The Effects of Gadgets Under Remote and Distance Learning on Students' Academic Performance During the COVID-19 Pandemic

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Abstract— Because of the emergence of the COVID-19, the way schooling and instruction are implemented has changed dramatically. Traditional educational methods such as live interaction sessions are the data favoring Remote and Distance (RAD) learning. As a result, a way to resolve the issue is necessary. Remote and Distance learning is indeed a viable option for resolving this issue. This research assessed digital health literacy using an instrument only concentrated on data collecting. The tool was utilized to ascertain various talents, including actual competencies. It was designed to evaluate operating, navigational, knowledge acquisition, dependability, and relevancy of self-determined and created content. The purpose of this research was to ascertain how students enrolled in a university-level organization in Cebu City demonstrated their educational performance in terms of digital application and competency. The study analyzed results quantitatively using a survey online administered using Google forms to a random sample of regular nursing students stratified by age, sex, and educational achievement. The study included sociodemographic characteristics, web usage, and health-related literacy information. Statistics for descriptive purposes, T-test, ANOVA with Post Hoc Analysis, and Chi-square were utilized as a research tool. Participants, primarily girls (112) and men (18), were between 18 and 23 years old, with an educational level ranging from first to the fourth year. The findings indicated that students are more reliant on electronics to assist them in achieving their educational success. The main constituent analyses verified the self-report scale's theoretical structure (eighty-two percent of variation explained). Remote and Distance learning respondents' data and the influence of gadgets on their educational performance were analyzed using a test called chi-square goodness of fit. Additionally, its success reflects learners' ability to use technological tools in their academic achievement effectively.

Keywords: Educational achievement; digital literacy; remote and distance learning; nursing students; technologies, gadgets, COVID-19 outbreak

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1 INTRODUCTION

IN In curriculum strategies, learning is defined as a planned exercise designed to make the course more dynamic (Enriquez, 2014). As a result, learners and instructors engage. Additionally, learners are still unlikely to study without the assistance of an instructor; hence, the two parts are inextricably linked. In such an educational environment, knowledge acquisition occurs as a result of interactions among learners, instructors, and instructional materials. Consequently, in March of 2020, the process of learning was stymied. This was due to the COVID-19 crisis, which rendered universities incapable of learning in physical set-up and forced them to rely on an internet procedure. Thus, digital learning aims to assist the administration in avoiding the development of COVID-19 inside school environments. The term "online" is frequently used in conjunction with digital solutions, such as apps or social networking sites. According to Wahid (2020), considering COVID-19, digital networking and virtual training were related to constructing a Remote and Distance learning system. It shows that the focus of education has switched from conventional to Remote and Distance learning due to the COVID-19 problem. As a result, every presentation that served as a remedy during the COVID-19 crisis was considered web-based education. According to Pikas & Grant (2013), web-based learning is accomplished via the use of a digital network that has connectivity, accessibility, versatility, and competence to facilitate a variety of academic engagements. Koruco & Alkan (2016) demonstrated that the combination of the web and multimodal technologies could transform how information is conveyed and serve as a viable substitute for traditional classroom learning. Thus, this enables the interaction of learners and instructors and the interaction of education via the use of online assistance (Enriquez, 2014).

At the operational phase, Remote and Distance learning needs the use of portable gadgets, such as cellphones or laptops, PCs, tablets, or iPad, to allow for information accessibility at any moment or location (Gikas et al., 2013). As a result, higher education institutions must bolster digital learning throughout the home set-up experience of students (Castrillon-Angel, 2021). Being a vital component of the industrialized transformation, digital schooling has become a significant phenomenon in the educational field (Wahid, 2020). Smartphones and technology play a critical role in educational institutions, particularly in achieving distant educational objectives (Korucu et al., 2015). For illustration, the Zoom application and Google Classroom application may facilitate the implementation of remote classrooms, such as digital classes. When it comes to online network sites like Twitter, Facebook, and Instagram, this is notably relevant (Pazurek, 2021). Additionally, digital education links learners to practically detached or geographically dispersed learning resources and enables them to communicate, interact, and cooperate (synchronously and asynchronously).

2 PRESENTATION, ANALYSIS, INTERPRETATION OF RESULTS

The two categories were indistinguishable from one another considerably, $t(130) = 1.98$, $p = .15$, $d = .95$, 95% CI [-.54, 2.94]. From the group of the males, considering the mean and standard deviation ($M = 1.89$, $SD = 1.57$) was indistinguishable from the gathering of the female population ($M = 1.82$, $SD = 1.64$). Such findings disprove the concept that the usage of computers and other digital devices in the school has a higher effect on the scholastic accomplishment for female learners than on the productivity of male learners.

Due to the usage of digital programs, another benefit of digital learning is the ability to boost student autonomy in the educational process (Batubara, Our, Lubis & Arianto, 2021). Online research by Kuo, Walker, Shroder & Belland (2014) found that the emphasis on student-centeredness made it feasible for learners of both sexes to develop a sense of responsibility and self-direction in their studies. As a result, digital learning demands students to self-assess and monitor their progress while concurrently evaluating, controlling, and maintaining their eagerness to learn (Sobron and Bayu, 2019).

Learners' academic abilities was still not affected by the use of devices within Remote and Distant learning in any of the six age groups studied., $F(5,124) = 1.19$, $p > .001, \eta^2_p = .66$. Post hoc testing revealed significant differences between the six-age group in which age eighteen ($M = 2.00$, $SD = 1.41$), age nineteen ($M = 1.94$, $SD = 1.59$), age twenty ($M = 2.06$, $SD = 2.06$), age twenty-one ($M = 1.60$, $SD = 1.29$), age twenty-two ($M = 1.65$, $SD = 1.40$), and age twenty-three ($M = 3.67$, $SD = 2.52$).

Besides using their devices in connection to their academia, learners also use their electronic devices in different ways, and each one has a distinct influence on them. For example, it wasn't just for educational purposes that learners in their college years (ages 18-23 years old) utilize devices to access social networks such as YouTube and other learning apps. In addition to the discussion, it does not also simply for educational purposes. According to Batubara et al. (2017), communication and social platforms have entered the lives of learners as young as they are. Students utilize digital networks to identify themselves, interact with others, and express their opinions on a wide range of issues (Kim, Wang & Oh, 2016). Regrettably, many individuals have been hooked to electronic gadgets as a result of their frequent use (Pazurek, 2021). In this case, hence the necessity to be concerned regarding the incorporation of incorrect material and lack of recognition throughout learning as a result of distraction from social media (Kim et al., 2016). Conversely, learners who are hooked to electronics or accessories are more likely to have scholastic and social difficulties and emotional and behavioral challenges (Molenda, 2005).

Chi-square goodness of fit test was used to test whether the demographic profile and the effects of gadgets under modular learning on students' academic performance differed from randomness. Expected frequencies in all cells were more remarkable than five. This permit from age clusters in which age eighteen (4) differed statistically significantly from age nineteen (31), age twenty (74), age twenty-one (80), age twenty-two (38), and age twenty-three (11). Permits from the sex category in which males (34) differed significantly from females (204). This then Permit from educational attainment cluster in which first year (1) differed statistically significantly from the second year (128), third year (58), and fourth year (51). $x2(5, N = 238) = 125.48$, $p= .001$, Cramér's $V = .31$, indicating that students who are female who belong to age twenty-one and on their second-year level preferred mobile and laptop gadgets under modular learning on students' academic presumably for its accessibility and convenience during education.

The digital device in larding usage in the Philippines has increased as a result based on its trajectory going up for "Information and Communication Technology" ("I.C.T.") (Dela Rosa, 2016). According to statistics from 2018, 62.41 percent of Pinoy students already had mobile devices, while 20.05 percent of families had a personal computer (Abalao, Diaz, & Macapagal, 20202021). This data is helpful in the study findings since it reveals that specific learners do not have access to a laptop, although the majority currently have a cellphone. According to the survey results, fifty-four students own both smartphones and computers, while forty-two students have cell phones. Furthermore, students taking the course through distance learning may benefit from the use of mobile devices and computers (Hou, & Meta, 2020). There are several advantages of employing content and interaction with the computer to deliver instructional technological advances, including the absence of geographical and temporal limits (Abalao et al., 2021). Kim et al., 2016 had emphasized that a large number of studies have indeed looked at the utilization of technologies in schooling, particularly cellphones and laptop computers. Learners can understand more about distance learning because of the ease with which cellphones and computers can connect to the web.

3 CONCLUSION

According to the findings, learners possess the resources and equipment to undertake Remote and Distance Learning via devices. It is an effective method for addressing aspects of learning, enabling teachers and learners to interact in virtual classrooms at any time or location. Learner autonomy and greater productivity are two additional benefits of digital learning. Virtual learning does have numerous drawbacks, one of which is the difficulty of effectively supervising learners during the course. For Remote and Distance learning, poor network connections and hefty fees also pose obstacles. COVID-19 spreads less at colleges because of online education. Notwithstanding this, Remote and Distant learning has been shown to minimize the prevalence of COVID-19 infection at institutions significantly.

References

[1] Ablao, C., Diaz, D., & Macapagal, J. (2021). Challenges of Distance Education Assessment in the Health Professions during the COVID-19 Pandemic: A Philippine Reflection in

the Rapid Review of International Context.

[2] Batubara, N., Nur, K., Lubis, A., & Arianto, N. (2021). The Effectiveness of Learning Using Social Media during the Covid 19 Pandemic in Higher Education (pp. 2177–2188). https://doi.org/10.33258/birci.v4i2.1908

[3] Castrillon-Angel, E. (2021). Critical Digital Literacy. The Handbook of Critical Literacies. https://doi.org/10.4324/9781003023425

[4] Dela Rosa, J. (2016. Experiences, perceptions, and attitudes on ICT integration: A case study among novice and experienced language teachers in the Philippines (Vol. 12, Issue 3, pp. 37–57).

[5] Enriquez. 2014. Students Perceptions on the Effectiveness of the Use of Gadgets as a Supplementary Tool for Learning. DLSU Research Congress 2014.

[6] Gikas, J., & Grant, M. 2013. Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones & social media. Internet and Higher Education.

[7] Hou L., and Mehta S., (2020) Impact of the COVID-19 pandemic on global health research training and education. J Glob Health. 2020; 10(2):020366. DOI:

[8] 10.7189/jogh.10.020366

[9] Kim Y., Wang Y., & Oh J. (2016). Digital Media Use and Social Engagement: How Social Media and Smartphone Use Influence Social Activities of College Students. Cyberpsychol Behav Soc Netw. (4):264-9. DOI: 10.1089/cyber.2015.0408.

[10] Korucu, A. T., & Alkan, A. 2011. Differences between m-learning (mobile learning) and elearning, basic terminology and usage of m-learning in education. Procedia - Social and Behavioral Sciences.

[11] Kuo, Y., Walker, A., Shroder, K., & Belland, B. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses (Vol. 20, pp. 35–50).

[12] Molenda, M. 2005. Instructional Technology and Media for Learning. New Jersey Colombus, Ohio.

[13] Pazurek, A. (2021). Social Media for Connected Learning and Engagement in Online Education.Educational Communications and Technology: Issues and Innovations https://doi.org/10.1007/978-3-030-85078-4_11

[14] Wahid, R., (2020). Digital Activism: Covid-19 Effects in Campus Learning. Budapest International Research and Critics in Linguistics and Education (BirLE) Journal. P.