

Learning in the 21st Century: Theory and Innovative Practice

Latifa Rahman

*Department of Administrative and Instructional leadership, School of Education, St. John's University
8000 Utopia Parkway, NEW YORK*

Introduction

Education is a powerful transformation and quality approaches to developing new ideas to focus on performance for individual development and development of each capacity to manage their learning strategies. Current situation of learning concentrates on the shape of learning mention into surface learning to deep learning through using technology which makes students more secure knowledge and maintains their involvement with the strategies to focus. Students need the inspiration to develop their inner compatibility and excite with the challenging or complex skills for better understanding which is not limited to a bundle of lecturing. Each of the division of the mental barrier needs to break out through concern of effective teaching through technology. Problem-solving and critical thinking can accommodate student interaction in the classroom. Lecture teaching will innovative if storytelling and video interaction can possible application should involve. According to Paige (2009) adopting a 21st-century curriculum should blend knowledge, thinking, innovation skills, media, information and communication technology literacy, and real-life experience in the context of core academic subjects. To achieve authentic learning that demand in the 21st century, students engage in the learning environment. In this way, students will prepare with the necessary knowledge and life skills that will help them be successful in their future careers (Lombardi, 2009).

As an educational leader innovative practice is interesting part to illuminate frustration classroom monotonous lecture and turning practice into the massive community through using, online education, video observation, online discussion, and motivation, improve writing skills and collaborative action learning through an online portal. Jacobson (2001) argued that may technological tools can support

different skills such as problem-solving, critical thinking, collaborative learning, and the learning environment. For example, portfolios, WebQuest's, Quizzes, Wiki, Google site, Digital Storytelling, ePortfolios, and Soft Chalk Lesson Builder, Blog, etc. support these skills. Classroom teaching practices are at the core of the teachers work. At the beginning of the 21st century, teaching practices based on socio-constructivist theories become popular in educational philosophy. These theories are, to a certain degree, supported by empirical research: instructional methods based on socio-constructivist ideas, for example, student-oriented practices and cognitive activation are associated with student motivation and conceptual understanding. Cognitive outcomes may also require clear structuring of the lesson and good classroom management (Baumert et al., 2009; Creemers and Kyriakides, 2008; Klieme, Pauli, and Reusser, 2009; Lipowsky et al., 2009; Pianta and Hamre, 2001). Assessments must be supportive communication for expected learning strategies. Research shows the powerful effect that on-going assessment into the learning process has on student learning, especially for low ability students creating such a system of personalized learning requires new forms of formative and summative student performance assessments that enable individual students to stretch onward from whenever they are in a learning continuum. (Black and William, 1998).

Today curriculum and educational decisions should be reviewed and redesigned based on student's interest and their achievement research. In the 21st century curriculum, educators must integrate over 75% of future skills (Milestones for improving learning and education (MILE), 2002). Students need support to improve their performance to promote cognitive success and construction of knowledge and ability so methods should be promoting student engagement strategy based. The next generation of e-books and tablets will offer new possibilities for teaching and learning. For example, e-books could enable a more social form of study, with a group of students collaborating to read, annotate and compare one or more texts on the same topic, each working from their mobile devices (Sharples et al., 2012). Future e-books could exploit the tools built into mobile devices such as voice recorder, camera, timer, GPS (Global positioning system) locator, accelerometer, compass, and tilt sensor-for exploratory learning. And guiding

the reader through experiments like testing the properties of light using the device's camera or sound using the recorder (Sharples et al., 2012). So, the digital movement will be high-quality access, and physical materials can use without any academic destruction.

Current Policy & Alignment to standards

The policy is the thing which is helping the process by achieving specific destination to guide for an effective way to success. Effective policies always supported individual needs and organizations development. In technology uses in academic purpose than supporting technology program for giving space on a digital platform for better practice incentive structure of educational technology. And support the elements of technology integration, like professional development policy, digital work with duties and responsibilities, measuring inventory tools and approaches using web portal with safe and secure passwords and installation procedures.

The International Society for Technology in Education (ISTE) has a different vision for technology in education, which is why we developed a third iteration of the ISTE Standards for students. At their core, the ISTE Standard is about pedagogy, not tools. Which is to say, they emphasize the ways that technology can be used to amplify and even transform learning and teaching. The field of education now realizes the sufficiency of throwing digital tools into classrooms without further support and expecting valid changes in teaching and, more importantly, improved student outcomes. What has not fully realized, however, is the potential for technology to mend gaps in equity, engage student as unique individuals and prepare them for an uncertain future.

The 2016 ISTE Standards for Students have been designed to prepare students for work and life in this under certain future. As cited by the World Economic Forum (2016), “A Projected 65% of children entering grade school will work in jobs that do not exist today. The overall value of various educational practices and focus areas and to reflect in the 2016 ISTE Standards for Students rigors approach to learning and teaching with technology backed up by research, thought leadership and other data.

According to EdTech Magazine, ISTE Standards for Educators 2017 supports educators by providing a framework for learning, teaching and leading that amplify by technology and set the vision how educators can use technology to create next-generation learning environments for organizational and community's values. For the updates, ISTE received input and feedback from 2,200 educators and administrators from that around the globe. They focused on areas such as making sure educators are preparing students to be responsible citizens in the digital age and can grasp new technologies to help all students succeed.

Policy, Research, Results

Educational policy in the United States is not clearly mandated nor regulated by the federal government (Hirschland & Steinmo, 2003; Walker, Golde, Jones, Bueschel, & Hutchings, 2008), and particularly there is no policy regarding the integration of ICT in education. The range of roles for the federal government described over time throughout official reports, and legislative documents articulated the following federal responsibilities: outlining a comprehensive vision for educational technology; conducting long-range. And strategic planning for national action; the seeding of innovation in hardware and software technologies and outlining the research and development agenda; providing leadership on issues of equitable access; showcasing promising initiatives and institutional approaches; highlighting best practices; and providing support and professional development for educators (McMillian Culp et al., 2003). The incredibly rapid development and dissemination of technology in society, has inevitably led to aspirations and policies for incorporating technologies into education (World Report by UNESCO, 2005).

U.S. policy on educational technology succeeded rapidly in the 1990s. In early reports, the emphasis was placed on the development infrastructure and the installation of hardware in schools, and data collection and evaluation center on the physical access to computers and access to the internet. In 1993, the DOE created the office of Educational Technology and the first titled "Getting American Students Ready for the 21st century: meeting the Technology Literacy challenges," issued in 1996.

According to U.S. Department of Education, 2010 declaration, In the United States, education is primarily a state and local responsibility. The Department of Education has a role in identifying effective strategies and implementation practices; encouraging, promoting, and actively supporting innovation in states and districts; and nurturing collaborations that help states and districts leverage resources so the best ideas can be scaled up.

Policy makers currently are putting great stock in large-scale assessments and using them for a variety of purposes. There is a good deal of evidence that assessment used for policy purposes have and effects on educational practice, not all of them positive (Herman, 1992; NRC, 1999; Koretz and Barron, 1998).

Discussion

Technology is increasing in a challenging way to perform in a qualitative way and simulation to develop skills and global collaboration for future achievement. In global life, technology participates a vital role and practices learning through technology creates a massive action in the technology world. While an amount of research described teacher's perceptions towards some technological tools, such as learning management systems, digital learning environments, and blogs, studies concerning perceptions of tablet computers are limited. The availability of a wide range of apps, the connectivity to the outside world beyond alternative activities such as 3D, multimodal, virtual tours. Also, teachers reported more possibilities to differentiate learning more easily and sharing information (Pelgrum, 2001; Hattie, 2013; Cumming, 2014).

Curriculum materials have always been a central issue for educational policy, often seen to influence what happens in the classroom (Ball & Cohen 1996, Pepin 2009). It is difficult to formulate a policy that would be all-encompassing and consider all potential instructional scenarios and contexts. A common definition of policy is: "a defined course of action adopted for the sake of expediency, the facility." More specifically, Caruso (2009) indicates that the purpose of a policy is to establish general

guiding principles for the way that an organization should conduct its business or operational practices. Swearer, Limber, & Alley (2009) support this indication by maintaining that policy sets the groundwork for communicating institutional expectations. A policy affects all individuals who are in the school organizations because of the reason for adaptation. But the consideration of student-centered learning environment is increasing and developing so that educator can use it with permission. But multi-tasking may affect the concentration level of study and focused on the technological circumstances. Another consideration is the fact that, while technology may make the dissemination of information easier, educators should not assume that all students will automatically have access to the technology that is used in the classroom. The same problem arises for electronic assignment submissions that students have a variety of word processing program which may problematic for the educator. According to Becker (2013) states that educators should assume that all students in their class could possess an electronic device of sorts (smartphones, tablet or laptop).

In future, the teacher will assess students understanding ability in the classroom and determine the next step forth instruction which may use technology included in the classroom with an adaptation of the technological use. Education and technology are supporting each other because both are the learning procedure. The Massachusetts Institute of Technology's (MIT) Scratch tool, an innovative programming language that allows users to drag and drop code elements instead of typing them. It was designed to help students learn authentic programming skills while creating their own interactive stories, games, music, and art (BBC, 2012; MIT, n.d.). Software innovators have regularly taken cues from highly specific learning theories. Super Memo, for example, is an application that attempts to facilitate the movement of the information from short-term to long-term memory (Wolf, 2008).

For the future studies, technological tools for educational purpose is the opportunity to research for the betterment of the community, and it helps facilitate learning for all. The negative barrier can minimize to adopt the ethical issues into the modern world. Teachers learning and training can develop their skills, and it can add to the high-quality advance learning into the classroom.

Conclusions/Reflections

Educational technology and policy are interrelated for the educational system. The knowledge and education are mentioned freedom and liberation for individuals control and future economic output with standard development. Educators are implementing the technology with adaptation and natural progression and its possible with participation in training and acceptance. Academic integration and promote information and technological communication break the barrier of the teacher's intellectual disturbance. Every system needs demands and detection spontaneous robust to change and modify from decade to decade depends on demands. The innovation of educational technology participates age by age and compete for the individual competencies in future competition. The policies objective is to evaluate educational technology in 21st-century actions plans and guidelines the integration of the educational system. Teaching and learning in technology is a national action for strategic planning for development agenda to provide a standard academic environment to the nation.

References

- Baumert, J., M. Kunter, W. Blum, M. Brunner, T. Voss, A. Jordan, U. Klusmann, S. Krauss, M. Neubrand and Y.-M. Tsai (2009), "Teachers' mathematical knowledge, cognitive activation in the classroom, and student progress," *American Educational Research Journal*, Vol. 47, pp. 133-180.
- Becker, D. (2013). Anticipating the exception, not the rule: Forming policy for student use of technology in the classroom. *Journal of Education Policy*, Fall Issue.
- Black, P., & William, D. (1998). Inside the Black Box: Raising Standards through Classroom Assessment. *Phi Delta Kappan*, 80, 1-13
- Creemers, B.P.M. and L. Kyriakides (2008), *The Dynamics of Educational Effectiveness, A Contribution to Policy, Practice and Theory in Contemporary Schools*, Routledge, London/New York.
- Cumming T, Strnadova I, Singh S., 2014. iPads as instructional tools to enhance learning opportunities for students with developmental disabilities: An action research project. *Action Research*.
- EdTech Staff, 2017. "ISTE 2017: New Standards for Educators Focus on Data, Digital Citizenship" by EdTech Magazine. Retrieved from <https://edtechmagazine.com/k12/article/2017/06/iste-2017-new-standards-educators-focus-data-digital-citizenship>
- Hattie J., 2013. *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. NY: Routledge.
- Herman, J.L. (1992). *Accountability and alternative assessment: Research and development issues (CSE Technical Report 348)*. Los Angeles: National Center for Research on Evaluation, Standards, and Student Testing, Graduate School of Education, University of California.
- Hirschland, M. J., & Steinmo, S. (2003). Correcting the record: Understanding the history of federal intervention and failure in securing U.S. educational reform. *Educational Policy*, 17, 343-364. doi:10.1177/0895904803017003003

- ISTE Standards for Educators 2016. "Redefining learning in a technology-driven word" Retrieved from https://www.iste.org/docs/Standards-Resources/iste-standards_students-2016_research-validity-report_final.pdf?sfvrsn=0.0680021527232122
- Klieme, E., C. Pauli and K. Reusser (2009), "The Pythagoras Study," in J. Tomás and T. Seidel (eds.), *The Power of Video Studies in Investigating Teaching and Learning in the Classroom*, Waxmann, Münster, pp. 137-160.
- McMillan Culp, K., Honey, M., & Mandinach, E. (2003). A retrospective on twenty years of education technology policy. Education Development Center, Center for Children and Technology, U.S. Department of Education. Retrieved from <HTTP://www2.ed.gov/rschstat/eval/tech/20years.pdf>
- MIT. n.d. Scratch. <http://scratch.mit.edu/> (Accessed 30 January 2013.)
- National Research Council. (1999a). *The changing nature of work: Implications for occupational analysis*. Committee on Techniques for the Enhancement of Human Performance: Occupational Analysis. Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
- Koretz, D.M., and Barron, S.I. (1998). The validity of gains in scores on the Kentucky Instructional Results Information System (KIRIS). Santa Monica, CA: RAND.
- Lipowsky, F., K. Rakoczy, C. Pauli, B. Drollinger-Vetter, E. Klieme and K. Reusser (2009), "Quality of geometry instruction and its short-term impact on students' understanding of the Pythagorean Theorem," *Learning and Instruction*, Vol. 19, pp. 527-537
- Pianta, R.C. and B. Hamre (2001), *Students, teachers, and relationship support [STARS]: User's guide*, Psychological Assessment Resources, Inc., Lutz, FL.
- Pelgrum W., 2001. Obstacles to the integration of ICT in education: results from a worldwide educational assessment. *Computers & Education*; 37(2): 163–78.
- Swearer, S., Limber, S. & Alley, R. (2009). Developing and implementing an effective anti-bullying policy. <http://nau.edu/COE/eJournal/> and *Intervention: Realistic Strategies for Schools* (pp. 39-52). New York, New York: The Guilford Press.

- Sharples, M., Taylor, J. and Vavoula, G. 2007. A Theory of Learning for the Mobile Age. R. Andrews and C. Haythornthwaite (eds), *The Sage Handbook of eLearning Research*. London, Sage, pp. 221–47.
- U.S. Department of Education. (1996). Getting America’s students ready for the 21st century: Meeting the technology literacy challenge. Retrieved from <http://www2.ed.gov/about/offices/list/so/technology/plan/national/index.html>
- U.S. Department of Education. (2010). Transforming American education: Learning powered by technology. Retrieved from <http://www.ed.gov/sites/default/files/netp2010.pdf>
- World Economic Forum, 2016. “New Vision for Education: Fostering Social and Emotional Learning through Technology.” Retrieved from http://www3.weforum.org/docs/WEF_New_Vision_for_Education.pdf
- Wolf, G. 2008. Want to Remember Everything You’ll Ever Learn? Surrender to This Algorithm. *Wired Magazine*, Issue 16.05, 21 April 2008. Retrieved from http://www.wired.com/medtech/health/magazine/16-05/ff_wozniak?currentPage=all (Accessed 30 January 2013).
- Walker, G. E., Golde, C. M., Jones, L., Bueschel, A. C., & Hutchings, P. (Eds.), (2008). *The formation of scholars: Rethinking doctoral education for the twenty-first century*. San Francisco, CA: Jossey-Bass