



Students' Perspectives and Experiences Regarding Digital Technology for Educational Purposes

Amatus Yudhi Ismanto, Annastasia Sintia Lamonge,
Nova Langingi and Jesus Pizarro

EasyChair preprints are intended for rapid
dissemination of research results and are
integrated with the rest of EasyChair.

September 25, 2021

STUDENTS' PERSPECTIVES AND EXPERIENCES REGARDING DIGITAL TECHNOLOGY FOR EDUCATIONAL PURPOSES

Amatus Yudi Ismanto¹, Annastasia Sintia Lamonge², Nova Langingi³, Jesus Pizarro⁴

1. Graduate School Department, St. Paul University Philippines, Tuguegarao City, 3500, Philippines

2. Faculty of Nursing, Universitas Katolik De La Salle, Kombos, Manado, 95253, Indonesia

3. Faculty of Nursing, Universitas Klabat, Airmadidi-Manado, 95371, Indonesia

4. Graduate School Department, St. Paul University Philippines, Tuguegarao City, 3500, Philippines

E-mail: ismanto_yudi@yahoo.com

Abstract

STUDENTS' PERSPECTIVES AND EXPERIENCES REGARDING DIGITAL TECHNOLOGY FOR EDUCATIONAL PURPOSES. *Technological developments have influenced all aspects of life, one of which is in the world of education. Technology can be used for the learning process, both as a tool for lecturers and students. The aim of this study is to explore students' perceptions and experiences related to the utilize of digital technology in nursing education. The qualitative-phenomenological descriptive method was used in this study. Purposive sampling was used involving ten participants and the data collection was done through focus group discussion. 2 themes have emerged: the benefits of digital technology and barriers of using digital technology. The use of digital technology makes the learning process easier and improves students' understanding. Moreover, internet disruption, unfamiliarity, lacking facilities, and infrastructures were indicated as obstacle factors. Good competencies and facilities are related to digital technology needed for students to maximize the utilization of varied digital technologies.*

Keywords: digital technology, experiences, nursing education, perspective, students

INTRODUCTION

Now, the younger generation has been immersed in a world infused with network and digital technology, they behave differently from previous generations (Goodfellow and Lea, 2013). They show different social characteristics and have different expectations about life and learning. This digitalization has transformative influence on the society. It builds a powerful and strong affecting strength on how learning is to be carried out and what is estimated of the future generation.

There are variety of digital learning technologies available for use in the classroom. These include mobile device, presentation software, audience response system (ARs), E-book, podcasts, live capture, connectivity, interactive whiteboard, virtual environment, virtual reality, virtual simulation, video, and social media ((Billings & Halstead, 2016; Education Endowment Foundation, 2019; Gordon & McGonigle, 2018). Selwyn (2014) argued that digital technologies-most notably computers, the internet and mobile telephones are now integral features of higher education. Digital technology has created new channels of communication throughout the university and with the broader society through mechanisms such electronic mail, chat rooms, and web site conferences that largely bypass traditional administrative arrangement and external relationships

Digital technologies are intertwined with humans' every activities, thinking, and perceptions in contemporary society. This is progressively the situation in school classrooms

as well. This condition cannot be avoided but must be maximally utilized to achieve the goal, including in the world of education. Thoma *et al.* (2019) state that technology can be applied for learning process because specific advances in technology make it possible to complement teaching activities by digital learning. Rolim de Holand *et al.* (2013) reveal that digital technologies are features that can optimize the acquisition of knowledge that complements traditional education, encouraging students to learn and learn. In line with, Ellaway (2014) states that digital technology promotes distinct type of learning process.

The current situation and conditions in the world of education are very different from the era before digital technology which characterized the fourth industrial revolution. In the history of higher education, the teacher teaches by explaining, writing on the blackboard with chalk and perhaps assisted by simple teaching aids, a learning process that involves teachers and students and there is direct interaction between teachers and learners (Pusat Inovasi Pembelajaran, 2013). Billing & Halstead (2016) show that role of student was to pay attention to the teacher. However, one of the biggest changes in education, including nursing education is the students' experience with digital learning. Most nursing students have grown up in a digital world and are accustomed to instantaneous access to entertainment and information. They also expect immediate feedback. The new generation of students has been called digital natives because of their familiarity with technology. Despite these generational differences, it is important for nursing educator not to confuse technological familiarity with expertise or wisdom about how to use technology.

Education Endowment Foundation (2019) suggests that technology approaches should be applied to support other learning process, rather than substitute more traditional approaches. They can promote educators to give more effective feedback, encourage students to practice more. There is a clear need for both teachers and students to reach competency in informatics in order to practice in the ever evolving technology-and information-rich healthcare neighborhood (Mastrian, McGonigle, & Mahan, 2011).

From the student's perspective, it is important to consider the balance of educational opportunities and the transferable skills intended to be gained by using a technology. Technologies should be specifically selected to maximize learning and skills development. As mentioned, the new generations of students have learning style that are different from those of previous generations; therefore, integrating interactive technology helps meet the needs of students who are technology-savvy, cooperative team players and who gravitate toward group activities (Gordon & McGonigle, 2018). This study aim to know about "*Students' Perspectives and Experiences Regarding Digital Technology for Educational Purposes*".

RESEARCH METHODOLOGY

This research is a qualitative design with a phenomenology study approach. Data collected through focused group discussions (FGDs) and recorded using tape recorder and video of cellular phone. The research participants of the study consisted of ten nursing students from College of Nursing Universitas Klabat and College of Nursing Universitas Katolik De La Salle. Purposive sampling method was choose in this study.

The researcher got clearance and approval from the Professor of Qualitative Research Design in Nursing of St. Paul University Philippines followed by a letter to the College of Nursing Deans in Universitas Katolik De La Salle and Universitas Klabat to ask permission to conduct of the research. Upon approval by the dean, the researcher gave information related to the study which included: aim, information and request for participants including consent for participation of the respondents.

Data were analyzed using Colaizzi thematic method as follow familiarization, identifying significant statements, formulating meanings, clustering themes, developing an

exhaustive description, producing the fundamental structure, and seeking verification of the fundamental structure (Morrow, Rodriguez & King, 2015).

RESULTS

The study results provide of the study of “students’ perspectives and experiences regarding digital technology for educational purposes”. This study identified two themes, as follows: the benefits of digital technology and barriers of using digital technology.

The benefits of digital technology

The first theme found in this study is the benefits of utilizing digital technology from the students’ point of view and there are five sub-themes such as learning process become easier, easy access of teaching materials, easy delivery of information, saving time, and as a more interesting variation of learning methods.

1. Learning Process become easier

“....kita kumpul tugas melalui google classroom, tidak perlu datang ke kampus”. “.....presentase materi tidak harus tatap muka”. “.....ujian online bisa bikin ditempat lain, dimana saja”. (“...I collect assignments through Google Classroom, no need to come to campus”. “..... presentation material does not have to be face to face”. “..... online exams can be made elsewhere, anywhere”).

2. Easy Access of Teaching Materials

“....memudahkan torang sebagai mahasiswa mengerjakan tugas, mencari data dan informasi”. “...mudah cari referensi”. (“...makes it easier for us as students to do assignments, find data and information...”. “...easy find references”).

3. Easy Delivery of Information

“.....mempermudah komunikasi”. “...sharing informasi dan materi”. (“.....facilitate communication”. “...share information and handout”).

4. Saving time

“.....karena kalau tulis tangan wasting time”. (“....it's wasting time if handwriting”).

5. As a more interesting variation of learning methods

“.....mempermudah menyerap materi”. “...pake LCD bekeng torang lebih mudah mangarti”. (“..easy understand of lectures”. “... using LCD makes us easier understand of lectures”).

The barriers of using digital technology

The second main theme found in this research is the barrier in utilizing digital technology in students’ view and four sub-theme was found. Those are: internet disruption, incompetent in using technology, technology can be costly, and higher availability for cheating.

1. Internet Disruption

“.....ditempat-tempat tertentu internet susah untuk dijangkau”. “....kalau pakai wifi misalnya mati lampu, wifi juga padam”. (“...not all places are affordable to the internet”. “...if electricity was shut down, WiFi is no signal”).

2. Incompetent in using technology

“...kalau mau presentase dan LCD tidak terkoneksi dengan labtop”. “...presentase dilaptop kong cucu flash virus, jadi ta ilang semua dokumen-dokumen”. (“...we are going to a presentation, and the LCD-laptop is not connected”. “..all documents on the laptop are deleted due to malware/virus”).

3. Technology can be costly

“..kuota dari kampus habis, torang beli kuota internet”. (“..internet data from campus was end, we buy internet data”).

4. **Higher availability for cheating**

“...ujian online bisa bikin ditempat lain, dimana saja, cheating atau tidak dosen tidak tahu”. (“...online exams can be done anywhere, cheating or not, the lecturer doesn't know”).

DISCUSSION

1. The benefits of digital technology

The students of two colleges of nursing in North Sulawesi Province experienced the benefits of digital technology and definitely some studies agree with that. Baronmag (2019) showed that technological advancement has influenced education world. In the fields of medicine, engineering, and architecture, modern technology has made things better and easier. The internet can provide you with information in any field. No matter what you need to know, you can easily find that online. Website content and electronic books are regularly updated, and as a result, learners can easily get current information. Students can learn many things even if they do not attend classes.

The use of digital technology simplifies the teaching and learning process, because students can access all teaching materials or exam materials in one network. Learning facilities in the form of personal computers (PCs), laptops, liquid crystal displays (LCDs), and external hard disks aim to make it easier for schools to implement the School Digitalization program. This system also allows the development of virtual classrooms or teleconference-based classes that do not require educators and students to be in one room (Indonesiabaik, 2017).

Innovations in learning are increasingly developing with e-learning innovations that further facilitate the educational process. The information needed will be faster and easier to access for educational purposes. The use of digital technology in learning allows students to experience real learning experiences and can interact with other individuals without the need to meet face to face (Hidayat & Khotimah, 2019). Digital technology can attract students' interest in learning and offer potentially more attractive alternatives.

The use of Interactive Whiteboards (IWB) allows images from a computer to be displayed via a digital projector, to a large board or to a wall. Research studies of the most recent literature report on high levels of student motivation, teacher enthusiasm and school-wide support associated with these technological tools. Research reports on the potential of interactive whiteboards to improve the quality of the teaching and learning process by increasing levels of interaction, communication and collaboration (Northcote *et al.*, 2010). When learning is made fun, students are more engaged and more likely to learn and retain that information. Implementing technology, especially team-based technology and instructor-learning options can not only engage students, but also provide a varied learning environment (ClearTouch. (2020).

Digital education is more attractive to students today than it is education in classical form. Learning methods using multimedia that involve student learning activity provide better results and commitment. Similarly, Budzoń, conclude when using multimedia in learning process is more effective, its effectiveness increases by as much as 56%. It increases the students' activity by 40-80%. As a consequence, this leads to savings in time of approximately 38-70%. According to Ozdamli (2017), that electronic tools such as tablets and others helped students carry out their tasks independently in a shorter period of time compared to traditional ways and they had higher motivation (Makosa, 2013).

2. The barriers of using digital technology

Today, technological advances have greatly affected education. In the fields of medicine, engineering, and architecture, modern technology has made things better and easier. Mobile devices, computers, and other technological marvels are now being used in classrooms. There is no doubt that they are useful, but in some cases, have barriers in utilizing digital technology as found in this study. Those are: internet disruption, incompetent in using technology, technology can be costly and higher availability for cheating.

In Indonesia, the internet connection is still unstable and is considered an expensive facility, so it cannot fully maximize the benefits of technology. In addition, society's assumptions about internet security have a bad influence because all information is so easily accessible (Indonesiabaik, 2017). It's no secret that technology is very expensive and usually depends on other applications. To use the internet we need internet data/internet access so that the application can be used. In order to use internet (technology), they have to pay for it, because most public schools do not provide free wireless fidelity (WiFi) because of the high cost (Kaur, 2019).

Brace-Govan and Clulow states that in order to be successful in using digital technology, students need to be competent with the learning software. In line with MacGregor (2001) concluded that online learning displayed concerns with regard to the technical problems that they had experienced, and as a result had affected their work. For example, not being able to complete assignments because of web or technical malfunction. Concerns are also raised with regard to the skills required to drive the technology, for students who are unfamiliar with technology and the learning software, this may limit their overall performance levels (O'Donoghue, Singh, & Green, 2004).

According to Raines *et al.*, (2011) one of the barriers to faculty acceptance of online teaching and learning is a concern about cheating and the quality of the learning experience. This problem is central to online learning because in the absence of the physical proctoring of course work and confirmation of the student's identification, the question of who is taking an test or finishing an task and how information is being accessed is difficult to some faculty and administrators. King, Guyette, and Piotrowski (2009) survey 121 undergraduate business students and find that almost 75% of the students in the sample thought it is easier to cheat in an online course, while Kennedy, Nowak, Raghuraman, Thomas, and Davis (2000) report that cheating in online courses is more likely. Contrary with Watson and Watson (2011), reported that cheating was higher in face-to-face courses than in online classes (Michael & Williams, 2013).

CONCLUSION

This study identified two themes. Those are the benefits of utilizing digital technology and the barrier in utilizing digital technology in students' view. Good competencies and facilities are related to digital technology needed for students to maximize the utilization of varied digital technologies. Technologies should be specifically selected to maximize learning and skills development.

REFERENCES

- Baronmag. (2019). Advantages and disadvantages of modern technology in students life. Retrieved from <https://baronmag.ca/2019/07/advantages-and-disadvantages-of-modern-technology-in-students-life/>
- Billings, D.M. & Halstead, J. (2016). *Teaching in nursing; a guide for faculty*. Sixth edition. St Louis Missouri: Elsevier.

- ClearTouch. (2020). Technology in the Classroom: Advantages and Disadvantages. Retrieved from <https://www.getcleartouch.com/technology-in-the-classroom-advantages-and-disadvantages/>
- Education Endowment Foundation, 2019. *Digital technology*. Retrieved from <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/digital-technology/>, January 23, 2019.
- Ellaway, R. H. (2014). Best possible or best available. *Medical Teacher*, 36 (2): 183-185. Retrieved from <http://dx.doi.org/103109/0142159X.2014.874209>.
- Goodfellow, R. & Lea, M. R. (2013). *Literacy in the digital university: critical perspectives on learning, scholarship, and technology*. New York: Routledge.
- Gordon, R.M., & McGonigle, D. (2018). *Virtual simulation in nursing education*. New York: Springer Publishing Company, LLC
- Hidayat, N. & Khotimah, H. (2019). Pemanfaatan teknologi digital dalam kegiatan pembelajaran. *Jurnal Pendidikan & Pengajaran Guru Sekolah Dasar*, 02 (01): 10 -15. Retrieved from <https://journal.unpak.ac.id/index.php/jppguseda>
- Indonesiabaik. (2017). Kelebihan dan Kemudahan Digitalisasi Sekolah. Retrieved from <http://indonesiabaik.id/infografis/kelebihan-dan-kemudahan-digitalisasi-sekolah>
- Kaur, H. (2019). Digitalization of education: Advantages and disadvantages. *International Journal of Applied Research* 2019; SP4: 286-288. Retrieved from <https://www.allresearchjournal.com/archives/2019/vol5issue4S/PartI/SP-5-4-86-517.pdf>
- Kennedy, K., Nowak, S., Raghuraman, R., Thomas, J., & Davis, S. (2000). Academic dishonesty and distance learning: Student and faculty views. *College Student Journal*, 34(2), 309–314
- King, C. G., Guyette, Jr., R. W., & Piotwoski, C. (2009). Online exams and cheating: An empirical analysis of business. *The Journal of Educators Online*, 6(1), 1 – 11. Retrieved from <http://www.thejeo.com/Archives/Volume6Number1/Kingetalpaper.pdf>.
- Makosa, P. (2014). Advantages and disadvantages of digital education. Retrieved from <https://www.researchgate.net/publication/264419797>
- Mastrian, K. G., McGonigle, D., & Mahan, W.L. (2011). *Integrating technology in nursing education: tools for the knowledge era*. Boston: Jones and Bartlett Publishers.
- Michael, T. B., & Williams, M. A. (2013). Student Equity: Discouraging Cheating in Online Courses. *Administrative Issues Journal Education Practice and Research*, 3 (2). DOI: 10.5929/2013.3.2.8
- Northcote, M., Mildenhall, P., Marshall, L., & Swan, P. (2010). Interactive whiteboards: interactive or just Whiteboards?. *Australasian Journal of Educational Technology*, 26 (4): 494-510. Access on <https://ajet.org.au/index.php/AJET/article/download/1067/327/>
- O'Donoghue, J., Singh, G., & Green (2004). A comparison of the advantages and disadvantages of IT based education and the implications upon students. *Interactive Educational Multimedia*, 9: 63-76. Retrieved from <https://dialnet.unirioja.es/descarga/articulo/4544753.pdf>
- Ozdamli, F. (2017). Attitudes and opinions of special education candidate teachers regarding digital technology. *World Journal on Educational*
- Pusat Inovasi Pembelajaran. (2013). Pembelajaran Dulu dan Sekarang. Retrieved from <http://pip.unpar.ac.id/publikasi/buletin/sancaya-vol-02-no-03-edisi-mei-juni-2014/pembelajaran-dulu-dan-sekarang/> October 22, 2020.
- Raines, D. A., Ricci, P., Brown, S. L., Eggenberger, T., Hindle, T., & Schiff, M. (2011). Cheating In Online Courses: The Student Definition. *The Journal of Effective Teaching*, 11 (1): 80-89. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1092169.pdf>
- Rolim de Holand, V., et al., (2013). Analysis of the national scientific production on the utilization of digital technologies for nurse education. *Revista electronica de*

- enfermagem.* 15 (4): 1068-1077. (10p). Retrieved from <http://dx.doi.org/10.5216/ree.v15i4.20568>.
- Selwyn, N. (2014). *Digital university and the contemporary university*. UK: Routledge Technology. Volume 09, Issue 4, (2017) 191-200. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1161616.pdf>
- Thoma, B., Turnquist, A., Zaver, F., Hall, A. K., & Chan, T.M. (2019). Communication, learning and assessment: exploring the dimensions of the digital learning environment. *Medical Teacher.* 41 (4): 385-390. (6p). Retrieved from <http://doi.org/10.1080/0142159X.2019.1567911>.