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PROSPECTS AND CHALLENGES OF UBIQUITOUS LEARNING IN GRADUATE EDUCATION IN NORTHERN PHILIPPINES

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Abstract:
This study explored the graduate school students' experiences on ubiquitous learning with focus on eliciting from them their personal realizations, insights, challenges, and difficulties as adult learners exposed to a learning framework that is not constrained with the limits of time and space. The study utilized the descriptive phenomenological research design. Seventeen graduate school students enrolled in the doctoral programs in a University granted with autonomous status by the Commission on Higher Education in the northern part of the Philippines were involved as participants and data were gathered through a technologically mediated interview and use of Google Form. Students who had been taught using the Moodle, MS Teams, Facebook Messenger, or Edmodo learning management system platforms in the instructional delivery of their courses for at least three (3) trimesters were included as participants. The student-participants generally expressed growing excitement and interest in their new modality of learning. Students had come to terms with their role as responsible adult learners, taking responsibility of their own pace and depth of learning. Students expressed that u-learning has enhanced their learning engagement, heightened their inter-learner collaborative practice, pushed them further to hone their technological skills and had sharpened their critical problem-solving skills.

Keywords: Ubiquitous learning, phenomenological design, Moodle, Edmodo, learning management platform.

1. INTRODUCTION

The 4th Industrial Revolution has ushered the use of more intensive and more elaborate use of technology in the different facets of human undertakings such as business, engineering, education, agriculture, health, and medicine. In the field of education, the use of advanced and emerging technologies has redefined the global learning landscape as it has become the crucial factor in making both the teachers and students become 21st century educators and learners. It has provided everyone with greater and faster access and mobility in education with the introduction of ubiquitous or u-learning.

But what is ubiquitous learning? A lot of educators and researchers have so far defined it in countless ways but Yahya, Ahmad, & Abd Jalil (2010) define it as "a learning paradigm which takes place in a ubiquitous computing environment that enables learning the right thing at the right place and time in the right way". Ogata et al. (2009) as cited by Kinshuk (2012) defined it as an "everyday learning environment that is supported by mobile and embedded computers and wireless networks in the learner's everyday life".

Ubiquitous learning has indeed revolutionized the present-day delivery of education as it has done away with the physical constraints of traditional learning and underscored its integration with adaptive learning providing learners with a form of education that is flexible, seamless, personalized, and customized based on their learning styles, cognitive characteristics, interests and needs (Jones & Jo, 2004; Kinshuk, 2012). The flexibility of u-learning offers both the learners and teachers with the capability to access and share educational content and information between and among each other regardless of time, location, distance, and other physical constraints through varied forms of wireless communication technologies such as mobile phones, portable laptops, personal digital assistants (PDAs) and wearable computers. Students and teachers now can communicate and interact with fellow learners and educators either synchronously or asynchronously to discuss subject matter content, conduct meetings, collaborate on class projects, assess performance, and create and share rich forms of digital content such as educational apps, high-resolution pictures and images, high-definition videos and tutorials, open educational resources, and a lot more.

Thus, one can truly say that ubiquitous learning is indeed the provision of any learning content and interaction anywhere and anytime (Hwang et al. 2008).

At St. Paul University Philippines, ubiquitous learning is a new educational idea or strategy being employed in the delivery of instruction in the Graduate School. This teaching-learning modality is utilized in the University to respond to the challenges of the 21st century educational landscape where the use of pedagogical technologies such as mobile apps has become the norm and a necessity for both the teachers and the students. In addition, the use of this teaching-learning strategy was also intended to sustain the University's commitment to quality and excellence and to ensure graduate school students' level of satisfaction in the services that it renders to its major clients, the students. A study conducted by Pizarro (2019) highlighted the graduate students' very satisfactory level of satisfaction in terms of their learning experience in this said higher educational institution in Northern Philippines.

This is to address the needs of graduate school students to access learning at their own pace with the use of electronic and mobile learning devices. This is made possible by the students' accessibility to digital media. It is for this reason that the researcher would like to find out the prospects and challenges in adopting this scheme of instructional delivery.

OBJECTIVES OF THE STUDY

This study sought to explore the lived experiences of graduate school students at St. Paul University Philippines on ubiquitous learning eliciting from them their personal realizations, insights, challenges, and difficulties as adult learners exposed to a framework where learning takes place anytime and anywhere.

Specifically, the study sought answers to the following questions:

1) How do the participants describe their experiences with ubiquitous learning?
2) What problems and challenges did the participants encounter with their experience of ubiquitous learning?
3) What are the participants' proposed intervention to address the problems and challenges that they have encountered in their experience of ubiquitous learning?

2. MATERIALS AND METHODS

The qualitative research design particularly the transcendental phenomenological method of research was utilized in this study as the researchers wanted to explore the participants' lived experiences with respect to ubiquitous mode of learning. This design requires the researchers to detach themselves from the phenomenon they are studying in order to reach the state of the transcendental and bias-free description and understanding of the phenomenon (Neubauer, Witkop, & Varpio, 2019). Students enrolled in the different programs in the Graduate School of St. Paul University Philippines and who had received instruction with the use of either the Moodle or Edmodo learning management system platforms for at least three (3) trimesters and had signified informed consent comprised the research participants of this study. Online interview using the Zoom application was utilized and the number of participants interviewed was determined based on data saturation. Data started to recur when the eleventh participant was interviewed and same was observed with the twelfth participant thus the researcher stopped the conduct of the interview with the twelfth participant. Thus, only twelve graduate school students enrolled in the doctoral programs in St. Paul University Philippines were formally interviewed as participants. During the conduct of the interview, the researchers were fully aware of their personal biases and prejudices about u-learning and saw to it that they set aside all these as this is a major requisite in doing phenomenological research to ensure neutrality in qualitative data gathering (Mehra, 2002). The data gathered from the participants were thematically analyzed to answer the study's research questions. Since doing qualitative research requires the researcher to put himself in another person's shoes and sees the world or the phenomenon from that person's perspective, it is important that during the course of data analysis and management that the researchers were true to the participants. It was through the participants' voices that the researchers tried to hear, so that the researchers would be able to interpret and report them for others to read and learn from (Sutton & Austin, 2015).

3. RESULTS AND DISCUSSIONS

A. Participants' Description of their Experiences with Ubiquitous Learning

a.1 *Excitement with the New Technology*

The Graduate School participants generally expressed growing excitement and interest in their new modality of learning that goes beyond the limitations of both time and space. Most of the participants were honest in verbalizing that it is their first time to experience learning using online learning management platforms such as EDMODO and Google Classroom although most have been exposed to the use of the University's electronic Dynamic Instructional System (EDIS) that operates within the MOODLE platform. The Edmodo platform of learning is entirely a new experience for the participants where they can access learning materials either through their desktop or mobile gadgets. Despite the not so young age of the participants with mean age of 33.25, as they are already studying in the Graduate school, their being able to learn how to navigate and interface the platform is a manifestation that age may not be a deterrent to learn some new technologies in learning. This finding on the feeling of the participants' excitement run parallel to the findings of the study of Vaportzis, Clausen, & Gow (2017) where most of their older participants were eager too to adopt new technologies in learning and willing to learn using mobile gadgets.

a.2 *Deeper Awareness of One's Role as Adult Learner*

One of the general realizations culled from the graduate students' reflections is coming to terms of their own deeper awareness of their role as responsible adult learners where they take serious responsibility of their own pace, depth, and quality of learning. The graduate students' generally have come to realize the need for them to continuously enrich their knowledge and skills as these are very essential and crucial to their growth and development in their personal and professional life. Their experience of ubiquitous learning had brought them to even greater level of consciousness of what it means to be a lifelong and a self-directed learner. Their experience of a borderless 24/7 learning modality had forced them to learn and acquire the needed skills to use varied technology-driven learning tools and mobile apps as these are pervasively utilized in the 21st century learner-centered society. Stubbé & Theunissen (2008) pointed out in their study that formal training alone cannot meet the need for development of working individuals in a rapidly changing technological society and recognized that self-directed learning is considered as a solution for adult learners to keep up with these changes.

a.3 *Heightened Learning Engagement*

Students expressed that u-learning has enhanced their learning engagement and has heightened their inter-learner collaborative practice. The use of online learning platforms has enabled the graduate students to collaborate with their fellow adult learners in planning, monitoring and in implementing their course related requirements and projects such as research and online presentations. More than ever, their ubiquitous mode of learning has afforded them flexible time to discuss their course content asynchronously through discussion forum and synchronously through chat and video-conferencing modalities. A significant number of students had voiced-out the excitement and fun that they had sending their queries anytime of the day to their mentors and fellow learners and getting answers and feedbacks from them immediately, unconstrained by time and distance. As adult-learners, u-learning had afforded them the chance to act as leaders in their group activities and to facilitate class discussions in an online class composed of students of diverse racial and cultural backgrounds. Filipino students find it exciting to exchange thoughts and learning insights with fellow learners from China, Indonesia, Thailand and from the United States of America thus enriching them with their real online experiences and encounters.

a.4 *Enhanced Problem-Solving Skills*

The participants of this study openly expressed that their exposure to ubiquitous learning had indirectly sharpened their critical problem-solving skills. With the use of online resources and software, students are better able to solve course-related problems, problem sets and case studies and scenarios as the technology-driven resources available through mobile apps can provide students with answers and solutions more speedily and more accurately. With ubiquitous learning, students are provided with an array of plausible technology-driven options to solve coursework problems.

B. Problems and Challenges Encountered by the Participants with their Experience of Ubiquitous Learning

b.1 *Internet Connection, Speed and Cost*

Since majority of the participants are Filipinos and only a few are non-Filipinos, internet connection, cost and speed had been openly voiced-out as common problem in their experience of ubiquitous learning particularly when online time-constrained and time-limited examinations are given them. In a study conducted by Salac and Kim (2016), they have pointed out that Philippines' "internet infrastructure is way behind among those of contemporary developing countries in Asia, particularly in terms of Internet connectivity". Furthermore, in the study they have conducted they have mentioned that in 2015, the Philippines had merely an average internet speed of 2.8Mbps when compared with Thailand (7.4 Mbps), Sri Lanka (7.4 Mbps), and Malaysia (4.3 Mbps), thus, placing the country only at 104 among 160 countries. The participants generally described their internet connection as unstable and unreliable making their experience of ubiquitous learning truly challenging. Indeed, the success of ubiquitous learning is greatly dependent on internet connectivity and speed. Learners' momentum and drive for u-learning may be affected with the kind of internet experience that they have. In addition to internet connection and speed, the participants although most if not all of them are gainfully employed, find the cost of their internet consumption as a bit expensive. In a news article written by Gonzales (2015), he underscored that the Philippines' internet is not only the 2nd slowest in Asia but one of the most expensive as well with an average value of $18.19 per Mbps which exceeds the global cost of $5.21. Definitely an ubiquitous learner would find enjoyment and fun learning when his or her internet connection and speed is not a problem. Thus, in this study the participants realized the need for better signal as well as cost-friendly and faster internet connection as these concerns has hampered the success of their u-learning experience.

b.2 *More Time Needed in Learning the Use of Mobile Apps for Teaching and Learning*

One of the most notable difficulties encountered by the participants is how to interface with some mobile apps and learning platforms utilized by their professors such as Google classroom, Edmodo, Google Forms, Zoom, among others. As adult learners, majority expressed their difficulty in navigating and in interfacing with all the features of the mobile apps and learning platforms. They said they needed time to be able to learn how to navigate through these technology-driven learning resources as they consider them as something new given their different experience of a traditional classroom setup during their master's and their undergraduate academic journey. Although most mobile apps are easy to navigate, learners indeed need sufficient time to learn how to use them to optimally benefit their use and functionality.

C. Participants' Proposed Intervention to Address the Problems and Challenges Encountered by them with their Experience of Ubiquitous Learning

The participants in this research saw the need to subscribe to mobile network providers that offer faster, more reliable, and more affordable cost of internet services. They also felt the need to have their own dedicated internet line that is not shared with anyone in their learning stations, be it at home or in their workplaces so that their internet connections will not be compromised and thereby enable them to really learn anything, anywhere and anytime. They also suggested that network providers increase the number of their cell sites to provide their clients, particularly the teachers and learners with better access to learning and instructional opportunities.

With respect to learning certain mobile apps and learning management platforms, they verbalized to allocate time to learn them during their vacant time as there are a lot of available free online tutorials thru YouTube and other sites that can possibly help them with these concerns. They said they need to gain mastery utilizing them to get the most out of their learning experience. In fact, Johnson, Adams, & Cummins (2012) emphasized in their study that a "rapidly advancing mobile computing technologies along with abundant mobile software applications (mobile apps) make ubiquitous mobile learning possible".

CONCLUSION

Despite certain manageable obstacles to ubiquitous learning, the prospects and great potential of u-learning to advance graduate education through well designed learning management platforms and effective use of mobile technologies and open educational resources is high and is foreseen to grow infinitesimally in the years to come. Technological innovations and breakthroughs will continue to be a major factor in effecting changes in the way learning content is delivered and accessed by the students in the graduate school. Professors and graduate students will now be compelled to deepen their knowledge and hone their technological skill and expertise to make the experience of ubiquitous learning more exciting, rewarding and successful.

REFERENCES

1. Chen, X., Zou, D., Xie, H. et al. Past, present, and future of smart learning: a topic-based bibliometric analysis. Int J Educ Technol High Educ 18, 2 (2021). https://doi.org/10.1186/s41239-020-00239-6
2. Cope, B., & Kalantzis, M. (Eds.). (2010). Ubiquitous learning. University of Illinois press.
3. Gonzales, Y. (2015, May 19). PH Internet 2nd slowest in Asia, one of the most expensive. INQUIRER.net. Retrieved from https://technology.inquirer.net/42293/ph-internet-2nd-slowest-in-asia-one-of-the-most-expensive
4. Hwang, G.-J., Tsai, C.-C., & Yang, S. J. H. (2008). Criteria, strategies, and research issues of context-aware ubiquitous learning. Educational Technology & Society, 11(2), 81–91.
5. Johnson, L., Adams, S., & Cummins, M. (2012). Mobile apps. The NMC horizon report: 2012 higher education edition. Austin, Texas: The New Media Consortium.
6. Jones, V., & Jo, J. H. (2004, December). Ubiquitous learning environment: An adaptive teaching system using ubiquitous technology. In Beyond the comfort zone: Proceedings of the 21st ASCILITE Conference (Vol. 468, p. 474).
7. Kinshuk, Graf S. (2012) Ubiquitous Learning. In: Seel N.M. (eds) Encyclopedia of the Sciences of Learning. Springer, Boston, MA. https://doi.org/10.1007/978-1-4419-1428-6_224
8. Mehra, B. (2002). Bias in Qualitative Research: Voices from an Online Classroom. The Qualitative Report, 7(1), 1-19. Retrieved from https://nsuworks.nova.edu/tqr/vol7/iss1/2
9. Neubauer, B. E., Witkop, C. T., & Varpio, L. (2019). How phenomenology can help us learn from the experiences of others. Perspectives on medical education, 8(2), 90–97. https://doi.org/10.1007/s40037-019-0509-2
10. Pizarro, J. B. (2019). Sustaining Clients' Index of Satisfaction at the Graduate School Level in a Catholic University in Northern Philippines. American Journal of Educational Research, 7(4), 338-342.
11. Schwab, K. (2016, Jan 14). The Fourth Industrial Revolution: What it means, how to respond. World Economic Forum. Retrieved from https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/
12. Stubbé, H. E., & Theunissen, N. C. (2008, June). Self-directed adult learning in a ubiquitous learning environment: A meta-review. In Proceedings of the First Workshop on Technology Support for Self-Organized Learners (pp. 5-28).
13. Sutton, J., & Austin, Z. (2015). Qualitative Research: Data Collection, Analysis, and Management. The Canadian journal of hospital pharmacy, 68(3), 226–231. https://doi.org/10.4212/cjhp.v68i3.1456
14. Vaportzis, E., Clausen, M. G., & Gow, A. J. (2017). Older Adults Perceptions of Technology and Barriers to Interacting with Tablet Computers: A Focus Group Study. Frontiers in psychology, 8, 1687. https://doi.org/10.3389/fpsyg.2017.01687
15. Yahya, S., Ahmad, E., & Abd Jalil, K. (2010). The definition and characteristics of ubiquitous learning: A discussion. International Journal of Education and Development using ICT, 6(1).