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COMPUTER ASSISTED LEARNING: A BOON OR A BANE

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ABSTRACT

Technology in the form of gadgets and applications has penetrated every sphere of our lives. People of different ages use technology for every task, from the mundane to the profound. There is a gadget for this, there is an app for that. We commonly hear these words in everyday conversation. It is no surprise then that the field of education has come under the same onslaught. Everyone from students, parents, teachers, schools, private organisations, governments seems to have a say in how technology will transform education. Schools assess their own progress based on technology integration. Parents assess the quality of schools based on technology integration. Students think that more technology means the school is advanced. The Computer Assisted Learning (CAL) programme is an endeavour to make the content of textbooks easier, interactive and more stimulating. The main task of the programme is to develop interactive education software, based on the national curriculum. The purpose of this paper is to investigate whether Computer Assisted Learning (CAL) is a boon or a bane when educating students.

INTRODUCTION

Computer Assisted Learning (CAL) is the use of technological tools to improve education. It is a systematic process for designing instruction or training used to improve performance. It facilitates the learning processes and increases performance. Schools have not been left out in these advancements. Classroom technology has become increasingly more popular. Each tool provides teachers with a method in which they can actively engage their students. These tools or devices are Internet, LCD Projector, Smart Board, Laptop or Computer, Digital Camera, Tablets, etc. These can help students to make lessons fun, interesting, and more effective.

CAL uses a combination of text, graphics, sound and video in enhancing the learning process. The computer has many purposes in the classroom, and it can be utilized to help a student in all areas of the curriculum. CAL refers to the use of the computer as a tool to facilitate and improve instruction. CAL programs use tutorials, drill and practice, simulation, and problem solving approaches to present topics, and they test the student's understanding. Computer Assisted Learning (CAL) describes an educational environment where a computer program, or an application as they are commonly known, is used to assist the user in learning a particular subject.

COMPARISONS BETWEEN COMPUTER ASSISTED LEARNING (CAL) AND TRADITIONAL TEACHING METHODS IN EDUCATION

Traditional book and lecture teaching represents a one-way communication with the student. These resources may not stimulate the medical student sufficiently. This implies that there is limited possibility for interaction with the teaching resources. Computer Assisted Learning (CAL), on the other hand, encourages the student to learn more effectively by providing the possibility for interaction with the media, at a personally chosen level. For example, many of the programs often demand that the student ask for relevant information about the current situation in order to proceed. CAL also supports the student to go through the material at their own pace and repeat chosen parts, without involving an academic or other students. CAL is especially valuable when the program contains the possibilities of direct contact with on-site academics. There are several advantages in comparison to the more traditional teaching methods, in particular the standard lecture and text book. For example a web page may be accessed at any time and over any distance unlike a library book, also there are no limits over access. The entire content of the course is completely available and the content can be easily modified and updated. CAL systems can be used in the privacy of the student's home at a convenient time determined by them. One of the big advantages of CAL is that it allows one to proceed at one's own pace, making any number mistakes all without the pressure of being observing directly.

IS USING TECHNOLOGY ADDING VALUE?

This is by far the most important question to answer. If we use a tablet as a substitute for a textbook, the technology is not adding any value only the medium of information dissemination has changed. The child gets the same information from the text book without the harm of the screen light. If a smart board in the classroom is used to show multimedia

content that is otherwise not accessible to children, then it adds value. On the contrary, if textual content is being projected, then children are better off reading from their own books. If your child is watching videos continuously on the computer or smart phone with an excuse that they are educational videos, then how is the video better? If the purpose is to observe an acid-base neutralisation reaction, then conducting the experiment hands-on is the best way. It is simple enough to conduct with vinegar and baking soda in a household kitchen. It is also safe enough for a school student to experiment on their own with adult supervision. No amount of jazz in a video can substitute for the hands on experience here. Alternatively, when the purpose is to understand the structure and function of the heart, an animation of the heart and circulatory process certainly adds value.

ADVANTAGES OF COMPUTER ASSISTED LEARNING (CAL)

1. Computer Assisted Learning provides the student with unlimited time.
2. The computer is not judgmental if the student makes a mistake, therefore the student dares to answer the computer's question without risking feeling stupid if they provide the wrong answers.
3. CAL can be repeated frequently without the computer becoming impatient.
4. CAL is individualized, that is each student is free to work at his own place, totally unaffected by the performance of any other students.
5. In CAL, information is presented in a structured form which proves useful in the study of a subject where there is hierarchy of facts and rules.
6. CAL forces active participation on the part of the student, which contrasts with the more passive role in reading a book or attending a lecture.
7. CAL utilizes a reporting system that provides the student with a clear picture of his progress. Thus students can identify the subject areas in which they have improved and in which they need improvement.
8. CAL enable students to manipulate concepts directly and explore the results of such manipulation, it reduces the time taken to comprehend difficult concepts.
9. CAL offers a wide range of experiences that are otherwise not available to the student. It works as multimedia providing audio as well as visual inputs. It enables the student to understand concepts clearly with the use of stimulating techniques such as animation, graphical displays etc.

DISADVANTAGES OF COMPUTER ASSISTED LEARNING (CAL)

1. Computer Assisted Learning leads to the decline in academics' role.
2. Group working is missing and it is a necessary skill for everyone. Hence it leads poorer social behaviour.
3. By the virtue of self placed environment, freedom, privacy and lack of self discipline, CAL generally does not provide real experience learning.
4. Many of us feel more comfortable with direct face to face interaction rather than virtual interface interaction.
5. With the structural programming pattern of CAL and deprivation of flexibility, the development of programs depend upon the subjective input of the course developers which can become redundant and may contain errors.
6. Though simulation permits execution of chemical and biological experiments, hands-on experience is missing. Moreover, CAL packages cannot develop manual skills such as handling an apparatus, working with a machine etc.
7. There are real costs associated with the development of CAL systems. Content covered by a certain CAL package may become outdated. A very high cost is involved in the development of these packages. If the course is outdated, the resources involved in its development will be a waste.

CONCLUSION

The detailed analysis of Computer Assisted Learning (CAL) and its various feature, usage suggest that CAL has the potential to totally transform the education process and remarkably improve the efficiency of learning by providing great motivation to kids. Now it's practically impossible to ask kids not to use smart phone or laptops but CAL presents a way where we can use this technological access which today's students have to their own good. Self-pacing is yet another great feature of CAL where adaptive software's can change the graphics and study material as per student need of beginner and advanced levels. CAL also has certain limitations that underlie the importance of human touch in imparting skills and knowledge. More importantly, CAL lacks the "Guru-Shishya" relationship considered to be noble in the Indian context. With all its grandeur, the computer cannot instantly clarify the doubts of a trainee. CAL results in trainer and trainee separated by time or space, or both and in the Indian context there is no possibility for the trainer to enforce discipline on the trainee that is instructing him to focus on the content of the training when the trainee looks wayward from the class. To remove these shortcomings , the concept of "Blended Learning" is suggested

where in CAL is combined with face to face workshop between the trainer and the trainee, post training assessment by a trainer, group discussions among trainees etc. These combinations ensure transfer of learning optimally and deliverance of productive gains at workplace.

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