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Abstract

Being tech-savvy in the twenty-first century is no eye-brow raiser. It is more the norm than the exception. Every academic institution across borders is trying hard to keep up with the technology outside classroom, bringing it to the students inside classrooms to help and enhance their teaching and learning experience. While their achievements have been very well received and appreciated, the negative impacts have not gone totally ignored. From defining technology in the classrooms, to looking closely at cheating, how to detect them and curb them, a lot has been written by various authors in different disciplines. This paper, however, identifies research questions that have not been addressed sufficiently in the literature and suggests specific research areas for further investigation into the possible casual implications of readily-available technology, other than the Internet, and increased online-sources on student attitude towards e-cheating.

Keywords

Ethics, e-cheating, Education, cheating, cyberethics, technology, Internet, plagiarism

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A critical review of existing literature

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ABSTRACT

Being tech-savvy in the twenty-first century is no eye-brow raiser. It is more the norm than the exception. Every academic institution across borders is trying hard to keep up with the technology outside classroom, bringing it to the students inside classrooms to help and enhance their teaching and learning experience. While their achievements have been very well received and appreciated, the negative impacts have not gone totally ignored. From defining technology in the classrooms, to looking closely at cheating, how to detect them and curb them, a lot has been written by various authors in different disciplines. This paper, however, identifies research questions that have not been addressed sufficiently in the literature and suggests specific research areas for further investigation into the possible casual implications of readily-available technology, other than the Internet, and increased online-sources on student attitude towards e-cheating.

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INTRODUCTION

At the commencement of this study, the literature seemed focused and thorough. However, as the study was carried out further, there were very noticeable gaps uncovered within the existing literature when it came to studying factors that impact student attitude towards e-cheating, particularly readily available technology and increased online sources. The distinct gap in research may very well be due to the interdisciplinary nature of the topic that ranges from psychology, to education, to library studies, to information and communication technology, each studying the cases of e-cheating in their own fields, not over-lapping. Authors found few, if any, attempts at correlating these studies to find out what, other than seemingly Internet, effect did technologies have on students, besides plagiarism.

In undertaking this research, authors have reviewed existing literature to pinpoint what has been written about technology, cheating and solutions put forward by emerging studies, but also highlighted the limitations of the literature to raise questions on the issue of possible causal implications of increased technology and effects of vast amounts of continuously increasing databases of sources on virtually all topics made readily available to students via the publicly accessible sites and academic libraries towards students' attitude on e-cheating.

TECHNOLOGY IN EDUCATION

In the last few decades, technology usability has evolved and spread to all sectors of day-to-day activities at lighting speed. Education is no different. From the World Wide Web to over-head projectors, technology is seen now-a-days as a necessary teaching and learning tool. The ease and diversity technology offers to enhance the teaching and learning experience for both the educator and the student is unparalleled.

‘Several organizations like Edutopia, the North Central Educational Lab (NCREL) and the Center for Applied Research in Educational Technology (CARET) are documenting research studies that link technology to increases in academic achievement’, Foltos (2002). Another study, carried out by European Schoolnet, showed ‘that digital content on interactive whiteboards is engaging and motivating, students pay more attention during lessons, and interactive whiteboard use encourages greater student participation in the classroom’, a. Independent Online (2007). Further, Nancy Knowlton, CEO of SMART, the company that pioneered in interactive white-board and other tools adds, ‘many studies around the world show that the use of [information and communication technology], and specifically interactive whiteboards, is effective in engaging and motivating students’, b. Independent Online (2007)

Technology has been used in its earliest form since the 70s at schools. Simple technologies from copying to calculators, academic institutions round the globe had already begun their dependencies on technology. As the decades bore on, technology began to become more advanced. ‘Over the last fifteen years [alone]...schools have dramatically increased spending on classroom technology to more than \$5 billion annually’ Foltos (2002). And why not? Where previously, teachers had to simply stand in front of the classrooms and teach while students listened and learned, ‘now teachers’ presentations have to compete with the expectations raised by the technology children have at home – iPods, Playstations and home computers’ Goff (2007). Technology outside the classroom is morphing at a lightning speed capturing students’ mind and time, creating a world that seems to only revolve around technology. From face-to-face contacts to telephones to emails and now to Facebook, students view technology as a need than a want which has surrounded their lifestyle. ‘If you look at how students learn outside of school, it’s all about computers. These are the tools we need to get them engaged in their learning in the

classroom,” says Tim Yates, director of technology at Pueblo district, Colorado, a. Royster, (2009). Christian Dickinson, an instructional leader in St. John’s County, Florida adds, ‘the kids are savvy, and we have to meet their needs’, Weil (2009).

As students graduate to join the workforce, they have to be prepared with all the knowledge and skills to make a place for themselves in the competitive job market. Mississippi State University’s Center for Science, Mathematics, and Technology believes it is important to ‘build a well-educated and trainable work force that is capable of competing in the world economy’, a. Harpole b. Kerley (2007). This can only be accomplished if students are taught their lessons and alongside ensuring they have the ability to become tech-savvy, b. Royster (2009).

Academic Institutions are also branching out to introduce or advance their technology in classrooms to gain competitive advantage over others in the market, c. Royster (2009). Daniel A. Reed, current Chair of Computing Research Association stated that ‘competitive advantage, driven by innovation, has never been more important’, a. Harsha (2009). E-learning using Blackboards, WebCT, access to the Internet, using laptops, and interactive white boards are just a few of the technologies being implemented at various schools and colleges across countries a. Khan (2006). ‘Educators are looking well beyond traditional computers and trying to give their students an edge no others have.’ Petrie (2008) This promise, in turn, is increasing the academic institutes’ popularity in recruiting students, b. Khan (2006).

IT’S ‘e’-ELECTRONIC ALL THE WAY

As technology virtually takes over the world, the concept of converting or having some sort of electronic presence, or including some aspect of technology-based service has become quite

rampant. This became a rage in the dot com era where most organizations, including academic institutions that could afford it, began to introduce a variety of technology-based services and programs, and have some sort of presence on the Internet to increase their client base. ‘The number of undergraduate students majoring in computer science significantly increased ... since the dot com boom...’ b. Harsha (2009). Invariably, distant learning morphed to e-learning, attracting greater number of schools and universities to offer such services, especially when in 2002 the global market for e-learning reached US\$90 billion, Yong (2003). This was further motivated by the ‘ever increasing [trend where] the Internet and computer technology became widespread as a daily necessity of the younger generation’ Wong (2007).

In the twenty first century, any and every computer or electronic device can and is being used as a tool of e-learning in and out of classrooms around the globe. Because learning is a social process, it is easy to see why e-learning tools have gained the popularity, Wenger (1998). Tools such as Blackboard, WebCT and so on ‘encourage student collaboration; improve team working skill and independent thinking’, a. Border b. Stoudt c. Warnock (2006).

Another aspect of academic institutions that has seen a rise in technology-based services are libraries that are encouraged ‘to adapt to the changing needs of users and meet the challenge of supplying information in the most suitable way’, a. Culture24 (2009). More and more libraries around the globe are trying to offer online services that ‘combine the benefits of a traditional library and the Internet’, a. iconn.org (2002). Students are keen on using the online services because they can use the ‘new electronic resource to tap into a rich array of databases -- from newspaper archives to state and world online library catalogs – that put information at the tips of their fingers [around the clock]’ b. icon.org (2002). Across the globe, libraries are experiencing a surge in the usage of these new services. Croydon College University in the ‘U.K. has

experienced an astonishing 472% increase in online usage of the library service', Bowker (2007). Overall, '20 per cent increase in online usage [across the U.K.] shows that library users are now renewing books, searching through the catalogues, using the world class reference resources and keeping up to date with current event listings in the comfort of their own home' b. Culture24 (2009).

TECHNOLOGY IN EDUCATION – OR CHEATING MADE EASY?

While there is extensive literature on the benefits of technology, a few have been written on its cons. Technology by itself is neither good nor bad. How people choose to make use of technology defines its character. One such example is cheating. Cheating is not a new academic problem. It existed even before technology had become so popular in the classrooms. 'On National Public Radio's "Diane Rehm Show" , Howard Gardner of Harvard University observed that 75% of high school students admitted to having cheated on a test', a. Bracey (2005). Further, literature states 'three-quarters of all high-school and college students admit to cheating on tests and papers. Not only do they cheat, but they justify their behavior as business as usual', a. Goode (2007). a. Kidwell b. Laurel c. Wozniak (2003) & a.Chapman b.Davis c.Toy d.Wright (2004) also found that 75 percent of students reported cheating [which is] similar to the 63 percent found by Nonis and Swift (1998). According to Mullens, McCabe found that '68 per cent of students admitted to one or more incidents of serious cheating, such as plagiarizing or submitting work done by somebody else ...', Mullens (2000).

It is no surprise then that technology used in academic institutions is giving rise to more cases of cheating. 'For students and academics alike, the Internet has become a valuable resource because of its potential to enhance the educational experience', a. Bartlett b. Jones c. Reid (2006).

Gaining momentum in the 90's and early twenty-first century, Internet usage reached feverish

heights in the academic world. '71 percent of [teenagers studied] relied mostly on Internet sources for the ... project they did for school and 34 percent of ... young people ages 12-17 download study aides from the Internet', a.Lenhart b. Lewis c. Rainie (2001).

However, 'academics who once praised the Internet for giving students more access to information are now worried it is providing students with easy access to pre-written essays', Connors (1996). St. Omer reported 'the majority of students, having accessed information and music regularly, failed to understand that they had appropriated the work of another individual' St. Omer (2001). This is further researched by Khan who says 'the various tools used for e-learning seem to some how cloud the judgment of students and as there seems to be a lack of prior knowledge (education) that can clearly distinguish between e-learning and e-cheating; this has caused students' perception of ethics to be distorted in certain areas', c.Khan (2006).

'The Internet and other forms of electronic technology definitely increase opportunities for cheating and dishonesty', b.Bracey (2005) & b.Goode (2007). Furthermore, 'the Internet...presents students with a world of unethical techniques and ideas', a.Renard (2000) and this in turn is giving rise to a 'generation of students who think anything that's on the Internet is free', Clayton (1997). 'E-cheating is quick and simple for students' b.Renard (2000) and that is why 'cheating can be employed by students in multiple ways with sincerity or foolishness', Supon (2008). As categorized by Lisa Renard, who is a language arts teacher, cheaters can be the unintentional type who never learned the correct way to cite and reference, the sneaky cheater who knows it is wrong and finds ways to get around it, or the all-or-nothing cheater who is last minute worker on assignments and looking for a quick fix c.Renard (2000). '...a quarter of college students surveyed have plagiarized from the Internet, but students perceive that significantly more students than that are doing so', Scanlon (2004). Additionally, term paper

mills have always existed around the globe and for years, however, the ease of getting the papers has increased with various web sites, making them more accessible, Born (2003) & Park (2003). ‘When students are using technology as a tool or a support for communicating with others, they are in an active role rather than the passive role of recipient of information transmitted by a teacher, textbook, or broadcast’, a.Means b.Olson (1997). Most often than not, adults in disciplinary/educator roles such as teachers and parents fail to understand this. ‘The perceptions and attitudes of students must be considered in the use of instructional technology, if we hope to use technology to enhance the educational experience of our students.’, Smith (2002). But, studies clearly show this is not so. Furthermore, ‘academics and institutions should understand how students ‘see’, read’ and ‘use’ e-learning’, a.Khan b.Samuel (2007).

FURTHER RESEARCH AREA

As has been shown in this paper, studies have been carried out extensively to highlight the importance of technology in the field of education around the globe. There has also been research carried out to demonstrate the negative impacts of some technology. However, in the process of reviewing existing literature, no body of research has been found that provide clear and consistent proof that readily-available technology and increased online sources have any kind of impact on students’ attitude towards e-cheating.

Calculators, for instance, are very much a part of technology that have upgraded over the last decades to become part of e-learning. Calculators were a breakthrough way before computers had become common place at every home. It was definitely a technology above the use of booklets with pre-calculated tables and slide rulers, a.Calculator.org (2009). In 1965, the first pocket calculator was introduced to the market; by 1974 it had achieved providing four functions with LED screen, and although it was well over a decade before school children had their own

pocket calculators, the technology advanced rapidly, b.Calculator.org (2009). Now-a-days, calculators range from simple scientific to graphic to programmable with large amounts of memory space, data wires to allow sharing of information, formulas and so on among friends.

However, where calculators make it easy for students and adults to make quick calculations, they are 'becoming a mental crutch for students, rather than a tool that promotes higher order learning', a. bsmarte (2006). Often enough, academic institutions ban the use of certain types of calculators in examinations to ensure students are able to work out problems upon their ability rather than with the aid of technology. Such technology in the classroom is feared to 'result in an over-reliance on technology to provide solutions, thereby stifling a student's educational and creative growth', b. bsmarte (2006). There has been no literature to show the actual effects of allowing calculators in the classroom. In many schools and universities, teachers are on high alert in examination halls, keeping an eye out for programmable calculators that students can bring in with uploaded formulas and pre-sketched graphs that would constitute cheating. But, there does not seem to be any study to actually register if there is any casual implications of allowing high-end calculators that are affordable and readily available in stationary shops, on students' attitude towards cheating.

In fact, literature has been uncovered that talk extensively on how to curb problems rising from over-indulgence in technology, Bugeja (2007) & a.Clayton b.Watkins (2002) & Drogemuller (1997) & Guiliano (2000). A lot more have been written on how to detect cheating, tools available in the market and such Anderson (1999) & Carnevale (1999) & Trotter (2000). Literature has been studied that explain why plagiarism and cheating are unethical and the possible benefits of citing sources and giving references, Harris (2001). Some literature even

covers how teachers should be educated in detecting such acts and what they can do to curb them, a. Gordon b. Whiteman (2001). But there seems very little, if any, literature on why students do it. What factors drive them it. 'The student is actively making choices about how to generate, obtain, manipulate, or display information' a. Means b. Olson (1997) Academic institutions need to understand what is affecting students' attitude towards e-cheating. And how?

CONCLUSION

This review clearly identifies the gap that now exists in the literature. The authors propose a study on the casual implications of readily-available technology and increased online sources on students' attitude towards e-cheating that will target all types of technology, how students avail such technology and how they view them; and measure the rate at which libraries across academic institutions are converting to and using online sources; finally it will study how these are impacting students who do cheat whether knowingly or unknowingly, if at all.

The study will be carried out over a year, funded by the University of Wollongong in Dubai's Research Center. It will look at a sample population of over five different universities and over 300 students from varying ethnic and educational backgrounds. As the United Arab Emirates is a multicultural nation, with more than 80% of the population constituting expatriates, the authors believe the data collected will provide an unbiased result grid that may be mapped by a follow-up study in other countries to tally the findings.

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