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Technology based tools for effective teaching-learning

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Abstract

Present age is the age of science and technology. Just with one click of mouse, people can easily access knowledge and information. In this so advanced age, students also expect technology equipped teachers. There are so many techno-tools available for effective teaching and learning. Technology can encompass all kinds of tools from low-tech pencil, paper and chalk-board, to the use of presentation software, or high-tech tablets, online collaboration and conferencing tools, and more. Now a days teaching learning skills underscore the need to shift from traditional teacher centered pedagogy to more learner centered method. There are various multimedia tools available, by using that a teacher can enhance learning of the learners. There is no need of so much expensive software for it. Many options are available –some are free and work inside web browser. Prezi and One note are some of the presentation tools available on web. There is always some cautions are necessary while using technology in the class-room. The techno-tool to be used should be in well tune with the class standard. The role of the teacher is not just imparting knowledge and skills but to act as a facilitator of learning.

Keywords: Technology, tools, teaching, learning, software.

1. Introduction

Technology integrated learning is not a new concept. Teachers always look ahead to provide their students higher learning experiences. If we think about twenty years back, there were overhead projector, epidiascope etc. available for teaching and learning. But now it gets replaced by many other new techno tools with latest software. The one example of it is Internet, which has made the latest information available to everyone with access in a matter of moments and provides real time information about the happening around the world. Technology should never be used in teaching for the sake of teacher. It should be used for the achievement of goals set by the teachers for their students. Technology is quite helpful in promotion of learning and motivation of the students. When students have full control over their learning, their self-confidence also improved. In this present age of technology, students expect techno-savvy teachers. So, it is need of present hour that a teacher should well equip with techno-tools available for teaching and learning.

The word 'technology' means the application of scientific knowledge for practical purposes (Oxford Dictionaries). The net era allows students to focus on development of higher order cognitive skills. Technology is the making, modification, usage, and knowledge of tools, machines, techniques, crafts, systems, and methods of organization, in order to solve a problem, improve a pre-existing solution of a problem, achieve a goal, handle an applied input/output relation or perform a specific function. It can also refer to the collection of such tools, including machinery, modifications, arrangements and procedures (Patra, 2014) [5].

According to Centre for Teaching and Learning of University of Washington (2015), the term "technology" refers to advancements in the methods and tools we use to solve problems or achieve a goal. In a classroom, technology can encompass all kinds of tools from low-tech pencil, paper and chalk-board, to the use of presentation software, or high-tech tablets, online collaboration and conferencing tools, and more. The advanced technology allows us to try things in physical and virtual classrooms that were not possible before it. It is now common that we use technology in planning, developing, implementing and evaluating educationally effective learning, teaching and assessment using digital learning technologies. It includes designing learning activities and assessment tasks and exploring emerging and innovative approaches to enhance students' learning provision (Educational Development in the Centre for Lifelong Learning, University of Liverpool).

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2. Technology based Tools

In twenty first century teaching learning skills underscore the need to shift from traditional teacher centered pedagogy to more learner centered method. There are various multimedia tools available, by using that a teacher can enhance learning of the learners. There is no need of so much expensive software for it. Many options are available –some are free and work inside web browser even no need of downloading. Texas Learning Sciences, The University of Texas at Austin (2015) suggested as:

2.1 Screen Casting

Jing: Jing is a free download that allows recording screencasts and taking screencasts quickly and easily on computer. Because it is a free version, so limited to a recording a maximum of 5 minutes of video.

2.2 Video Editing

iMovie: iMovie is a full featured video editing software that is fairly intuitive to use. Import and trim the course content and add subtitles and special effects. It works with Mac. Some older Macs even come with it preinstalled.

Windows Movie Maker: With features similar to iMovie, windows Movie Maker is a quick and easy option for the PC user. Most windows systems come with it pre-installed.

2.3 Content Management

iTunesU: It is a free content repository, content management and distribution service provided by Apple that allows faculty to build and distribute online course content (audio, video and documents) using the Apple iTunes store and primarily targets apple mobile devices such as iPhones and iPads.

2.4 Photo Editing

Photoshop: It is robust photo-editing software with new workflow capabilities and very advanced tools. Its capabilities are almost endless-even experienced techies may find they only use a fraction of Photoshop's capabilities.

Pixlr: This browser based editor is easy to use. An editor like Pixlr allows doing the basics- crop, retouching and adding text to photos but there is much more. With tools similar to Photoshop i.e. the magic wand, the clone stamp and a no. of filters along with mobile support, Pixlr fulfill the majority of editing needs.

2.5 Combination Tools

To create collage like experiences that combine different kinds of video or screencasts with other multimedia like images, audio or documents, these are the following browser based and free content authoring tools:

Voice Thread: This is a flash-based tool that allows using multimedia creatively. One can use over 50 different file types and create immersive experiences with course content. Voice Thread includes the ability to collaborate with other content creators, commenting, sharing and analytics on users' use. It provides support to educators, most notably a series of webinars that showcase strategies for using Voice Thread to enhance instruction inside the classroom. It is mostly free but some advanced features require licensing.

2.6 Presentation Tools

Power point and keynote are solid starting points for creating presentations. Here are some presentation tools:

Prezi: It is an interactive presentation tool that allows to create presentations similar to power point but without restricting to linear visual paths. It has a free version with templates one can use to get started. There is a need to pay for extra features.

One Note: One Note is a Microsoft Office product that runs on tablet and personal computers and allows annotation on top of any Microsoft file. Imagine presenting a problem via power point and having the ability to work that problem directly on the slide. It also allows users to save their annotation as part of the file for later viewing.

2.7 Sharing Online

Scribed & Slide Share: Making documents and presentations available on the web easily can be possible with these tools. Both tools are free and allow the learners to view their uploads in their own viewer so instead of having to download the documents and open then in Word or PowerPoint, they can scroll through them right on the screen where they have embedded them.

3. Precautions while Using Technology based Tools

There is always some cautions are necessary to avoid using technology merely for effect, without knowing how it will helpful in enhancing learning. Marion, D. (2007) stated some points which must be kept in mind while using techno tools in classroom:

1. The learning objectives should be clearly defined.
2. The teacher should never use technology in teaching for his or her own sake, but for achieving the specific learning objectives set for learners.
3. New technologies are evolving constantly, so choose an appropriate technology based tool.
4. Manage time with the resources efficiently. Set goals for completion of task with the help of the students
5. The teacher must ensure to determine if technology enhances learning or merely for effect.
6. The techno-tool to be used should be in well tune with the class standard.
7. The learning assessment tool should prepare in advance.
8. Before using in classroom, the teacher should become familiarize with technology associated with tool.
9. Back-up lesson should be prepared along with technology based lesson, so that can be used in case of technology malfunctions.

4. Advantages of Techno-tools

4.1 Easy to Access Information: Students had to venture libraries for sorting of books in the searching of some new information previously. But, now with one click on internet, huge reservoir of information is there. Students can easily gather required information.

4.2 Easy to Edit Written Work: Previously students use typewriters for writing and they had to recopy all if there was a single error. But, in this digital era, students can easily edit, proofread the papers with no frustration and irritation.

4.3 Help to Motivate Students: In a class-room, individual differences are always there. It is difficult on the part of a teacher to teach all the students with same pace. Technology has solved this problem. With the use of techno tools, every student can learn at his or her own pace. Students get motivated, pay attention towards lesson and improve their self-confidence.

4.4 Easy to Communicate Information: Students can communicate instantly with each other through techno tools by chatting, e-mailing with computer or smart phones etc. Information can easily share among all learners of some group.

4.5 Provide Various Ways of Presentation: Teacher can gather various information about lesson from the internet and present that in the form of audio clip, video clip or slide show. Students get interested in lesson and will go for further learning.

5. Conclusion

It is essential to use new technology in the class-room for providing opportunities to students to learn to operate in an age of information and technology. Techno tools provide users with the opportunity to personally control their learning and easily communicate with their peers. It also improves the learning process by increasing the students' motivation and easy acquisition of basic skills. For a teacher, it proves a great job to select the best technology based tool while not losing sight of goals of pupils learning. The role of the teacher is not just imparting knowledge and skills but to act as a facilitator of learning. This change can happen if teachers are trained properly in handling technology integrated tools and integrate them in teaching and learning process.

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