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A REVIEW ON INNOVATIVE WAYS OF TEACHING AND LEARNING METHODS IN HIGHER EDUCATION WITH SPECIAL REFERENCE TO INFORMATION TECHNOLOGY

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ABSTRACT
With the fast development of technology, on-line instruction has emerged as another mode of teaching and learning and a considerable supplement to ancient teaching. Web-based education uses the net and communication technologies, starting from the net as a research tool to taking on-line categories. In some instances the net is additionally used to supplement instruction, as within the use of an internet site to communicate face-to-face. On-line categories are courses that are delivered completely on the net. E-learning could also be used to describe any learning that's electronically mediate to push higher- order thinking on the web, on-line learning should produce difficult activities that alter learners to link new data to previous, acquire meaningful information, and use their meta-cognitive abilities; thus, it's the academic strategy and not the technology that influences the standard of learning. this review investigates the parts of innovative 'Information Technology' teaching strategies with relevance the educational and teaching method.

KEY WORDS: Information Technology, Computer-Assisted Instruction, Teaching, Learning

INTRODUCTION

Online learning permits for flexibility of access, from anyplace and typically at anytime primarily, it permits participants to collapse time and area but, the training materials should be designed properly to interact the learner and promote learning. On-line learning has several guarantees, however it takes commitment and resources, and it should be done right. "Doing it right" means on-line learning materials should be designed properly, with the learners and learning focused, which adequate support should be provided. Totally different terminologies are used for on-line learning, an undeniable fact that makes it tough to develop a generic definition. Terms that are ordinarily used embody e-learning, net learning, distributed learning, networked learning, tele-learning, virtual learning, computer-assisted learning, Web-based learning, and distance learning. All of those terms imply that the learner is at a distance from the tutor, that the learner uses some variety of technology (usually a computer) to access the training materials, that the learner uses technology to move with the tutor and different learners, which some variety of support is provided to learners. This paper can use the term "online learning" throughout. There are several definitions of on-line learning within the literature, definitions that mirror the variety of apply and associated technologies. On-line learning is outlined as instructional material that's

conferred on a computer. It's additionally outlined as on-line instruction as an innovative approach for delivering instruction to a far off audience, using the net as the medium. However, on-line learning involves over simply the presentation and delivery of the materials victimization the Web: the learner and therefore the learning method ought to be the main target of on-line learning.

THE TECHNOLOGY INPUTS

Computer-Assisted Instruction (CAI) represents a teaching tool that involves the utilization of a program to facilitate the education to students. Its major goal is to provide wise instruction through interactive programs that teach effectively. the tactic was initial introduced in the 1960's. Since then it's evolved so as that inside the ordinal century computers as an integral part of the education technique inside the developed countries. CAI may be applied to any or all ages and types of educations, from educational institution to skilled school and even in several employment areas. It may be utilized in a good vary of fields, as well as all the most disciplines in elementary and middle school. CAI is additionally applied within the coaching of nurses, jet engine mechanics, food service staff, law students and plenty of additional. It will assist with the teaching of individuals with physical limitations, learning disabilities and language limitations.

CAI programs are developed to offer a specific student interaction with the computer screen. For CAI developers the computer screen represents a programmable interactive communications medium. As these programs get to handle the requirements of a selected cluster of scholars, their developers aim to form a program that may teach effectively and have all the on the market expertise and experience. every CAI program is ready-made for a selected domain, topic and cluster of scholars. one among CAI's key objectives is to produce a fashionable diversity of environments and issues. to realize that the programs developed for one course could disagree drastically in their goals, tasks and elegance.

CAI lifts up the student's motivation because it provides him or her with a tougher and stimulating context than standard teaching strategies. Exaggerated motivation could result in personal satisfaction and also the feeling of challenge. It also can produce a positive perspective on type of learning.

THE TECHNOLOGY OUTPUTS

Benefits of computer-based instruction are greatest for lower achieving students and people with special wants (i.e. students with disabilities). Students in technological wealthy colleges have tendency to shell peers in colleges using ancient ways that such as; Communication and presentation skills, complex, multi-step problem-solving skills social awareness and high level reasoning skills. Others area unit the following: knowledge interpretation skills, ability to represent data dynamically, ability to figure severally similarly as collaboratively, initiative taking and talent to synthesis totally different points of read and effectively state problems. lecturers using CAI will typically deliver the goods the subsequent leads to a lot of student-centered teaching: less teaching, increased individual instruction, longer spent work and advising students, increased interest in teaching and redoubled productivity.

On-line education may be a method by that, students and lecturers communicate with each other and move with course content via Internet-based learning technologies. It's necessary to inquire concerning student and college perceptions of field environments so as to help field leaders in dynamical policies which will cause improvement of teaching and learning conditions, if necessary. The commitment of school to on-line education is effective to academic establishments and necessary within the success of latest distance teaching programs. However, on-line teaching is complicated and stringent on the faculty. Faculty satisfaction is a crucial issue of quality, at the side of student satisfaction, learning effectiveness, access, and institutional cost-effectiveness. Elements of school satisfaction got to be investigated as on-line education becomes a lot of prevailing and dynamic forces like adoption rates, learner expectations, levels of support, and different conditions still change. Quality is vital within the delivery of all courses and programs, notwithstanding the atmosphere within which they're delivered.

Therefore quality framework for on-line education is student satisfaction and college satisfaction.

Because the use of CAI varies looking on the target cluster and subject, CAI programs never follow one theoretical model of instruction. In several of them the instruction is organized as interaction between a student and an educator. Different programs look for to form an enticing and motivating atmosphere in an exceedingly drive to encourage the educational method. one amongst CAI's key objectives is to supply an upscale diversity of environments and issues. to realize that the programs developed for one course might disagree drastically in their goals, tasks and elegance. Because of the work's quality, CAI program developes area unit needed to own important expertise within the computer medium. There are many aspects of CAI that facilitate learning. These embody the flexibility to alter information; the presence of enlivening objects on the screen; the obtainable follow activities that incorporate challenges and curiosity and also the incontrovertible fact that it provides a fantasy context and provides the learner a alternative over their own learning method. The advantage of personalizing data is that it boosts the students' interest in an exceedingly given task. It's easier for an individual to integrate new data if his or her name or another acquainted contexts seem in an exceedingly drawback. This is often very true once talking concerning teaching youngsters and tykes. Developing an honest CAI program needs ability in taking advantage of the computer characteristics, smart organization and substance within the study space with a keen awareness to the reaction of scholars.

LITERATURE SURVEY

In the mid-1950s and early Nineteen Sixties a collaboration between educators at university in California and International Business Machines Corporation (IBM) introduced CAI into choose elementary colleges. Initially, CAI programs were a linear presentation of knowledge with drill and apply sessions. These early CAI systems were restricted by the expense and therefore the problem of getting, maintaining, and using the computers that were accessible at that point.

Programmed Logic for Automatic Teaching Operations (PLATO) system, another early CAI system initiated at the University of Illinois within the early Nineteen Sixties and developed by management information Corporation, was used for higher learning. It consisted of a mainframe that supported up to a thousand terminals to be used by individual students. The Time-shared Interactive Computer-Controlled info television (TICCIT) system was a CAI project developed by Mitre Corporation and Brigham Young University in Utah. With the arrival of cheaper and a lot of powerful personal computers within the Eighties, use of CAI enhanced dramatically. A recent development with way move implications for CAI is that the large enlargement of the net, a syndicate of interlinked computers. By connecting several computers worldwide, these networks modify students to access large stores of knowledge, that greatly enhances their analysis capabilities.

Computer being the foremost necessary invention of the twentieth century has dramatically and irrevocably modified the method we tend to live. one amongst the universally prescribed implication of this can be that the educated ought to be computer-literate. Some researchers opined that CAI dehumanized its users whereas others see it as some way of throwing academics out of job which laptop use can add very little worth to current school practices (Philips and moss, 1993). Schofield (1995) opined that academics would commonly not use computers if they contemplate them useless within the room. School students are having poor leads to their final year examination significantly in science subjects. Researchers have known defective teaching ways mutually of the explanations of the poor performance of scholars within the sciences at the senior school certificate examination. Hence, variety of studies concerning the ways employed in teaching Biology and therefore the alternative sciences have emerged. Jegede, Okebukola and Ajewole (1992) examined the attitude of scholars to the employment of CAI in teaching Biology through cooperative strategy. Analysis work meant to boost students tutorial performance has been exhausted alternative subjects. Learning packages are designed and used for teaching science and non-science

subjects too. As an example, Egunjobi (2002) found that laptop assisted Instruction (CAI) packages increased students' tutorial performance in a facet of geography in secondary colleges. Udousoro (2000) and Ajelabi (1998) used a similar CAI package to show arithmetic and Social Studies severally whereas Kareem (2003) used audio graphics self-instruction packages for teaching Biology ideas in secondary colleges. The present trend in analysis everywhere the world is that the input of laptop facilities to boost students learning. The interest of this present study is to research the impact of CAI Introductory Technology package on the tutorial performance of school students in Introductory Technology.

Studies confirmed that the performance of scholars exposed to CAI packages were increased in alternative subjects like Social studies (Ajelabi, 1998), geographics (Egunjobi, 2002), arithmetic (Udousoro, 2000), Chemistry (Okoro & Etukodo, 2001). There's conjointly associate in nursing teeming literature on the efficaciousness of CAI for science and alternative subjects within the elementary schools, (Christmann, Badgett and Lucking, 1997, Chang, 2000) in secondary colleges similarly as post secondary schools. This finding that is inconsistent with results of studies in alternative subject areas can be as a result of the actual fact that use of CAI packages may be a novelty within the school used and conjointly the size of the sample.

Student satisfaction is outlined because the student's perceived worth of his or her instructional experiences at an academic establishment (Astin, 1993). Perceptions regarding their learning experiences will influence students in their call to continue with the course (Carr, 2000) and impact levels of satisfaction with overall on-line learning experiences (Kenny, 2003). Student satisfaction, per the yank Distance Education consortium (ADEC), 'is the foremost necessary key to continue learning'.

Many components influence student satisfaction within the on-line setting. Bolliger and Martindale (2004) known three key factors central to on-line student satisfaction: the trainer, technology, and interactivity. Alternative parts are communication with all alternative course constituents, course management problems, and course websites or course management systems used. in addition, students' perceptions of task worth and self-efficacy, social ability, quality of system, and transmission instruction are known as necessary constructs (Liaw, 2008). Muilenburg and Berge (2005) have reportable many barriers to on-line learning encountered by students. These barriers include administrative problems, social interaction, tutorial and technical skills, motivation, time, restricted access to resources, and technical difficulties. Alternative barriers embody unfamiliar with roles and responsibilities, delays in feedback from instructors, restricted technical help, high degrees of technology dependence, and low student performance and satisfaction (Simonson et al., 2009).

School satisfaction may be a complicated issue that's difficult to explain and predict. Enclosed constructs are triggers represented as changes in manner and mediators like demographics, motivators, and conditions within the setting that influence alternative variables (Hagedorn, 2000). School satisfaction within the context of this study is outlined because the perception that teaching within the on-line setting is 'effective and professionally beneficial' (ADEC). as a result of schools are instrumental within the success of distance education schemes, levels of college satisfaction area unit} one measure for the assessment of program effectiveness (Lock Haven University, 2004). Conceição (2006) found out that almost all participants in a very phenomenological study indicated on-line teaching 'gave them some form of satisfaction' (ADEC). Fredericksen, Pickett, Shea, Pelz, and Swan (2000) reported a high level of faculty satisfaction in a very giant on-line network in postsecondary education. Many motivating factors within the participation of college in distance education and barriers to school adoption are known within the literature (for e.g. Durette, 2000; Fredericksen et al., 2000). These factors have the potential to influence school satisfaction within the on-line setting.

One amongst the foremost typically cited reasons of why school wish to teach on-line is that the indisputable fact that on-line education affords access to teaching for a a lot of numerous student

population (Rockwell et al., 1999; Sloan consortium, 2006). Another motivating issue is that school perceives the net setting as a chance for college students to interact in extremely interactive communication with the trainer and their peers. School satisfaction is absolutely influenced once school believes that they'll promote positive student outcomes (Sloan consortium, 2006). Alternative intrinsic motivators embody self-gratification (Rockwell et al., 1999), intellectual challenge, and an interest in victimisation technology (Panda & Mishra, 2007). This setting provides school with skilled development opportunities (Rockwell et al., 1999) and analysis and collaboration opportunities with colleagues (Sloan consortium, 2006).

OUTCOME OF RESEARCH

The essence of teaching by the academics is that learners can learn. once learning takes place, educational performance is automatically increased. It's thus, necessary that this teaching strategy (computer aided instruction) ought to be place to use in secondary faculties. Specialists in operation ought to be used to show pc acquisition and utilization in secondary faculties.

The analyses are useful in justifying the benefits of CAI such as;

a) Easy to vary the instruction, follow examples, and tests.
b) Feedback is immediate or delayed, comprehensive or partial.
c) Good lesson integrity, Self-administered and Automatic record keeping.
d) Individualized, bespoken for users who want specific skills.
e) Program-user interaction will usually be magnified, that offers additional lesson management for additional advanced learning that may be motivating for a few users.

The analysis has facilitated in understanding the acceptable levels of student satisfaction within the on-line atmosphere supported motivation, success and completion rates. The analysis can facilitate throw light on college satisfaction supported motivation. On-line teaching could be a complicated task that needs commitment from college and might be time intense and demanding. As on-line teaching has become an expectation and part of instructors', on-line instructors in university settings expertise average emotional burnout levels, high levels of depersonalization, and low levels of non-public accomplishment. Such findings can facilitate within the development, implementation, and maintenance of on-line courses and programs. as a result of college satisfaction is one amongst pillars of quality, it's necessary and wishes to be ceaselessly assessed to assure quality on-line academic experiences for college and students.

SCOPE OF RESEARCH

The analysis can facilitate in any work the subsequent aspects in reference to innovative teaching ways exploitation computers in higher education:

1. To develop Programmed learning material and pc assisted learning programme.
2. To check the effectiveness of computer assisted Learning (CAL) programme with reference to programmed learning and ancient teaching.
3. To check students' reactions towards learning through the CAI.
4. Gaining attention to big aspects of the computer program is that the initial event of instruction.
5. To develop associate degreed validate an instrument that may be wont to live perceived school satisfaction within the context of the net learning setting.
6. Investigate challenges of and barriers to school teaching on-line and college satisfaction.
7. Perceive the impact of teaching within the on-line setting.
8. Investigate teacher /faculty-related problems within the context of the net learning setting.

RECOMMENDED RESEARCH METHODOLOGY

The analysis methodology may include sample, knowledge assortment and instruments (questionnaires) relating the analysis design supported by statistical assumptions like Descriptive statistics, co-relational analysis and dependability.

A. Sample: The sample will accommodates the complete population of on-line instructors of a selected instructional institute that support distance learning and reaching services. The samples size can embrace the overall variety of males and females of various age group listed. this may conjointly take into thought the scholars coming back from urban and rural areas.

B. knowledge collection: All on-line instructors at the establishment are often contacted via email and invited to participate within the study. they will be given data concerning the study Participants would required to log in to a secure server web site so as to complete the questionnaire, wherever all responses were anonymous and confidential. The self- rumored knowledge are often analyzed to verify the factors relating college satisfaction.

C. Instrument: A survey form is going to be generated with a 4-point Likert scale, starting from one powerfully disagree to four powerfully agree. The queries are going to be supported the results of the literature review, including articles relating challenges of and barriers to college teaching on-line and school satisfaction. Once the elements area unit known, researchers can specialize in problems that directly impact teaching within the on-line setting. things are going to be developed for every of the subscales: (a) student-connected problems, (b) instructor-related problems, and (c) institutional-related problems respectively. The dimensions things are often compared to alternative instruments revealed in alternative literature.

Any the subsequent eight CAI style systems could also be enforced taking into thought a selected subject for teaching;

1. Design-by-Type. in keeping with ''design-by-type,'' CAI is one in every of four sorts of tutorial computer programs that outline the sphere of CAI, that area unit distinct from one another: tutorial, drill and apply, simulation, and game.
2. Favorite Feature. The ''favorite feature'' guideline states merely that CAI is that the most applicable technology for teaching people one thing new or for giving them machine-controlled apply.
3. Favorite technique. The ''favorite method'' guideline says that CAI could be a pedagogy that's particularly smart for teaching novices.
4. Balance-the-Input. in keeping with the ''balance-the-input'' guideline, CAI could be a mixture of 2 separate types of representations within the user's mind, ''logogens'' and ''imagens.'' Logogens area unit the non-public mental representations of words we tend to hear or browse — either spoken or written on-screen text.
5. Most Impact. The ''maximum impact'' guideline acknowledges CAI as a lot of complicated mixture of personal acoustic pictures, inner eye sensations, and sub-vocalizations from an inner voice to our internal ear.
6. Psychological feature Load, First. The ''cognitive load, 1st'' guideline maintains clear preference for method over outcome — look to the user's mental process first, and therefore the learning out- return can beware of itself.
7. Structuring Sound Functions. in keeping with the ''structuring sound functions'' guideline, CAI could be a technique of serving to a user to focus their own attention throughout interaction with a laptop
8. Whatever Works. As a suggestion for planning CAI, no matter works relies on the intuition of the developer, that's to mention the preferences, predispositions, and experiences of the designer

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