

## **TECHNOLOGY CHANGE AND STUDENTS BEHAVIOR IN 21<sup>ST</sup> CENTURY**

**Jacquiri Joy L. Acosta**  
**Administrative Assistant II , Amang Rodriguez Memorial Medical Center**  
**Sumulong Highway Brgy. Sto. Niño, Marikina City**

### **ABSTRACT**

The reason for this examination was to dissect the impacts of innovation on understudy learning. With the steadily evolving universe of innovation, homerooms are acquiring innovation and consolidating it into understudy learning. Despite the fact that innovation can profit understudy learning, it can likewise be negative to the instructive interaction. Innovation upgrades many learning openings and takes into consideration understudy comfort however can likewise be a device that is excessively vigorously depended on and can conceivably impact understudy fine engine improvement and critical thinking abilities. In this examination study, the analysts studied K-12 teachers to get input on how innovation impacts their study hall. This examination decided how innovation impacts understudy learning. The discoveries showed that more preparation for instructors and understudies are important to more readily execute innovation in the study hall. Besides, this examination called attention to the fact that understudies are more drawn in and alright with innovation, yet they can turn into an administration concern.

**KEYWORDS:** Technology effects, Student learning, Motivation, Problem solving, Fine motor skills

### **I. INTRODUCTION**

Innovation is developing quickly. Man-made reasoning, geotargeting, computerization, and different progressions in data innovation explicitly set up for more mechanical advancement. Advanced mechanics are getting more astute, and surprisingly our indoor regulators and fridges can be associated with the web. Specialists have been bantering on this point for quite a long time. Additionally, the innovation covered far to make human existence simpler however the negative part of it can't be disregarded. Routinely advancing innovation has become a significant piece of our lives. Likewise, more up to date advances are surprising the market and individuals are becoming acclimated to them right away. Most importantly, mechanical headway has prompted the development and improvement of countries.

The present youth are experiencing childhood in a period where innovation is continually readily available. The developing universe of web-based media applications and web locales spike interest in youngsters. Furthermore, phones, PCs, tablets, free Wi-Fi, gaming frameworks, and electronic-based toys are for the most part the fury in the present society. Understudies are experiencing childhood in when innovation is a serious trend. As indicated by Klopfer, et al. (2009), "Consistently, numerous understudies are spending incalculable hours submerged in famous advances—like Facebook, MySpace, Universe of Warcraft, or SimCity" (p. 1). In the present homeroom, innovation is turning into a more conspicuous type of learning. With the steadily changing universe of innovation, educators endeavor to fuse innovation into their ordinary guidance to interface understudy enthusiasm with learning. As per Harris (2016):

The present teachers are feeling the squeeze to furnish 21st century understudies with quality instruction based on 21st century principles. Those guidelines incorporate furnishing understudies with the mechanical and enlightening abilities expected to contend in a constantly evolving, innovation driven world.

Educators are continually searching for the innovative devices that will upgrade the learning of their understudies. Nonetheless, innovation has been seen as an incredible asset in homerooms that has uplifted learning yet, has its adverse consequences on understudy learning.

Education is becoming increasingly time and place agnostic as a result of new information technology. However, for lifelong learning success, every student must be connected to a scaffold of support. Parents, friends, and supervisors who are both teachers and coaches are essential for students. The major goal of the school-to-work movement is to raise awareness and support so that students can develop the abilities, habits, beliefs, and understandings that are necessary for success in all aspects of life (Hakim et al. 2000).

Technology plays an essential role in the lives of kids. Technology integration in the classroom has proven to be advantageous, but it also has certain disadvantages. Technology has aided student willingness and involvement while also allowing for learning advancements. "The need for construction and engagement indicates that the best sorts of learning will be those that feature choices that the student can make, and learning in meaningful circumstances where the student is engaged," according to Fisher et al. (2014). Is this, however, sufficient to balance some of the disadvantages? Sülzenbrück, et al. (2011) discovered that utilizing modern technology can cause alterations in basic psychomotor and cognitive skills in a study that looked at the influence of computer use on motor skills. This includes the use of computers, electronic organizers, navigation systems, and other similar devices. This might be a source of concern for students. Furthermore, the research examines the benefits and drawbacks of technology, as well as why it may or may not be beneficial.

The goal of this study was to look at how K-12 educators felt about using technology in the classroom, the benefits and drawbacks of using technology in education, and especially the impact on students' learning. Only educational technology, such as the internet and computer-mediated tools, was considered for this study. Understanding the impact of technology on student learning is critical because it has the potential to either hinder or empower the learner. The goal of this study was to help teachers learn about excellent classroom techniques. Students can benefit from instruction focused at assisting them in achieving their goals. Students' parents can learn how technology affects their children's learning. The findings of this study will add to the body of knowledge about the use of technology in the classroom.

## II. RESULTS

While technology has grown in popularity in schools, there is concern that kids are becoming overly reliant on it. While technology can be a useful tool, are kids prepared to solve problems with technology?

Some teachers are using technology to implement a flipped classroom strategy. Students can study the subject at home and then return to school to participate in extra discussions, exercises, and activities. “Few studies have explored how to increase students' problem solving skills and enhance their conceptual knowledge in flipped classrooms in mathematical inquiry,” according to Song and Kapur (2017). While students learn more on their own in this setting, they miss out on some of the lecture time that could generate serious discussion about topics.

Fisher et al. (2014) highlight how technology is being used in classrooms to educate and learn, as well as how teacher roles have changed. Instead of ‘teaching,’ the teacher leads the students on a learning journey, learning alongside them rather than ‘teaching’ them. Students must be able to evaluate and determine the value of the information they gather. Learners are also employing technology to self-assess. This aids in the “transition of learners from consumers to creators of information.”

### **MOTOR SKILLS THAT ARE EXTREMELY DETAILED**

The impact of increased technological integration on fine motor skills is debatable. Although some research has been done on this subject, it is still relatively unknown. Purcell, et al. (2013) present a comprehensive report on the impact of social media on writing. Students and teachers discuss what they believe to be writing. Teachers also talk about how social media has aided and hindered classroom writing. Teachers "urge their pupils to practice at least some handwriting...because they believe kids undertake more active thinking, synthesizing, and revising when writing by hand, and writing by hand discourages any temptation to copy and paste other people's work". Students may write collaboratively, share their work with a larger audience, and be more creative in their writing thanks to social media.

“There are indeed unique changes in basic fine motor abilities based on the amount of time spent typing and handwriting texts,” according to Sulzenbruck et al. (2011). Their research focuses on fine motor skills in general, not only handwriting. The usage of computers has an impact on major behavioral criteria as well.

### **MOTIVATION**

It is our first goal as teachers to engage children in their learning. The more eager pupils are to learn something new, the more likely they are to remember what they have learned. According to research, incorporating technology into students' lives as they grow up in an ever-changing technological world helps drive them to learn. Schaen et al. (2016), for example, describe a project in which third grade leaders and first graders collaborated to design an app that allows kindergarteners to practice arithmetic methods. Students used technology, collaborated, and taught during this week-long project. Schaen, et al. The procedure that the students went through and the project's outcomes were discussed in this study. Students were inspired to build and work at home after participating in this technology-enhanced activity. “The project gave young pupils a real-world reason to collaborate on planning and creation”.

Millar (2013) focuses on another study on engaging pupils in the classroom and how tough it might be. “It's like giving each pupil their own smartboard” when it comes to using technology

(para. 3). They may demonstrate what they know, and teachers can rest assured that learning is taking place. “It's hard to be honest when you have to put your hand up in front of the room” (p. 2), but the use of technology allows all pupils to engage.

Heafner (2004), for example, notes how technology helps students to readily search for and obtain material, and how it has “assist[ed] them in understanding what they were talking about in class” (para. 22). This helps to support the learning that is taking on in class. They are pleased to offer their work and technologically acquired information. Students are also confident in their ability to use technology and complete tasks. Their self-assurance aids them in establishing drive for their studies.

## **EXPANDING LEARNING**

Many educational sources claim that incorporating technology into the classroom can expand and increase student learning in a variety of ways. Bitner and Bitner (2002) have spent years studying instructors and technology and have synthesized eight different areas that appear to aid teacher integration. The following eight topics are covered in their article:

### **1. Fear of Change**

Everyone has their own amount of change apprehension. It's for this reason that comfort zones exist. You aren't alone in your feelings about change. In reality, research has demonstrated that our brains associate ambiguity with failure. That is why so many individuals prefer to resist change because of the unpleasant feelings that come with it.

While it's reasonable to be fearful of change, other people may be experiencing something more serious. That something more is known as metathesiophobia, and it's a crippling fear of change that can be difficult to live with. We'll look at what it means to be afraid of change, the signs and symptoms of metathesiophobia, how to cope with such fears, and how to overcome them.

### **2. Training in basics**

Training gives everyone a great understanding of their responsibilities and the knowledge and skills they need to do that job. This will enhance their confidence which can also improve their overall performance.

Having a high-quality and comprehensive students training development program allows you to improve the abilities your personnel already have while also filling in knowledge gaps. A training development program for your students will raise all of your learners up to a higher level of proficiency, allowing your entire class to share a common set of knowledge and skills.

Such a program will strengthen any weak connections in your class and distribute tasks more fairly among your learners.

### **3. Personal use**

Tensions between proponents of control against flexibility are emerging as learners increasingly use technology for personal interests in the school. Control advocates emphasize negative consequences and call for learner's limitations and monitoring, while flexibility advocates emphasize good outcomes and urge for learners discretion. We utilize the class demands–resources model to show why personal usage of technology at school has both bad and positive consequences on class outcomes, and then we hypothesize about many boundary conditions that attenuate or increase these effects.

#### **4. Teaching models**

Today's classrooms incorporate a variety of modern technologies, including social networking, online teaching, class blogs and wikis, podcasts, interactive whiteboards, and mobile devices. The new technologies that are being developed today can benefit us in a variety of ways. New technologies, for example, make distant learning more convenient. It also enables faster feedback and more effective collaboration among huge groups of people. Students can learn and engage in discussions even if they are unable to attend class due to illness, thanks to new technology such as podcasting and websites. It also enables faster feedback and better collaboration among huge groups of people. Students can learn and engage in discussions even if they miss classes due to illness thanks to technologies like podcasting and websites. Class blogs and wikis expand the range of topics that can be discussed and allow students to contribute outside of the classroom. Interactive whiteboards make teaching easier by providing better visual aids for students and making it easier for teachers to give lessons, while mobile devices allow teachers to transmit information to students quickly. The field of online education and distance learning is rapidly expanding. People in today's world are no longer restricted by geographical or cultural barriers. People want to learn, and they also want to share their knowledge. Classrooms are no longer confined to the four walls of traditional schools in today's globe, which is shrinking due to technological advancements. Technology-assisted education is the way of the future.

#### **5. Learning based**

Learning can take place at any time and in any place. Learning is also not limited to educational settings, owing to the learning curves generated by technological breakthroughs and industries such as entrepreneurship. Teachers are embracing new technological tools and incorporating them into their teaching practice in the educational realm. These tools aid in the development of new learning methods and preferences.

Learning technology refers to the communication, information, and technological technologies that are used to improve learning, teaching, and evaluation. This could include computer-assisted learning or multimedia tools that are used to augment classroom activities. Tutorials, simulations, productivity tools, communication tools (such as email), and other types of learning technology tools are among the most common. Simulations represent an experiment or scenario in tutorials, which teach new concepts in an organized fashion. Word processors and spreadsheets are examples of productivity tools, even if they aren't strictly created for educational reasons and are utilized in everyday settings.

The variety of digital tools and media used for teaching and learning is referred to as learning technology. Professors should use learning technology to help them achieve their teaching and learning objectives. Any learning technology should assist students in increasing their self-responsibility, acting as an extension of their individual and collaborative learning, and empowering students to participate in higher order learning to gain a better understanding of how knowledge is applied outside of the classroom.

#### **6. Climate**

For millennial generation students, a teacher will not be able to stop them from using technology. A teacher must be able to adapt their teaching style and locate the most up-to-date topics in order for students to fully comprehend and prepare for the future. Vital thinking, creativity, cooperation and communication skills are critical for every student to

master in the twenty-century. This capability will allow students to further improve themselves in the future. The abovementioned explanation implies that people will face several challenges in the twenty-first century. Individuals must be able to contribute to and blend in with the various breakthroughs in technology and knowledge that have been made in the twenty-first century. Because of technological progress, various students' progress behaviors have changed in the twenty-first century, according to the studies analyzed. However, the literature review reveals the inadequacy of studies on students' behavior as a result of technological advancement in recent years. The conduct of students in the twenty-first century as a result of technological advancement is an important area of research.

## **7. Motivation**

Motivation represents something unique about each of us and enables us to achieve desired objectives such as better performance, improved well-being, personal growth, or a sense of purpose. Motivation is a means of altering our thoughts, feelings, and behaviors. It is critical to find strategies to raise motivation since it allows us to modify behavior, develop competences, be creative, set goals, grow interests, make plans, develop talents, and boost engagement. Motivational science can help us motivate employees, coach athletes, parent children, counsel clients, and engage students in everyday life.

The advantages of motivation can be seen in the way we live our lives. We require motivation to take remedial action in the face of changing circumstances because we are continually responding to changes in our surroundings. Motivation is a valuable resource that enables us to adapt, perform efficiently, and stay healthy in the face of a never-ending stream of possibilities and hazards.

Increased motivation has numerous health benefits. Our physiology is linked to our psychological state of motivation. When our motivation is low, our ability to perform and feel good suffers. According to several studies, when we feel helpless in exercising control, we are more likely to give up fast when confronted (Peterson, Maier, & Seligman, 1993). Others have demonstrated that when we are forced to do something, we lose access to our internal motivating resources (Deci, 1995). We thrive when we have high-quality motivation, but we flounder when we don't have it. Enhanced motivation has societal benefits such as increased student engagement, employee job satisfaction, flourishing relationships, and institutions.

We thrive when we have high-quality motivation, but we flounder when we don't have it. Enhanced motivation has societal benefits such as increased student engagement, employee job satisfaction, flourishing relationships, and institutions. Addiction, gambling, risk-taking, and excessive internet usage are all explained by undesirable oscillations in motivation. The neurological underpinnings of addictive behaviors are linked to the dopamine-centric rewards system and the perplexing inner workings of the pleasure cycle.

## **8. Support**

Students' needs for learning assistance also differ greatly. Many lifelong learners, who have completed a post-secondary degree, have families, occupations, and a wealth of life experience, can be self-directed, independent learners, determining what they need to

learn and how to acquire it. On the other hand, there are kids for whom formal education has been a catastrophe, who lack basic learning abilities or foundations, such as reading, writing, and mathematics, and hence lack confidence in their ability to learn. To be successful, these will require a lot of help.

However, the vast majority of students fall somewhere in the middle of the range, occasionally having difficulty, confused of what standards are required, and wanting to know how they are doing, regardless of how wonderful the course design is. Indeed, there is a lot of evidence that 'instructor presence' is linked to student success or failure in a course, at least when it comes to online learning (Anderson et al, 2001; Richardson and Swan, 2003; Garrison and Cleveland-Innes, 2005; Baker, 2010; Sheridan and Kelly, 2010).

Learner performance and completion rates both suffer when students believe the instructor is not there. Good, timely learner support can mean the difference between success and failure for these kids.

The essay then delves more into each of the topics, explaining why they are critical for integrating technology into the classroom. Integration of technology can best assist pupils in broadening their learning once these areas are addressed.

Klopfer et al. (2009) described how students are growing up and becoming thoroughly normalized by digital technologies in another study. Many students in this cohort are using new media and technologies to create new things in new ways, learn new things in new ways, and communicate with new people—behaviors that have been ingrained in their ways of thinking and operating in the world, according to the study. While there is some skepticism about adopting technology, “there are innumerable examples of these technologies establishing their educational usefulness in other areas, confirming the strong learning opportunities and advantages they afford”. Klopfer, et al., while researching the effects of technology in our classrooms, strongly feel that incorporating technology strengthens the classroom. They argue that while “strong lessons can still be achieved without these recent technologies (i.e. digital games, Web 2.0, etc.) in the classroom, there is a sharp disconnect between the way students are taught in school and the way the outside world approaches socialization, meaning-making, and accomplishment”.

Shivakumar and Manichander (2013) address 21st-century education and how technology may be a useful tool for pupils. They stressed teamwork and blended learning, as well as information and communication technologies (ICT). “Information and communication technologies” (ICT) refers to technologies that give telecommunications-based access to information. Teachers can become more familiar with technology and some of the challenges that occur by employing ICT in the classroom. This paper then goes on to talk about various types of ICT and how they might help in the classroom.

The majority of their time spent on technology is devoted to teacher-led learning, according to teachers who use it. This includes using the smart board to teach classes as well as other tools to assist students learn more effectively. Lesson planning and communication took up a minor part of teacher technology time. Students are more interested in learning when it integrates technology, according to teacher participants. Students use technology for projects and creativity, collaboration with classmates or adults, reading, and other applications to boost learning, such as math centers, according to the teachers.

The researcher desired a better picture of the time spent using technology district-wide in order to determine the instructors' general perspectives on the use of technology in teaching and learning. According to teachers, pupils in the districts spend only thirty minutes or fewer per day using technology.

When asked if there is a defined handwriting block in the classroom, 72.41 percent of the teachers said no. Teachers who have a handwriting block spend an average of 15 minutes each day on it. They also believe that time is a valuable resource. Students will require time to investigate various platforms, websites, applications, and learning resources that will be valuable to them. Teachers must be trained on how to use and integrate existing technology, which takes time and money. Educators must also consider time while teaching their pupils how to utilize technology correctly and efficiently. Finally, the teachers stated that "problem resolution approaches for technology problems" are required. When asked, "Are your pupils familiar with alternate research/learning approaches if technology fails or is unavailable...?" Nearly 69% of teachers felt their students were capable of using other means to get answers to their queries or gather information.

The amount of technology available varies by district. Some classes are 1:1 or almost 1:1, while others have a large number of pupils and few devices. Some classes share technology or technology space, it was also highlighted. In grades five through twelve, the district has introduced a Bring Your Own Device (BYOD) program. On a daily basis, a wide range of technologies is used throughout the school district. Many teachers discussed their positive and negative experiences with technology when reading survey data.

According to instructors in the district, using technology in the classroom has numerous advantages. By incorporating technology into the district, we are providing our students with access to far more material than we could provide with the resources available in our classrooms. Technology is how today's children learn in the world, and it's what they're most at ease with. Technology piques students' interest and allows them to participate in their studies on various levels. Teachers believe that, with the increasing use of technology, students have more options when it comes to studying, allowing them to be self-sufficient learners both in and out of the classroom.

With sufficiently current and trustworthy technology, it is possible to have a significant impact on how students interact and learn in the classroom. Teachers were asked to name their top three technological sources used in the classroom in the study. The top three technological resources used district-wide to support student learning, as well as teacher growth and planning, exhibited a wide range of responses in the survey. These interactive games and materials promote high-interest learning while also allowing teachers to distinguish information as needed.

Students can use these materials to help them be more successful and enthusiastic learners because of their enthusiasm and readiness to engage with technology. There are many distinct types of students in school environments. Some pupils require an additional challenge, some require further academic support, and still others may require technology to assist them with everyday skills. Students with disabilities can use speech-to-text software thanks to technological advancements. This permits students who are better at verbalizing their concepts to work on improving their writing and speaking abilities. The use of technology during station time allows pupils to engage in intervention or enrichment activities.

There are some drawbacks to using technology in the classroom, just as there are some benefits. While technology allows students to access more information at a faster speed, there is also a lot of false or inappropriate material available. This may make it difficult for teachers to keep track



of their students. One of the most common complaints about technology in the classroom is that it never seems to work when you need it to and that we are "at the mercy of the server." The equipment in the classroom isn't always up to par, and Wi-Fi isn't always available. According to the poll results, the most frustrating aspect of technology for instructors is when it does not work properly. One commenter mentioned how experiencing technical troubles during the day causes a delay in teaching time.

Some teachers believe that technology is becoming more of a management issue. "During a 15-minute station, the time it takes to get students logged in and out" ends up eating up half of the station. Because of the length of time required, it may induce diversions. "Students will find methods to be distracted by their devices, such as conducting random Google searches during work hours." "Technology has a tendency to enhance distraction and dishonesty in certain students," one comment stated.

The availability of technology, as well as the requirement for additional staff and student training on these devices, is one of the final negative effects of technology. Teachers want to ensure that students know where they should go and what they should do so that class time is not disrupted. There isn't a lot of teacher time during the day to support pupils who need extra help with technology. One participant expressed a lack of faith in technology and acknowledged that there is more they could be doing in the classroom with technology to improve student learning.

### III. SYNTHESIS

The findings of this study reveal that using technology in the classroom has both positive and negative elements. Despite the fact that survey findings revealed better than negative effects of technology, teachers did communicate more positive than negative effects of technology. There were certain areas where teachers felt they could use additional help, but they also felt that using technology in the classroom increased student enthusiasm and involvement. Teachers would benefit from more personal training on how to utilize technology in the classroom in the future so that they are more comfortable with it. Educators also believe that kids require more training with the technology available to create greater independence. More research is needed, according to the experts, to determine the effects of technology in the classroom.

### REFERENCES

- Adams, S. C. (2016). Improving teacher comfort levels and self-efficacy with technology integration and application of technology into the elementary education curriculum through the tech buddy program (Order No. 10120866). Available from ProQuest Dissertations & Theses Global. (1806807464). Retrieved June 5, 2020, from <http://libproxy.lib.ilstu.edu/login?url=http://search.proquest.com.libproxy.lib.ilstu.edu/docview/1806807464?accountid=11578>
- Ahmed, K., & Nasser, O. (2015). Incorporating iPad Technology: Creating More Effective Language Classrooms. *TESOL Journal*,6(4), 751-765. doi:10.1002/tesj.192.

- Anderson, T., Rourke, L., Garrison, R., & Archer, W. (2001). Assessing teaching presence in a computer conferencing context. *Journal of Asynchronous Learning Networks*, Vol. 5, No.2.
- Autio, O. O. (2016). Changes in attitudes toward craft and technology during the last 20 years. *Journal of Technology Education*, 28(1), 53-70.
- Baker, C. (2010) The Impact of Instructor Immediacy and Presence for Online Student Affective Learning, Cognition, and Motivation *The Journal of Educators Online* Vol. 7, No. 1
- Bitner, N., Bitner, J. (2002). Integrating technology into the classroom: eight keys to success. *Journal of Technology and Teacher Education*, 10 (1), 95-100.
- Bitter, G. G., & Pierson, M. (2005) Using technology in the classroom. Boston: Pearson.
- Corkett, J.K., & Benevides, T. (2016). iPad versus handwriting: pilot study exploring the writing abilities of students with learning disabilities. *Journal of International Special Needs Education*, 19(1), 15-24.
- Costabile, A., Spears, B. (Eds.) (2012) The impact of technology on relationships in educational settings. Abingdon, Oxon.; New York, NY: Routledge, 2012.
- Eyyam, R., & Yaratan, H. S. (2014). Impact of use of technology in mathematics lessons on student achievement and attitudes. *Social Behavior & Personality: An International Journal*, 4231-42. doi:10.2224/sbp.2014.42.0.S31
- Fisher, A., Exley, K., & Ciobanu, D. (2014). Using technology to support learning and teaching. London: Routledge, Taylor & Francis Group.
- Gardner, D. (2013). Motivating pre-service teachers to incorporate technology into the classroom (Order No. 3691044). Available from ProQuest Dissertations & Theses Global. (1667457129). Retrieved July 14, 2020, from <http://libproxy.lib.ilstu.edu/login?url=http://search.proquest.com.libproxy.lib.ilstu.edu/docview/1667457129?accountid=11578>
- Garrison, D. R. & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online learning: Interaction is not enough. *American Journal of Distance Education*, Vol. 19, No. 3
- Harris, C. J. (2016) The effective integration of technology into schools' curriculum. *Distance Learning*, (2), 27.
- Heafner, T. (2004). Using technology to motivate students to learn social studies. *Contemporary Issues in Technology and Teacher Education [Online serial]*, 4(1). Retrieved July 20, 2020, from <http://www.citejournal.org/volume-4/issue-1-04/social-studies/using-technology-to-motivate-studentsto-learn-social-studies>
- Klopfer, E., Osterweil, S., Groff, J., & Hass, J. (2009). The instructional power of digital games, social networking, simulation, and how teachers can leverage them. *The Education Arcade*, 1-21. Retrieved August 10, 2020, from [http://education.mit.edu/wpcontent/uploads/2015/01/GamesSimsSocNets\\_EdArcade.pdf](http://education.mit.edu/wpcontent/uploads/2015/01/GamesSimsSocNets_EdArcade.pdf)
- Lisy, J. G. (2015, January 9). Examining the impact of technology on primary students' revision of written work. Online Submission. Retrieved August 24, 2020, from <http://files.eric.ed.gov/fulltext/ED568695.pdf>.

Millar, E. (2013). The pros and cons of digital classrooms. *Globe & Mail* (Toronto, Canada).

Plano Clark, V. L. & Creswell, J. W. (2010). *Understanding research: A consumer's guide*. Upper Saddle River, NJ: Pearson.

Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks*, 7 (1), 68-88.

Sheridan, K. and Kelly, M. (2010) The Indicators of Instructor Presence that are Important to Students in Online Courses *MERLOT Journal of Online Learning and Teaching*, Vol. 6, No. 4

© GSJ