

IMPACT OF VIRTUAL LEARNING AMONG FILIPINO PRE-SERVICE TEACHERS

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Abstract

This study looked into the pre-service teachers' personal growth amid the difficulties of online learning during the COVID-19 pandemic. A descriptive-qualitative method used an online questionnaire containing open-ended questions to collect the participants' narrative information. The participants involved 79 pre-service teachers with internet connectivity. The researcher identified the students' benefits or personal growth with online learning by analyzing their written narratives and responses to the online questions. The researcher identified and categorized the themes into the pre-service teachers' personal growth, including the major difficulties they met. The findings showed that pre-service teachers encountered passive interaction, distractions, modules problems, and time management difficulties as effects of poor internet connectivity. However, amid these struggles, they have developed personal growth by becoming independent learners and they learned to value family life.

Keywords: Covid-19, challenging, experiences, virtual, pandemic.

Introduction

Covid-19 pandemic has brought inevitable changes in global education, substituting face-to-face classroom interaction with virtual or online learning. One of the enormous changes is making the students learn independently or interact with instructors and other students using the internet as delivery mechanism (Norman, 2016 in Huang, Liu, Amelina, Yang, Zhuang, Chang, & Cheng, 2020).

Online learning is learning via electronic emails, slideshows, videos, PDFs, and Word documents, webinars or live online class. Using electronic learning serves as a bridge that makes the person feel as if inside the classroom (Khan & Raad, 2020). It is a learning modality that makes the teaching-learning process more student-centered, more innovative, and even more flexible (Singh & Thurman, 2019 in Suryaman et al., 2020).

Research has found that a well-designed, documented, and structured online learning facilitates active engagement (Palmer & Holt, 2008 in Hope Kentner, 2015). Well-designed materials will guide students in such a self-directed learning environment. Online learning materials require deep thinking to remove barriers that students may encounter (Paygar, 2014).

Tauranga, Thua, and Tana (2011) considered a synchronous virtual classroom as "the technology of the future" and an integral part of the state-of-the-art blended learning portfolio that enhances instruction. Some researches support positive statistically significant effects for student learning outcomes in the online or hybrid format compared to the traditional face-to-face format. For Ajmal, Alrasheedi, Keezhatta, & Yasir (2020), technological tools are

supplementary and cannot completely replace physical classrooms. Students encountered obstacles in accessing, especially when there is limited internet access in the area. Hansson (2021) stressed that internet access is difficult among young learners while learning online, where a teacher-centered approach is prevalent. However, this contributed to the trainee teachers' increased global awareness and found online learning a climate-friendly alternative to traditional teaching.

In the Philippines, where internet connectivity seems a problem, Filipino students encountered varied challenges, however, this study focused on students' personal growth while learning online, despite the COVID-19 pandemic.

Related Studies

Internet accessibility serves as the "backbone" of online learning. Without a stable and efficient internet connection, students will only face many frustrations instead of developing and enhancing literacy based on the new technology (Chantel, 2002; LeLoup & Ponterio, 2000 in Cortez, 2020).

Teachers should consider the shift for online learning if internet connectivity is an issue among the learners. Alipio (2020) reported that students manifested low-level readiness for e-learning due to the lack of equipment (e.g., computer, speakers) and internet connection problems, especially in several rural areas.

Gillett-Swan (2017) found that anxiety in using technology that the students experienced affects attendance and participation in the online class. Online learning effectively provides a world-class education to anyone with a broadband connection (Bartley & Golek, 2004; De la Varre, Keane, & Irvin, 2011; Gratton-Lavoie & Stanley, 2009; Koller & Ng, 2014; Lorenzetti, 2013 in Nguyen (2015). Kitishat, Al Omar, Al Momani (2020) revealed positive attitudes and awareness about distance-learning or blended hybrid learning to benefit students as long as the facilities are available. Students manifested readiness for distance learning despite some challenges they encountered.

In contrast, Reyes-Chua and colleagues (2020) indicated that although all the E-learning platforms used by the respondents are free of charge, students still have encountered problems like the lack of resources, Wi-Fi connectivity, and lack of training and faculty members. Moralista and Oducado (2020) expressed negative impressions of online learning, resulting in more academic dishonesty, impersonality, and lack of feeling than face-to-face classes, and challenging to manage in terms of technology.

On the other hand, learning style is a factor affecting the online learning environment. Kebritchi, Lipschuetz, & Santiago (2017) stressed that adopting the learning styles in online courses can be challenging for learners (Mayes et al., 2011; Luyt, 2013). Some students rely on online documents, and the lack of class interaction or personal contact with classmates and visual stimuli limits their learning (Baticulon, 2018, and colleagues).

Putri et al. (2020) and Purwanto et al. (2020) revealed that student interaction or limited communication and outreach among students and longer screening times are some of the

challenges in online learning. Students' struggle in online learning is the limited social interaction where students do not directly connect with teachers to ask questions during class to expand their insight on a topic. They interact in emails and often engage in online discussion (Kokemuller & Media, 2014 in Paygar, 2014).

Daniels, Sarte, and Dela Cruz (2019) found that by e-learning environment allows communication between instructors and learners. However, compared with face-to-face classrooms, the learning pace in online learning is slower because there is a lack of interaction and sense of community coupled with isolation feeling among the students (Skordis-Worrall, Haghparast-Bidgol, Batura, and Hughes, 2015).

Students find it challenging to concentrate and understand some concepts in a virtual environment (Daroedono, Siagian, Al-Arabiya, et al. in Baticulon, 2018). However, this situation leads and motivates the students to become active learners (Ruiz, Mintzer, and Leipzig, 2006; George, Papachristou, Belisario, et al., 2014 in Baticulon and colleagues, 2018).

To provide a sufficiently interactive learning environment, curriculum planners need to prepare a well-designed online pedagogy (Driscoll, Jicha, Hunt, Tichavsky, and Thompson, 2012). Online teaching ensures interaction, where teachers give prompt feedback (Perry and Janzenl, 2011 in Ní Shé, Farrell, Brunton, Costello, Donlon, Trevaskis, & Eccles, 2019).

Ali (2020) stressed the importance of students' motivation, readiness, confidence, and accessibility important in online learning. Motivation urges a person to do something out of curiosity and enjoyment (Hung et al., 2010, p. 1082). Motivation for learning in online settings plays a critical role in learners' success, aligning learners' efforts with learners' desires and increasing learner retention (Saade, He, & Kira, 2007).

Highly motivated learners are the most likely to take the most advantage of online learning opportunities (You & Kang, 2014, Savenye, 2005 in Gilbert, 2015) and accomplish online learning materials more (Zamari et al., 2012 in Cortez, 2020). Motivation, with peer, and family support, time management skills and increased communication with the instructor is a factor in online learning (Hart, 2012). Therefore, students need to keep up the motivation for the lack of independence and self-motivation results in lower success rates (You & Kang, 2014, Savenye, 2005 in Gilbert, 2015). Giving immediate feedback and responses from instructors was critical to students' learning (Sun, Anna, & Chen, 2016).

To some students, online learning has also been conducive, especially for those who favor self-regulated learning. These students utilize different skills - time management, regular review of the material, seeking help from instructors or peers, meeting deadlines, and metacognition skills (You & Kang, 2014; Savenye, 2005; Gilbert, 2015).

Jesson, Meredith, & Rosedale (2015) suggested that students could spend more of their own time on school tasks independently. Parents should get involved in students' learning, communicating aspirations, setting routines, and assisting by making sure their children make

wise decisions about their use of sites and communication online, given the digital nature of their activities.

Suryaman et al. (2020) revealed that the internet costs more budget, communication, socialization with other students, mastery of technology, isolated environment during online lessons, lack of discipline, and good behavior for learning are barriers to online learning.

Students face technical difficulties that hamper the communication between the learner and the educator, consequently, slow down learning. Poor connectivity loses direct communication and human touch in online learning (Favale et al., 2020 in Dhawan, 2020). Ajmal, Alrasheedi, Keezhatta, & Yasir (2020) pointed out that technological tools are supplementary and cannot completely replace physical classrooms. Students encountered obstacles in accessing, especially when there is limited internet access in the area. Similarly, Al-Shammari (2020) revealed that students favored the use of social media during the covid 19 pandemics. The social media tool enabled them to be more active. However, poor network infrastructures, internet inaccessibility problems, and poor digital skills hinder online education.

As outcome of a paradigm shift, self-regulated learning has become a master of personal learning processes. Self-regulated learning is a self-directed process of transforming the students' mental abilities or performance skills into task-related skills in diverse areas of functioning (Zimmerman, 2015 in Huang, Liu, Amelina, Yang, Zhuang, Chang, & Cheng, 2020). Mukhtar, Javed, Arooj & Sethi (2020) found that online learning modalities motivated student-centeredness, and they become self-directed learners while learning asynchronously at any time in a day. It reduced traveling expenses and eased tasks such as recording lectures and marking attendance.

Stephanie, Blackmon, and Claire (2012) stressed that in online learning from home, students experienced balancing school and life, time management, acceptance of personal responsibility, instructor (in) accessibility, and connection with peers.

Despite the advantages of online learning, the institution must address the challenges that students may encounter. Online educators should remain enthusiastic and organized during the course and developing novel or creative activities Edwards et al. (2011 in Ní Shé et al., 2019). Online programs should be creative, interactive, relevant, student-centered, and group-based (Partlow & Gibbs, 2003 in Shivangi Dhawan, 2020).

Purpose of the Study

This research undertaking looked into the challenging experiences encountered by the pre-service teachers of ISAT U Miagao Campus. Their online learning perspectives are outcomes of their actual experiences being exposed to virtual learning while staying at home during the Covid 19 - pandemic. The study answered the following research questions:

1. What difficulties did pre-service teachers' encounter with online learning amid COVID-19 pandemic?

2. What personal growth did they develop while learning online amid COVID-19 pandemic?

The following theoretical models support the study: Connectivism (George Siemens, Stephen Downes), Social constructivist learning (Vygotsky, 1978), and The Theory of Transactional Distance (Moore, 1993). Connectivism (George Siemens, Stephen Downes) is a learning theory that explains how internet technologies have created new opportunities for students to learn and share information across the world wide web and among them. George Siemens (2005) discusses how knowledge acquisition is changing from what is known to finding the needed information, leading to continual learning for an individual based on one's ability to find the correct information, connect it with past and current information, and thus increase his or her knowledge. Vygotsky (1978) asserts that collaborative activities promote knowledge construction. Peer interaction can assist and challenge one another while they establish and share instructional goals. According to Moore (1993), the Theory of Transactional Distance is a transactional distance as a psychological or communicative space that separates the instructor from the learner in the transaction between them, occurring in the structured or planned learning situation. Virtual classroom promotes quality dialogue related to the purpose and use of the classroom, which affects learner autonomy.

Methodology

The study utilized descriptive qualitative research method to explore the participants' personal growth amid the difficulties of online learning during the COVID-19 pandemic. Seventy-nine (79) pre-service teachers shared their experiences using the Google Form to gather data. The students shared their stories through narrative written form. The study participants involved the secondary and elementary pre-service teachers who engaged in a flexible learning approach- online learning via Facebook, Google Meet, Zoom, or Messenger. The researcher explained the objectives of the study after seeking their consent as participants. The researcher also reminded the students of their freedom to withdraw anytime they feel uncomfortable responding to the online interview.

The study utilized a researcher-designed open-ended questionnaire to gather information on students' virtual learning experiences. The students expressed various views regarding their online learning experiences by answering the open-ended questions in written narratives.

The researcher analyzed the participants' written narratives and identified the themes that emerged as their challenging experiences on virtual learning.

Triangulation of the information was in a follow-up online interview with select participants through group discussions and sharing their online learning perspectives.

Results

Students' Difficulties of Virtual Learning

Students encountered difficulties with internet connectivity, passive interaction, distractions, module, and time management.

Poor Internet Connectivity. The students struggle with poor, unstable, or intermittent internet connections. Some go outside of the house to find a good signal; "I cannot concentrate; I cannot download the modules; I find it hard to understand the other activities given by my teacher; I cannot absorb or digest the learning strategies and techniques of my teachers."

Internet accessibility serves as the "backbone" of online learning. Unstable and inefficient internet connection, frustrate the students (Chantel, 2002; LeLoup & Ponterio, 2000 in Cortez, 2020). Reyes-Chua, Sibbaluca, Miranda, Palmario, Moreno, and Solon (2020) found that Wi-Fi connection and lack of training are students' difficulties handling online classes. Alipio (2020) reported that low-level readiness among the students because of in availability or lack of computer, speakers) Moreover, internet connection has been a problem, especially in several rural areas.

Passive interaction. Because there is no active interaction between students and their instructors or classmates, they cannot understand the lesson well, "It's really hard to study on you alone; it is hard to find answers to questions or resolve difficulties, discussion forum participation is low. I can't understand well our major subjects because it really needs discussion for us to absorb everything. Can't interact freely with my classmates; I'm just answering it for the sake of passing the requirements," "I don't know if my understanding is really right; "It is like we are doing all the requirements to pass but not to learn." There is communication barrier. I'm having a hard time to contact some of my teachers if I have questions. In some cases where I need clarification, I don't have someone to ask to."

Students face technical difficulties that hamper the communication between the learner and the educator, consequently, slow down learning. Poor connectivity loses direct communication and human touch in online learning (Favale et al., 2020 in Dhawan, 2020). The students' struggle in online learning is the limited social interaction where they do not directly connect with teachers to ask questions during class to expand their insight on a topic (Kokemuller & Media, 2014 in Paygar, 2014). Students find it challenging to concentrate and understand some concepts in a virtual environment (Daroedono, Siagian, Alfarabi, et al.in Baticulon, 2018), peer-to-peer interaction can support and challenge one another to construct meanings and establish shared instructional goals (Vygotsky, 1978).

Distractions. Noise students hear around and home chores are barriers to their learning from home. "Noise is annoying; we cannot hear clearly what the teacher is trying to say; I cannot concentrate on my online class because I babysit my nephew; Noisy surroundings, children's loud noise." There are many disturbances. Students find it challenging to concentrate and understand some concepts in a virtual environment.

Baticulon and colleagues (2018) stressed that community learning barriers or distractions like performing responsibilities at home encountered by the students affect their learning style. Stephanie, Blackmon, and Claire (2012) stressed that students experienced balancing school and life and facing personal responsibility in online learning. Caring for young children affects the attendance and participation of students in regular online class sessions (Gillett-Swan, 2017).

Module. As an instructional material, the module is difficult to answer. For students, they expressed their frustrations by saying, "It contains many activities. It is hard to understand the lessons due to a lack of discussion and interaction" "Answering my module is bothering, surprising, and mind-blowing." I am getting frustrated; I keep on answering and answering yet not learning at all."

Students' struggle in online learning is the limited social interaction where students do not have access with teachers to ask questions during class to expand their insight on a topic (Kokemuller & Media, 2014 in Paygar, 2014). Giving immediate feedback and responses from instructors especially with modular instruction were critical to students' learning. Effective online instruction is dependent on motivated interaction between the instructor and learners, well-prepared and fully supported instructors (Sun, Anna & Chen (2016). Highly motivated learners are the most likely to take the most advantage of online learning opportunities (You & Kang, 2014, Savenye, 2005 in Gilbert, 2015) and accomplish online learning materials more ((Zarlina Mohd Zamari et al., 2012 in Cortez, 2020). Motivation, with peer, and family support, time management skills and increased communication with the instructor is a factor in online learning (Hart, 2012).

Time management: Students find it hard to balance schedules in doing the assignments and household chores, "I cannot manage my time in doing many activities and our responsibilities at home doing household chores; we divide our time into many activities. It lessens our time to help inside the house." Stephanie, Blackmon, and Claire (2012) stressed that students need to balance school and life, develop time management, and accept personal responsibility in online learning. You & Kang (2014, Savenye, 2005 in Gilbert, 2015) emphasized that students have to develop and utilize different skills - time management, regular review of the material, and seek help from instructors or peers.

Health Anxiety: Students were anxious about the effects of online on their health and learning, "I spend extended hours in my gadget that and I worry about my eye health; We are experiencing different kinds of health problem just like migraine and our eyes may be destroyed because of radiation. My eyes can't get enough of this because of radiation. Problem in eyesight being often exposed to laptop and cellphone; Sometimes my eye sight gets blurry because of too long contact with cellphone Sleepless nights because of more worksheets to answer, eye strain for staying too long in front of screen." Putri et al. (2020) and Purwanto et al. (2020) revealed that student interaction or limited communication and outreach among students and longer screening times are some of the challenges in online learning affecting health.

Pressure. The students find online learning challenging with the pressures they met. They felt pressured seeing piles of school works, messages, and emails; They feel forced to self-study, "I feel pressured as I lack devices to use; It is stressful because of many requirements to pass.; I am having trouble with how to deal with the activities."

Some students faced some learning challenges on the teaching practices and communication patterns in online classes. These involve low self-organization, lack of effective interaction,

and a sense of isolation, which decrease student satisfaction with online learning experiences (Markova, Glazkova, & Zaborova, 2017).

In contrast, Nguyen (2015) found positive statistically significant effects for student learning outcomes in the online or hybrid format like the student engagement with the class material, improved perception of learning and the online format, a stronger sense of community among students, and reduction in withdrawal or failure.

Worst experiences. They find the following experiences worst, “I woke up late because I slept at 3:00 am answering my activities; climbing up the hill to download the files and attend virtual meetings; I almost got angry and cried a lot for being unable to connect.”

Akamai (2017 in Tria, 2020) reported that poor internet connectivity affects the quality of learning. Students develop anxiety in using technology, and participation in an online class (Gillett-Swan, 2017) results in inadequate assessment (Winthrop, 2020). Students face technical difficulties that hamper the communication between the learner and the educator, consequently, slow down learning. This online learning weakness loses direct communication and human touch (Favale et al., 2020 in Dhawan, 2020).

Baticulon and colleagues (2018) classified these learning barriers into technological, individual, domestic, institutional, and community, which affects the students' learning styles, responsibilities at home, and online interaction with teachers and peers.

Students' Personal Growth on Online Learning

Students found some advantages or benefits in online learning despite the difficulties they experienced: independent learning and value of family life.

Independent Learning

Students continue to learn despite the covid-19 pandemic. They have developed independent learning during the pandemic, “Online learning helps me to become more independent especially in doing with my modules. I can concentrate more because I am studying alone; it enhances my computer skills; I learned how to deal with my activities independently without relying on my classmates, I have been more responsible in doing research, answering, and submitting my activities on time, and I also learned how to be organized. I have a long time to think of the best answers. It helps me trust myself in doing activities on my own without depending on the help of our classmates; There are no strict deadlines for submission. I can adjust my time; I can either lie down or sit while answering my modules; I can eat properly, I can rest anytime.”

Online learning modalities motivated student-centeredness, and they become self-directed learners while learning asynchronously at any time in the day (Mukhtar, Javed, Arooj & Sethi, 2020).

Online learning is conducive to self-regulated students (You & Kang, 2014; Savenye, 2005; Gilbert, 2015). Online learning helps the students become self-regulated, a master of personal learning processes. Self-regulated learning is a self-directed process of transforming the students' mental abilities or performance skills into task-related skills in diverse areas of

functioning (Zimmerman, 2015 in Huang, Liu, Amelina, Yang, Zhuang, Chang, & Cheng, 2020).

Students learned to develop self-motivation to face online learning tasks, "I do all house works in the early morning to attend class on time and do activities after online discussions; I take a bath to freshen up, eat food to fill my stomach, and drink plenty of water to become hydrated."

Students' motivation to do and accomplishing online learning materials is considered a factor in successful online learning (Zamari et al., 2012 in Cortez, 2020).

Learners need to be self-motivated and self-directed, and they need to identify and adopt learning styles and skills required to participate in online learning (Mayes et al., 2011; Luyt, 2013). The motivation for learning in online settings plays a critical role in learners' success, aligning their efforts with their desires, and increasing learner retention (Saade', He, & Kira, 2007).

To some students, online learning has also been conducive, especially for those who favor self-regulated learning. These students utilize different skills - time management, regular review of the material, seeking help from instructors or peers, meeting deadlines, and metacognition skills (You & Kang, 2014; Savenye, 2005; Gilbert, 2015).

As part of independent learning, they made online learning enjoyable. The entertained humor or funny moments while learning from home, "My classmates sound like a robot; I hear the sounds chickens, dogs, cry of babies, vehicles, even shouting neighbors; I attend the online class without taking a bath; my classmates recite while eating; my niece interrupted said "hello" to our professor."

Online learning motivates students to become active learners (Baticulon and colleagues, 2018). Motivation is the need to do something out of curiosity and enjoyment (Hung et al., 2010, p. 1082). The motivation for learning in online settings plays a critical role in learners' success, aligning their efforts with their desires and increasing learner retention (Saade, He, & Kira, 2007).

Value of Family life

Online learning strengthens family bond. Students claimed that they could communicate immediately with their loved ones. They could seek help from them. "We have much time to bond with family and more time to do some activity anytime we want; I can spend much time at home and do my task without any hassle."

Stephanie, Blackmon, and Claire (2012) stressed that staying at home for online learning allows students to experience balancing school and life, managing time, and doing personal responsibilities.

While students spend more time on school tasks independently, Jesson, & Meredith, & Rosedale (2015) found that parents have the opportunities to get involved in students' learning, communicating aspirations, setting routines, and assisting their children's wise

decisions about their use of sites and communication online, given the digital nature of their activities.

Family, with peer support increased communication with the instructor (Hart, 2012).

Since online learning helps save time and money, students they have more time for their housework. Their family expenses lessened, most important, they are safe, "I can save a small amount of money for load in my school work. I am safe at home; I do not need to travel and expose ourselves to the virus."

Suryaman et al. (2020) revealed that the internet costs more budgets, which is one barriers to online learning. Sometimes students run out of load, which stops them from getting online. On the other hand, it reduced traveling resources and other expenses and eased administrative tasks (Mukhtar, Javed, Arooj & Sethi, 2020).

Conclusions and Recommendations

Despite the difficulty, the pre-service teachers seem to develop personal growth. They are motivated to learn independently, and they become self-directed. With online learning, pre-service teachers have transformed their minds and performance skills into task-related skills in diverse areas of functioning (Zimmerman, 2015 in Huang, Liu, Amelina, Yang, Zhuang, Chang, & Cheng, 2020). Moore (1993) explains that a virtual classroom affects the sense of learner autonomy.

Pre-service teachers have practiced self-focused and self-motivation towards learning. They are vulnerable to learning with peers, seeking help as needed. Motivation aligns efforts and increases learner retention (Saade', He, & Kira, 2007). Self-regulated students seek help from instructors or peers (You & Kang, 2014; Savenye, 2005; Gilbert, 2015).

An in-depth study on independent learning as outcome of online learning may validate the findings of the current research undertaking.

References

- Ajmal, M., Alrasheedi, S., Keezhatta, M. S., & Yasir, G. M. (2020). Covid-19 and online English language teaching: Students' response and feedback, *The Asian ESP Journal*, 16, (5.2).
- Al-Shammari, A. H. (2020). Social media and English language learning during Covid-19: KILAW students' use, attitude, and perspective. *The Linguistics Journal*, 14 (1), 259-271.
- Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher Education Studies*. 10. 16. 10.5539/hes.v10n3p16.
- Alipio, M. (2020) Education during COVID-19 era: Are learners in a less-economically developed country ready for e-learning?, ZBW – Leibniz Information Centre for Economics.
- Bates, A. W. (2015). *Teaching in a Digital Age*. Tony Bates Associates Ltd.

Baticulon, R. E., Alberto, N.R. I., Baron, M.B., Mabulay, R. E. C., Rizada, L. G. T., Sy, J. J., Tiu, C. J. S., Clarion, C. E., & Reyes, J. C. B. (2018). Barriers to online learning in the time of COVID-19: A national

survey of medical students in the Philippines, medRxiv preprint, DOI: <https://doi.org/10.1101/2020.07.16.20155747>.

Blackmon, S. J. & Major, C. (2012). Student experiences in online courses, A qualitative synthesis. *The Quarterly Review of Distance Education*, 13(2), 2012, pp. 77–85.

Cortez, C. P. (2020). Blended, distance, electronic, and virtual-learning for the new normal of Mathematics Education: A senior high school student's perception. *European Journal of Interactive Multimedia and Education*, 1(1), <https://doi.org/10.30935/ejimed/8276>.

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 004723952093401. DOI:10.1177/0047239520934018.

Daniels, M. M., Sarte, E. & J. Dela Cruz, J. (2019). Students' perception of e-learning: A basis for the development of e-learning framework in higher education institutions, 2019 IOP Conf. Ser.: Mater. Sci. Eng. 482 012008. *The International Conference on Information Technology and Digital Applications IOP Conf. Series: Materials Science and Engineering* 482 (2019) 012008IOP Publishing, doi:10.1088/1757-899X/482/1/01200.

Driscoll, K., Jicha, A. N., Hunt, L., Tichavsky, A., & Thompson, G. (2012). Can online courses deliver in-class results? A comparison of student performance and satisfaction in an online versus a face-to-face Introductory Sociology Course *Teaching Sociology* 40(4) 312–331 © American Sociological Association. DOI: 10.1177/0092055X12446624 <http://ts.sagepub.com>.

Gilbert, B. (2015). Online learning revealing the benefits and challenges. *Education Masters. Paper*, 303.

Gillett-Swan, J. (2017). The Challenges of online learning: Supporting and engaging the isolated learner. *Journal of Learning Design*. 10. 20. 10.5204/jld.v9i3.293.

Hansson, P.-O. (2021). Teaching practice online: Challenges in Japan, India and Kenya Under Pandemic, 9(2). <https://doi.org/10.22492/ije.9.2.05>.

Hart, C. (2012). Factors associated with student persistence in an online program of study: A review of the literature. *Journal of Interactive Online Learning*, 11 (1),

Huang, R.H., Liu, D. J., Amelina, N., Yang, J. F., Zhuang, R. X., Chang, T.W., & Cheng, W. (2020). Guidance on active learning at home during educational disruption: Promoting student's self-regulation skills during COVID-19 outbreak. Beijing: Smart Learning Institute of Beijing Normal University.

Jesson, R. , Meredith, M., & Rosedale, N. (2015). Reconsidering home learning in the digital learning environment: The perspectives of parents, students, and teachers, <http://dx.doi.org/10.18296/set.0025>.

Kentnor, H. (2015). Distance education and the evolution of online learning in the United States. *Hope Kentner Curriculum and Teaching Dialogue*, 17(1 & 2).

Khan, M. & Raad, B. (2020). The role of e-learning in covid 19-crisis. *International Journal of Creative Research Thoughts (IJCRT)* 8 (3).

Kebritchi, M., Lipschuetz, A., & Santiago, L. (2017). Issues and challenges for teaching successful online courses in higher education: A literature review. *Journal of Educational Technology Systems*. 46. 4-29. 10.1177/0047239516661713.

Kim, J. (2020). Learning and teaching online during Covid-19: Experiences of student teachers in an Early Childhood Education Practicum. *AGE* 52, 145–158. <https://doi.org/10.1007/s13158-020-00272-6>.

Kitishat, A. R., Al Omar, K. H. A., Al Momani, M. A. K. (2020). The Covid-19 crisis and distance learning: E-teaching of language between reality and challenges. *The Asian ESP Journal*, 16(5.1), 316 – 326.

- Markova, T., Glazkova, I., & Zaborova, E. (2017). Quality issues of online distance learning. 7th International Conference on Intercultural Education "Education, Health and ICT for a Transcultural World", *Procedia - Social and Behavioral Sciences* 237, 685 – 691.
- McMillion, T. (2017). Communication and security issues in online education: Student self-disclosure in course introduction, *Journal of Interactive Online Learning*, 15(1).
- Moralista, R. B. & Oducado, F. (2020). Faculty perception toward online education in a state college in the Philippines during the coronavirus disease 19 (COVID-19) pandemic, *Universal Journal of Educational Research*, 8(10), 4736 – 4742. DOI: 10.13189/ujer.2020.081044.
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, limitations, and recommendations for online learning during COVID-19 pandemic era. *Pakistan journal of medical sciences*, 36(COVID19-S4), S27–S31. <https://doi.org/10.12669/pjms.36.COVID19-S4.2785>.
- Ní Shé, C., Farrell, O., Brunton, J., Costello, E., Donlon, E., Trevaskis, S., Eccles, S. (2019). Teaching online is different: critical perspectives from the literature. Dublin: Dublin City University. DOI: 10.5281/zenodo.3479402.
- Nguyen, T. (2015). Effectiveness of online learning: beyond no significant difference and future horizons, *MERLOT Journal of Online Learning and Teaching*, 11(2).
- Paygar, A. (2014). Challenges and opportunity of online learning in developing countries with specific focus on Liberia, Retrieved from <https://www.bemidjstate.edu/academics/departments/political-science/wp-content/uploads/sites/40/2015/05/paygar-thesis.pdf>.
- Reyes-Chua, E., Sibbaluca, E. B. G., Miranda, R. D., Palmario, G. B., Moreno, R. P., & Solon, J. P. T. (2020). The status of the implementation of the e-learning classroom in selected higher education institutions in region IV-amidst the covid-19 crisis, *Journal of Critical Reviews*, 7(11).
- Skordis-Worrall, J., Haghighparast-Bidgol, H. Batura, N., and Hughes, J. (2015). Learning online: A case study exploring student perceptions and experience of a course in economic evaluation, *International Journal of Teaching and Learning in Higher Education*, 27 (3), 413-422, <http://www.isetl.org/ijtlhe/>.
- Sun, A. & Chen, X. (2016). Online education and its effective practice: A research review. *Journal of Information Technology Education: Research*. 15, 157-190. 10.28945/3502.
- Suryaman, M. (2020). COVID 19 Pandemic and home online learning system: Does it affect the quality of pharmacy school learning, 11(8):524-530.
- Trunga, T., Thua, T. T. L., Tana, L. M. (2011). Replacing face-to-face classes by synchronous online technologies: The Hou experience the 3rd international conference on e-learning Icel 2011, 23-24 November 2011, Bandung, Indonesia.
- Tria, J. Z. (2020). The COVID-19 pandemic through the lens of education in the Philippines: The new normal. *International Journal of Pedagogical Development and Lifelong Learning*, 1(1), ep2001. <https://doi.org/10.30935/ijpdll/8311>.
- Westra, K. L. (2016). Faculty and student perceptions of effective online learning environments, All Theses, Dissertations, and Other Capstone Projects. Paper 596.
- Zamaria, Z. M., Adnan, A. H. M., Idrisa, S. L., Yusof, J. (2011). Students' perception of using online language learning materials, The 3rd International Conference on e-Learning ICEL 2011, 23-24 November 2011, Bandung, Indonesia *Procedia - Social and Behavioral Sciences* 67, 611 – 620.