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Factors Affecting the Utilization and Adoption of Technology in Education

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Abstract

Education is vital in any type of society for the conservation of lives of its associates and the preservation of the public formation. The rationale of this chapter is not only to reveal the role of technology in education but also to reveal the factors affecting the proper utilization and adoption of technology in education. Prior studies carried out by researchers confirm that technology utilization and adoption in education undeniably helps teachers and learners in the teaching and learning process. This chapter serves as a stepping stone to support teachers to do better in utilizing and adopting technology in education to a certain extent as an alternative of overlooking their thoughts, efforts and desires in blindly trying to vie with the swift change of technology in education in this epoch. Hence, this chapter discusses technology in education, the roles of technology in education, factors associated with technology utilization and adoption in education and the factors that limit the proper utilization and adoption of technology in education.

Keywords: adoption, education, technology, utilization

1. Introduction

The world today is going computerized; virtually everything today is automated from manual business to e-business, from manual banking to e-banking. Even the education system is also experiencing the effect of technology. Today, the admission process into tertiary institutions is now done electronically. This is to mention but few groundbreakings into the world of technology today. Technology has come to help a man in his strenuous tasks by automating the head-aching process originally done manually by man. Equally, due to the vast role played by the technology in education in making teaching and learning uncomplicated, its significance is gradually raising in the education sector because as technology steps forward, the benefits it put forward for learners in all facet of education. According to [1], the utilization of technology in learning has get to staggering levels. Subsequently, the significant statistics are as follows:

1. 89 and 60% of conventional and private universities offer online courses respectively.

2. 50% of college presidents envisage that in the next decade, a good number students will have taken courses online

3. 62% of college presidents also forecast that in the next decade, more than half of the textbooks used will be digital

4. 57% of college graduates have used a Smartphone, tablet or laptop to some degree during classroom instruction. Even though, most institutions do not have clear policies regarding the use of such gadgets; for most institutions, it is up to the teacher to manage such uses.

As new cohorts of people are exposed to highly developed technologies, applications in educational settings also grow. This flow of technology necessitates competent and talented teachers so as to sustain this emergent demand in technology. Thus, this chapter looks at the factors affecting the utilization and adoption of technology in education.

2. Technology in education

A technology that is utilized in the classroom is incredibly advantageous in supporting the learners appreciate the lessons being taught. For instance, given that there are a number of visual learners, projection screens attached to computers can be situated in classrooms to permit the learners to glimpse their notes as distinctive to sitting down and paying attention to the teacher. A good number of technologies are used to harmonize the class set of courses. These technologies put as one offered resources to students in the form of study questions, assessments and activities that may perhaps be of assistance to the students to go on with the learning process once they are not in the classroom [2].

In the present day, technology has been integrated into the school curriculum, as a result, students get used to computers to come up with exhibitions. Additionally, they make use of the internet to conduct an investigation on a category of problems intended for their compositions and critiques [3]. This proffers the certainty that, upon graduation, the learners will not beget any challenges while working with technology in the workplace, because it has the capacity to assist them in making stronger and feasible activities when correlated to an individual who has no access to technology in school. [4] corroborated that with the progressive advancements in the technological world, students are acquiring a refined path to such learning openings. Regularly, amazing and ground-breaking technology is taken into the market and the demand of the existing technology is adapted which makes it available to a great extent in the educational setting even to those schools that might not have a lot of monetary support accessible to them.

Technology has considerably developed to help the youngsters who are hitherto to start school [5]. Contrastingly, many people belief that technology "spoils" kids. For example, as objected to sitting down and learning to grasp when to calculate, they will decide on to arrange a calculator. Notwithstanding the experience, this has being contentious; though it remain to be a critical ingredient of today's social order. By adding it into schools, learners will be outfitted with scientific tools and knowledge so as to make a changeover from

school to the workplace. Without hesitation, technology has today become critical and mandatory not only in education but in each and every aspect of our lives because it offers more knowledge to learners and also making them ambitious in the labor market.

3. Roles of technology in education

Many diverse roles of technology in education are promising; these range from using technology as a tool to support the conventional way of teaching to fully technological driven. In view of the above piece of information, many students derived gratification from the use of technology in education. It is vital to bring to light the roles of technology in education as highlighted by [6, 7];

i. Technology allows students to learn in a serene environment.

ii. It acknowledges the study of a "classroom experience" without interrupting the established measure of communication.

iii. It facilitates students thought based on strengths and weaknesses.

iv. It aids the teacher to evaluate skills in a consistent and objective manner.

v. It authorizes the duplication of inherent classroom order of events that may be seldom faced in material life.

vi. It enables assessment of intricate to long-term classroom and synergies across-institutional.

4. Factors associated with technology utilization and adoption in education

The performance of technology is a multifaceted route that depends on its distinctiveness, the connections among human resources and educational settings. The following factors are identified to influence technology utilization in education.

4.1 Teacher's factor

A recurrently mentioned set of factors affecting the utilization of technology in education is linked with the teacher. The teachers' thoughts on the way to and proficiency with technology have regularly been acknowledged as the key factor connected with the utilization of technology [8]. If not a teacher cling to affirmative thoughts to technology and not expected of using it in teaching. Teacher's instructive attitude and teaching philosophy put into practice are in addition factors that appear to persuade the proper utilization uses of technology in education.

4.2 Organization factors

The purpose of school as an institute is not to unravel a distinct predicament although to lighten the pressure on the school caused by stress working outside of or overriding the power of customary control. Similarly, they obviously and

unavoidably oppose modification that will set demands on the existing practices. This implies that what emerges as a clear-cut enhancement to outsiders can to an organization be felt as deplorably upsetting if it means that societies are obliged to modify its ethics and practices for execution. The prologue of technologies necessitates a stern modification in the program of study, teaching practices, reallocation of wherewithal, and possibly reorganizing the basic composition of school. More to the point, this innate opposition to modification, organizations are assumed to contain a formation that averts widespread utilization of computers.

4.3 Technology factors

Technology itself is also among the spring of set of factors that affect its usage by teachers. Today, some contradictory thoughts on the significant effects of technology ought to be utilized in education. This directs the teachers to a state of uncertainty regarding the apt educational ethics of technology. Furthermore, the continuously varying technologies make it complex for teachers to live with the latest trends in technology. This is because, on a daily basis, new hardware and software are becoming available and the teachers find it hard and daunting to continue following this mysterious beast in technology. Thus, the nature of unpredictability makes technology less alluring for most teachers because of its undependable and can break down at any time but teachers, who have only a limited amount of time in front of students, cannot spend the time troubleshooting problems they may or may not be able to solve. Thus if not there is a strong need for the use of technology and reliable support, teachers may opt not to use it in their teaching.

5. Factors that limit the proper utilization and adoption of technology in education

In thoughtful piece of writing on the factors that limit the proper utilization of technology in education are:

1. Inadequate classroom space that will accommodate a large number of computers.

2. Teachers' distaste to take the students to computer laboratory.

3. Lack of expedient access to computers at home.

4. Inadequate infrastructure.

5. Pitiable planning.

6. Inadequate healthy human infrastructures that sustain technology advancement in the classroom.

However, more problems, though, recline beyond physical or technological compositions in the constitution of education because the formation of education developed in the preceding years is relatively contrary with the utilization of new technologies. The analysis of education as the transfer of knowledge and facts from the teachers to learners has a gigantic position for the learners to use innovative technologies to achieve significant everyday jobs.

6. Conclusion

As a driving force of gigantic transformation, technology has omen the current understanding by helping the teachers and learners to achieve the best in its utilization and adoption in education. These transformations will have a momentous ripple result on education. Over the next period of 10 years, highly developed technologies will put education in the reach of many more individuals in the world over and will permit larger interest in teaching methodologies. As this chapter indicates, these far-reaching technological transformations will in effect change the skill-sets of the upcoming employees. Consequently, the general public around the world will need to reflect on how to make the judicious use of these novel prospects and accordingly guarantee to facilitate competition in education worldwide.

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