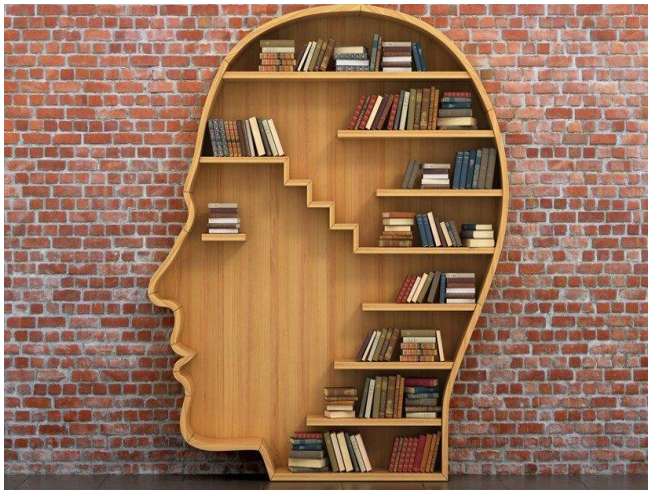

KNOWLEDGE RETENTION IN HIGH SCHOOL LEARNERS

ePortfolio Collaboration: Literature Review

ABSTRACT

This study presents research from case studies to uncover lessons learned in technology advancement and its role in High School Education. Rising trends in modern teaching methods (such as blended learning, PBL, etc) using diverse technologies to increase retention will be explored to share innovations that disrupt tradition. Learning through others is a powerful tool that can be used to transform our youth.

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Introduction

As high school students prepare to enter college, most do not imagine being responsible for their own learning. Most of today's students represent the first generations to grow up with new technology (Prensky, 2001). Studies show how technology, especially Information Communication Technology (ICT), has changed much of the world's environments over the last thirty years.

This review will analyze literature to support the use of ePortfolios starting in high school and developing on to the higher educational platform. It will also aim to examine research from case studies to uncover lessons learned in technology advancement. The new trends to learning in the 21st Century is important to explore for effectiveness, retention, and application of principles to navigate through youthful life challenges and experience productive adulthood. In addition, gaps found in research leading to a future study will be acknowledged to conclude why a strategy to move forward is needed.

The Need for Change

Challenges Faced

The Clemson University study demonstrates the need for pedagogical training integrated with the development of the ePortfolio. Students who participated in this semester training were better able to express what they know and how they know it during mock interviews. The study reinforces how the combination of career readiness training and ePortfolio development improves the effectiveness of the career training. The study also suggests that the physical evidence of knowledge and skills gained through self-reflection provides helpful evidence for those seeking internships and full-time positions after graduation (Ring, Waugaman & Brackett, 2017). Alumni have reported that employers were impressed with the skills and experiences

demonstrated using the career ePortfolio. Employers commented that the career ePortfolio helped them in the employment decision-making process. (Whitfield, 2001).

Slow technology adoption. In a publication addressing New Media Literacy and Communication, Cole (2013) observed that youth are easy adopters of technology, and therefore not surprising has been quick to use new technologies. However, he further observed adoption of technology for varies settings has been unsurprisingly slow. Particularly he noted, traditional learning environments depending mainly on curriculum and activity supplies remains at large in the 21st century. Similarly, in a thesis written by De Groot (2013), she carefully noted that educators especially should be willing to investigate the critical skills needed in the 21st Century, decide on an approach leveraging best practices to integrate technology into the curriculum so graduates are equipped with the necessary knowledge and skills to use ICT to advance their future. In a compelling broadcast addressing the opportunities and responsibilities of Educators in the 21st century, Ballard (2016) passionately expressed how the internet is expanding its reach across the world and into the very hands and minds of the youth.

Conventional classroom landscape. As a new classroom dynamic, blended learning was named as a sustainable learning model for the new generation in religious education. In the book, Blended-Learning: A Wise Giver's Guide to Supporting Tech-assisted Teaching, Vanderkam (2013) notes conventional classroom feedback loops and engagement is broken. Again, blended learning is praised for its deliberate practice allowing twice as much exposure to personalized learning for mastery so that knowledge is retained and understood.

Positive Trends of ePortfolios and Experiences

The benefits of ePortfolios are many and varied. Several are interrelated, with one benefit following on from another. The following summarizes the main points:

- *Skill development.* The creation of an ePortfolio serves to develop multimedia technology skills (Abrami & Barrett, 2005; Barrett, 2000; Heath, 2002, 2005; Wade et al., 2005; Wall, Higgins, Miller, & Packard, 2006), as well as more general literacy, communication and problem-solving skills. ePortfolios are also a way to showcase technology skills (Heath, 2002, 2005), and to model technology skills for others (Barrett, 2000; Heath, 2005)
- *Evidence of Learning.* As Abrami and Barrett (2005, online) argue, ePortfolios encourage "flexible, inclusive, and distributed evidence of learning including variable times and places for learning". ePortfolios provide a 'rich picture' of student learning and competencies, thus facilitating authentic learning. (Love & Cooper, 2004).
- *Feedback.* ePortfolios facilitate the exchange of ideas and feedback (Lorenzo & Ittleson, 2005a). Students can receive feedback quickly and regularly through the process of constructing their ePortfolios (Ahn, 2004), across electronic media channels (Abrami & Barrett, 2005). ePortfolios contribute to the 'feedback loop' integral to formative assessment (Cambridge, 2001)
- *Reflection.* Just like traditional paper-based portfolios, ePortfolios encourage students to reflect on their work and their reasons for choosing certain pieces to be incorporated in their portfolio. Students are encouraged to be reflective throughout the entire process and to use that reflection to integrate their learning experiences and find meaning in them. Through reflections, ePortfolios make meaning out of diverse and unconnected pieces of information. (Cambridge, 2001).
- *Assessment.* ePortfolios engage students in the evaluation and assessment process as they continually revisit and refine their ePortfolios. Students gain a better

understanding of the assessment they are undertaking (Wall et al., 2006), and can use that assessment to constantly improve their learning (Cambridge, 2001). ePortfolios can also help to put failure into context; they can show the steps taken to redress failure, and what the student has learned from the experience (Cambridge, 2001).

- *Portability and sharing.* Whether saved to CD-ROM or to the web, ePortfolios are easy to carry, to share with others, and to transport into a new system or new working environment (Abrami & Barrett, 2005; Strudler & Wetzel, 2005; Wade et al., 2005). For these reasons, they have longevity, existing beyond the end of a course or a High School/University career.
- *Access.* Especially when saved to the Internet, ePortfolios are easily accessible by several people. Students can work on their ePortfolios and teachers can review and assess the from many different sites. (Wade et al., 2005).
- *Privacy.* ePortfolios can include a privacy feature (Young, 2002) to protect students' work. Access can be limited to only those that the student wishes to review their work.

Tele-video technologies have gained positive traction for mental health and those with special needs based on a case study examining technology to deliver mental health services to children (Boydell et al, 2013). Throughout the review Boydell (2013) observed tele-video, another form of blended learning as an effective way to engage with children and youth. Notably, she mentioned live chat counseling and face-time technologies -which allows the youth to connect one-on-one, real time from smartphone, has made it possible to provide service to children isolated in remote areas. In additional studies analyzing videoconferencing, Starling

(2006) found parents highly satisfied with an enhanced capacity to deal with complex issues and rated it comparable to physical face-to-face interactions.

In a study to address schools as a learning organization, OECD-UNICEF EDUCATION (2016) discuss how schools are on the rise in re-conceptualizing as a learning organization. In similar research, OECD-UNICEF EDUCATION (2016) emphasized the success of a new concept of education in Brazil to turn neighborhoods into schools through converting old cinemas and abandoned buildings into classrooms. The organization further highlights how the success of these new learning spaces rest on a partnership among schools, families, public authorities, entrepreneurs, volunteers -everybody educates, and everybody learns. The research reflects a positive pedagogy experience through learning oneself and socially intervening in the community through communication and areas of interest for the youth.

The Learning/Retention

According to Basken (2008), ePortfolios are a way to generate learning as well as document learning" (Basken, 2008). Both generating learning and documenting or recording learning sometimes gets overlooked. ePortfolios generate learning because they provide an opportunity and virtual space for students to critically assess their academic work, to reflect on that work, and make connections among different courses, assignments, and other activities, such as work experience, extracurricular pursuits, volunteering opportunities, and more.

The skills learned through the development of the ePortfolio are the relevant, indispensable 21st century technology skills needed for success in and beyond higher education (ICT Innovative Schools, 2008; Cordie, Sailors, Barlow & Kush, 2019; Deveci, Dalton, Hassan, Amer & Cubero, 2018). Students feel a sense of pride and accomplishment from the technology skills gained through the development of the career ePortfolio. This sense of accomplishment,

along with the online professional presence, gives students the opportunity to gain employment in different disciplines and career fields (Cordie, Sailors, Barlow & Kush, 2019).

ePortfolio Adoption and Implementation

The successful implementation of the ePortfolio concept relies on several factors. Students need to be introduced to the concept and be given clearly articulated reasons for constructing an ePortfolio (Chang, 2001; Klenowski et al., 2006). Studies show that the motivation of students when constructing their ePortfolios is very important (Al Kahtani, 1999; Chang, 2001; Tosh et al., 2005). Motivation can be encouraged through enabling student decision-making, ensuring students have ownership of their portfolios, and public access to recognition of students' work over the web. For staff, knowing they have strong supportive leadership, and the necessary resources (Strudler & Wetzel, 2005) helps to secure their participation in an ePortfolio project.

For an ePortfolio system to be successful, a different set of criteria needs to be met. Ahn (2004) believes that the planning process is a key element of success. Those wishing to implement a system must “critically examine how ePortfolios will be used, and then design [or adopt] software that addresses those needs” (Ahn, 2005, online). Ways need to be found to integrate meaningful reflection into the electronic portfolio, to balance standardization with the ability for a system to be flexible enough to respond to student needs, and to protect the privacy of those contributing to ePortfolio (Kimball, 2005). Implementing an ePortfolio system is a long-term endeavor (Ahn, 2004) that will be most successful if time is spent in the initial piloting stages before it becomes available program-or institution-wide (Wetzel & Strudler, 2005).

Conclusion

As in the evidence from research, ePortfolios can be a powerful tool for knowledge retention and capturing student learning. To be successful; administration, faculty, and students need to understand that this is not a “add-on” short-term effort but rather a long-term one.

Given the vast amount of research conducted, gaps exist in the analysis of technology advances happening within Youth specifically, high schoolers, very little evidence is present on transformational uses of ePortfolios and its impact to their holistic growth in a blended learning environment. The importance of the use of an ePortfolio in high school is a vital piece in the learning process. With clear guidelines and access, students will be able to enhance and see the purpose of their learning while pursuing their dreams.

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