the Universities and Institutions to deliver education effectively and efficiently. Yet it was facing major problems such as students often complaining the isolation, less interactivity and less Collaboration which they used to have in face to face class room environments. However in 2012 a new phenomenal Educational technology was introduced as MOOCS (Massive Open On line Courses). MOOCS are trending because it opened educational opportunities for many who cannot afford education offered by elite universities for free of charge, resulting thousands of enrolments to online courses. In 2012, New York times pronounced the year of MOOCS, since giant MOOC players were introduced, such as edx, Coursera and Udacity. In Chemistry, MOOC Platform includes 5

main functions, massive online student dat Management, Independent course data management in Chemistry, pressure bearing design of all Chemistry video's, online test in Chemistry test score statistics and chemistry course data management.

They argue that the learner is focused on lecture based learning where platform does not facilitate or encourage the skills required for 21st century such as critical collatrative learning Effectiveness for online learning are widely available with empirical evidence The world is moving to many online learning technologies and MOOCs found to be one of the intervention. We believe that the new learning model design will aid students to meet the challenges in the 21st century.

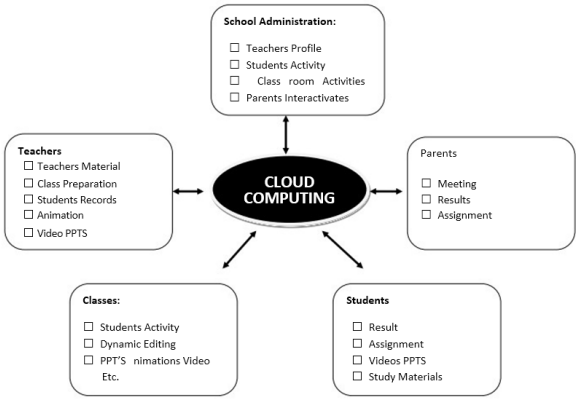
CLOUD COMPUTING IN CHEMISTRY EDUCATION

Cloud computing is a type of internet based-computing that provides shared computer processing resources and data to computers and other devices on demand. It is a model for enabling Ubiquitous, on demand access to a shared pool of configurable computing resources which can be rapidly provisional and released with minimal management effort, Cloud computing and storage solutions provide users and enterprises with various capabilities to store and process their data in either privately owned, or third party data centers that may be located for from the user ranging in distance from across a city to across the world. Cloud computing relies on sharing of resources to achieve. Coherence and economy of scale, similar to a Utility over an electricity network. In other words, cloud computing is a process of delivering scalable, expandable and almost perfectly elastic software services using internet technologies. It is a method of delivering soft ware as a service, delivered in a pay-per-use basis. It provides self service compabilities to users with scalable features to increase usage on requirements.

IMPLEMENTING CLOUD COMPUTING

To implement the cloud on the education we first build the system to create the cloud and upload the documents files, images, videos on the cloud. Then we can access it from anywhere. In schools and colleges, teachers, students can prepare their own documents and share it with the others. Also, by creating the dynamic changes in the documents or in the presentations we can show animations or perform experiments on the documents.

ROLE OF CLOUD COMPUTING IN EDUCATION SYSTEM



- No more carrying around devices.

- **Easy access**

Lesson plans, labs, grade, power point slides, just about anything digital that you use in teaching is easily uploaded and accessed anytime .

- **Stability:**

cloud computing is now to the point of being a very stable technology that you can rely on.

- **security:**

Your data, content, informations images - anything you store in the cloud usually requires authentication (ID & password), so it is not easily accessible to anyone.

- **Shareability**

Working on an instructional assignment with other teachers. You can share some or all of your files that you have stored in the cloud.

- **Trackability:**

Make changes to a lesson and want to change it back? No problem. Cloud computing will save multiple revisions and versions of a document so that you can chronologically trace back the evolution of an item.

CONCLUSIONS

Chemistry can learn a lot from technology. We see a lot of leap frogging taking place in technology. This is drive by people's ability to see how they can instrumentalise it in their lives. There is a lot of entrepreneurial interest to monetize it for various public goods. Its outcomes are very transparent and quite clear .

Much of the work of chemists in Universities is influenced by metrics used to judge success. At the moment it is not always considered terribly good to do rather applied and less glamorous research.

As Chemistry teaching and learning is shifting towards a new direction we anticipate that a more student centered learning approach will be engaged and made possible through the effective use of digital technology; especially in the way students used web, cloud computing, MOOCS, Animations, you tube. Recent education reform have identified the importance of technology enhanced science learning, which can be achieved in chemistry education through web based learning. Therefore, the development of web based learning will become an important feature of education for future learning of chemistry, especially for those processes which are impossible to implement in a traditional school learning environment.

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