Journal of Education and Learning (EduLearn)
Vol. 13, No. 3, August 2019, pp. 416~419
ISSN: 2089-9823 DOI: 10.11591/edulearn.v13i3.13175

The promises of presentational technology for teaching and learning

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Article Info

Article history:

Received May 20, 2019
Revised Jun 21, 2019
Accepted Jul 15, 2019

Keywords:

Learning
Presentation
Teaching
Technology

ABSTRACT

The teaching and learning styles that teachers and students apply in their teaching and learning have dramatically changed due to technological advances particularly in computer. Technological advancements are affecting the way we teach and learn. Technology has found a profound home in the world of teaching and learning. Teaching/learning technologies (TLT) have received considerable attention of many including academicians in recent years. The promises of TLT vary for the respective publics. Many insist that students today do not learn well with traditional teaching and learning methods. They argue that students require presentations that are visual and stimulating. Classroom teachers hold the key to the effective use of technology to improve learning. Whatever the varying perceptions of the promises of teaching, leaning, technology, presentation instruction in the classroom, using the Web for teaching the bulk of their course, and many other faculty are considering adopting such technologies. This paper will examine some of the advantages and disadvantages of only one type of TLT, presentational technology in the classroom, and some of the issues for faculty to consider before adopting it.

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1. INTRODUCTION

The world is changing quickly. An education theorist by the name of Fullan [1] once said, "Educational change depends on what teachers do and think – it is as simple and complex as that." This quote holds true for the ever-changing society today. However, since we live in a modern world, the technology is always changing too. Advances in technology are changing the way we do everything from making our food to researching for a project. It is not surprising the technology has also touched and effected education in many ways. Technology has brought about changes in the way that our schools are running. The use of technology is an increasingly popular activity in schools and universities. As technology becomes more sophisticated and as cost per unit goes down, its accessibility as an instructional tool in classrooms has increased. Moreover, widespread conventional wisdom indicates that our children will grow up to inherit a world that will be linked by technology, so it is important that they are familiar with it. The implementation of technology, however, is still expensive and resource intensive. Not only is it a challenge to schools and universities to procure the latest hardware and software for classroom use, it is also necessary to train teachers in its effective use. From computers to digital cameras, each small step in technology has offered many possibilities for teachers to use. The technology revolution has had a tremendous impact in the classroom. Computers can be a powerful tool. They can be a tool that will revolutionize the way that teachers teach and student learn. The advent of the computer has vastly changed the way we do things: conduct

business, communicate, and educate our students and ourselves. The uses technology have evolved from a preset program of drill and practice format to a multi-disciplinary project approach. Through there are some educators that are resistant to the evolution taking place in our schools, most educators and administrators agree that computer technology is the way of the future in classroom education. Many teachers today are beginning to realize the importance of integrating technology while teaching students. For the past decade, teachers have been attempting to reform the education system by incorporating technology into the curriculum. Technology allows for more innovative and exciting instruction which can help to motivate students. While improving students learning is a central goal, technology-using teachers express enthusiasm for additional instructional benefits of technology that may or may not be reflected immediately in measures of student learning: bringing a wider range of resources to the classroom motivating learners, providing new teaching tools, accommodating individual learning styles, and even redefining the role of teacher [2-7].

Computer assisted instruction is rapidly emerging as a new paradigm in education at every level. Teaching/Learning Technologies (TLT) have captured the attention of university administrators, academicians, and others. The promises of TLT vary for the respective publics. Many argue that "Generation X," reared on MTV students, will no longer respond positively in the classroom to traditional teaching and learning methods. The argument seems to be that students today must be captivated, if not dazzled, with fast-paced presentations that are visual and which incorporate diverse modes of presentational technologies and creative use of information from across world through use of the World Wide Web. Whatever the varying perceptions of the potential and promises of technologies for improving teaching and learning, it is the case that many faculty are now utilizing TLT in the classroom, using the Web as the source for much of their course materials, and many other faculty are considering adopting such technologies [8]. This paper will examine the use of only one type of TLT, presentational technology in the classroom, and some of the issues faculty may want to consider before adopting this technology. This paper does not make an argument for the universal use of teaching/learning technologies with which so many inside and outside higher education have become enamored in recent years.

2. ENHANCEMENT OF TEACHING/LEARNING

With regard to teaching/learning technology in higher education, colleges and universities around the world are operating with an important suppressed premise. It is assumed that better teaching and learning results from employing more technology which may include social media (e.g., Facebook, Twitter, Google Docs, blogs) that are used to improve teaching and learning in educational institutions through discussions, chat, group activities, and videos of lessons [9]. Before the introduction of technology in the classrooms, there was no attempt to make the case that employing such new technologies would improve both teaching and learning. That question was not even asked by the proponents of multimedia technology in the classroom; they assumed that it would. Colleges and universities around the world seem to be in a race to outpace each other to some technological goal without establishing what the goal is or why they entered the race in the first place. Technology allows for more innovative and exciting instruction which can help to motivate students [10, 11]. While improving students learning is a central goal, technology-using teachers express enthusiasm for additional instructional benefits of technology that may or may not be reflected immediately in measures of student learning: bringing a wider range of resources to the classroom motivating learners, providing new teaching tools, accommodating individual learning styles, and even redefining the role of the teacher [12]. According to Kirkwood [13], "Despite huge investments in technology to enhance teaching and learning, there has been a considerable lack of clarity about what this actually signifies in practice. Implementation decisions are frequently technology-led rather than being focused on clearly defined educational goals". He argues that 'joined-up thinking' is required to integrate the multiple contextual factors that all influence how technology is actually used in teaching and learning. There is something compelling about the computer and, particularly multimedia teaching that draws educators to it before they confront first principles. Persell [14] began her analysis with the question, "Can microcomputer technologies enhance teaching and learning?" Her real concern is reflected in the following quote:

Significant multimedia teaching materials have already been prepared in anatomy, music, literature, foreign languages, history, and the natural sciences. Sociologists cannot afford to ignore this innovation. We may not be ready for it if we don't begin using PCs now. … I feel that many of us in the discipline are at a bus stop, watching the bus pull out. We are torn: do we really want to go where the bus is going, or do we think there might be another one along soon. As a result, many of us have been cautious about racing to jump on the bus before it gathers speed and becomes even harder to board. We have to learn a lot about how to use these new technologies, not about programming but about how to be facile users of them, to be creative appliers of existing materials.

Clearly, Persell is compelled by the potential computer technology has for enhancing teaching and learning but her own experiments do not demonstrate enhancement. Her work demonstrates the advantage of the computer for statistical demonstrations.

Even the American Association of Higher Education's description of its "Teaching, Learning and Technology Roundtable Program" seems to assume that the use of technology will inevitably improve teaching and learning. The first sentence of the program's description reads: "The Teaching, Learning and Educational institutions organize roundtables to help coordinate and stimulate their uses of technology to improve teaching and learning" (www.aahe.org). Sharma [15] points out that technology promotes changes in teaching/leaning approaches. He argues that technology makes major differences in the way students are learning. Technology "enhanced learning environment facilities active, collaborative, creative, integrative, and evaluative learning as an advantage over the traditional method". It is reported that the use of technology had improved the quality of education, teaching, and learning [16]. Some argue that technology does not cause enhancement in learning but the question is how effectively technology is used. According to Dahlstrom and Bichsel [17] given the degree to which technology is embedded in the lives of university student, one might expect to find that students have higher expectations of technology to enhance the learning environment than did a few years ago. They did not find overwhelming evidence that this is the case. Dahlstrom and Bichsel state that students' academic use of technology is widespread but not deep. "They are particularly interested in expanding the use of a few specific technologies". The seven principles of good practice in undergraduate education are (a) interaction between the student and teacher, tutor or expert, (b) student-student interaction, (c) active learning, (d) time on task, (e) rich, rapid feedback, (f) high expectations of the student's ability to learn, and (g) respect for different talents and ways of learning [18]. These are excellent indicators of some goals in education, although the first five could certainly be measured more easily for technology-centered practices than for traditional teaching techniques.

3. LAW OF THE INSTRUMENT

In higher education so much emphasis is being placed upon technology, appropriate or not, but seldom does a discussion about teaching excellence precede putting the technology in place. That is what Kaplan [19] called "the law of the instrument." He illustrated the law of the instrument by saying, "Give a small boy a hammer, and he will find that everything he encounters needs pounding". Teaching technology is the "hammer" of education today. And just as some things the small boy hits with his hammer ought not to be hammered, I would argue that those of us who teach or plan to teach need to examine carefully the hammer, what we propose to hit with it, and whether or not this is the best tool for us to use.

It is important for the professor to avoid being trapped behind a large podium filled with technology. A professor teaching in a multimedia classroom must learn to let the lecture go, to get away from the computer and podium, to come around to where the students are and to engage them in an examination and discussion of ideas. The visual presentation may help in this process but the presentation should not become the goal. This is Kaplan's "law of the instrument," the hammer again.

4. TWO DOMINANT PARADIGMS

In an issue of the U.S. News and World Report [20], there was a special report on eight twentieth century U.S. generals entitled "The Strategists of War." The editors described this report as the first in a series about persons who have helped shape the twentieth century and "the trends that will dominate the future." In an analytical essay following this special report, Wyly [21] examined the two dominant paradigms in military thinking. He wrote:

We enter the 21st century with diametric conflict in military thinking among professionals. Technological Superiority Theory holds that high-performance aircraft, smart bombs, long-range missiles, electronic sensors, 'secure' communications, and computerized information technology will deter any less sophisticated foe. So defending the nation becomes a matter of developing technological systems, then training soldiers to use them.

Mental Agility Theory suggests that any technological barrier can be circumvented by a determined enemy dispersed so that he is less of a target, fighting at close quarters. Employing terrorist tactics, he can wreak havoc with portable munitions that may include nuclear, biological, and chemical weapons of mass destruction, or weapons of less extensive but equally deadly effects, such as high explosives, mines, and assault rifles. Under this theory, defending the nation would require fielding a substantial force of agile, well-trained soldiers capable of enduring sustained operations, and fighting the enemy at close quarters to ferret him out and create a secure, supportive civil environment.

Wyly reflects on the strategies of wars and asserts: "It was tactics, not technology that prevailed." He insists that both technology and tactics are needed but that the military leader of the 21st century will need the courage to say no to those who dream that technological wizardry will lead to clean, short wars in the future.

This paradigmatic conflict in military theory is interesting. In a field where we would suppose that technology is more important than in any other field, we are being told that it is more likely that wars in the 21st century will be won by mental agility, not superior technology. We face similar paradigmatic conflict in higher education in the 21st century.

5. CONCLUSION

Technology transformation in our lives through the use of technology tools has not had the same far-reaching effect on higher education. Instead there has been isolated packets of success, low-level and often administrative usage, as well as the lack of an educational rationale in technology usage. Certainly the issue of the role of technology in colleges and universities and how it is used in teaching and learning is complex and strewn with conflict, and there is indeed a war of theories or paradigms. With regard to teaching/learning technologies in the classroom, both technological and non-technological approaches will be needed. But to answer in this manner is no solution. It simply returns us to the problem: Does more technology, used effectively, results in better teaching and learning?

REFERENCES

[1] M. Fullan., "Change theory: A force for school improvement. Centre for Strategic Education" *Seminar Series Paper No. 157,* Victoria, Australia, 2006**.**

[2] E. P. Yildiz., "Research trends in educational technology in Turkey: 2010 -1018 year thesis and meta-analysis of articles," *International Journal of Computer-Aided Technologies*, vol. 2, no. 1/2, pp. 1-16, Apr 2019.

[3] A. Collins and R. Halverson, *Rethinking education in the age of technology: The digital revolution and schooling in America*, 2nd Ed., Columbia University, NY: Teacher College Press, 2018.

[4] J. Lever-Duffy and J. McDonald*, Teaching and learning with technology: What's new in Instructional Technology* 9th Ed., Pearson, 2017.

[5] L. Kolb., *Learning first, technology second: The educator's guide to designing authentic lessons*, International Society for Technology in Education, 2017.

[6] H. Pitler, E. R. Hubbell and M. Kuhn., *Using technology with classroom instruction that works (Second Edition)*, Denver, CO: McRE, 2012.

[7] G. Marks., *Presentational skills for the next generation*, 3rd Ed.*,* DocUmeant Designs, 2011.

[8] K. F. Hew and W. S. Cheung, "Use of web 2.0 technologies in K-12 and higher education: The search for evidence-based practice," *Educational Research Review*, vol. 9, pp. 47-64, 2013.

[9] D. Mittleman and D. Druckenmiller, *Annual editions: Technologies, social media, and society (Annual editions computers in society)*, 23 Ed.*,* McGraw-Hill Education, 2018.

[10] D. A. Almajali, R. Masadeh and R. H. Al-Dmour., "The role of information technology in motivating students to accept e-learning adoption in universities: A case study in Jordanian Universities," *Journal of Business and Management*, vol. 4, no. 1, pp. 37-46, 2016.

[11] T. Heafner., "Using technology to motivate students to learn social studies," *Contemporary Issues in Technology and Teacher Education,* vol. 4, no. 1, pp, 42-53, 2004.

[12] R. Greenlaw., *Technical writing, presentational skills, and online communication: Professional tools and insight,* 1st Ed, IGI Global, 2012.

[13] A. Kirkwood., "Teaching and learning with technology in higher education: Blended and distance education needs 'joined-up thinking' rather than technological determinism," *Open Leaning,* vol. 29, no. 3, pp. 206-221, 2014.

[14] C. H. Persell., "Bringing PCs into introductory sociology courses: First steps, missteps, and future prospects*," Teaching Sociology*, vol. 20, pp. 91-103, 1992.

[15] H. K. Sharma., "Role of ICT in improving the excellence of education*," International Journal on Computer Science and Engineering*, vol. 7, no. 8, pp. 78-81, 2015.

[16] R. S. Earle., "The integration of instructional technology into public education: Promises and challenges," *ET Magazine*, vol. 42, no. 1, 2002, pp. 5-13.

[17] E. Dahlstrom and J. Bichsel, *ECAR study of undergraduate students and information technology*, Research Report, Louisville, 2014.

[18] M. R. Ritter and K.A. Lemke, "Addressing the 'Seven Principles for Good Practice in Undergraduate Education' with Internet-enhanced education," *Journal of Geography in Higher Education*, vol. 24, no. 1, pp. 100-108, 2010.

[19] A. Kaplan., *The Conduct of Inquiry*, San Francisco: Chandler Publishing Company, 1964.

[20] G. Parshall., "The strategists of war," *U.S. News & World Report*, March16, 1998, pp. 50-82.

[21] M. D. Wyly., *Combat in the 21st century: The quality of troops will matter more than the complexity of weapons*, U.S. News & World Report, pp. 80-82, Mar 16, 1998