Blended learning in higher education: Unveiling student experiences, challenges, and opportunities for policy development

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ABSTRACT

he rapid shift to emergency remote learning during the pandemic has prompted reevaluating learning modalities in higher education. This study explores the students' experiences at the University of Eastern Philippines (N=336) to inform the development of effective blended learning policies. Employing a descriptive mixed-methods design (quantitative and qualitative), the study investigates the types of online learning modalities used, student experiences (positive and negative), coping mechanisms developed, and suggestions for improvement. Findings reveal that students utilized various online platforms (e.g., learning management systems and communication platforms) for online learning. Positive experiences included enhanced work ethic. improved time management skills, and increased technological proficiency. However, challenges such as unreliable internet access, stress, and financial constraints were also reported. Thematic analysis of student experiences identified student

Due to the COVID-19 epidemic, educational institutions had to transition to emergency remote learning quickly, necessitating immediate adaptation (Kumari and Toshniwal, 2020; Maskály et al., 2021). This sudden shift, commonly known as the "new normal," posed several difficulties for students and instructors (Inan, 2020). While specific individuals adjusted rapidly, others

needs for increased teacher empathy, a return to face-to-face interaction when feasible, and initiatives promoting self-directed learning and improved internet equity. This study proposes

recommendations for blended learning policies that leverage the

benefits of online learning while addressing student challenges,

ultimately aiming to enhance the student experience in the

evolving educational landscape.

INTRODUCTION

encountered challenges in navigating the foreign landscape of virtual learning settings (Kasapakis & Dzardanova, 2022).

The rapid shift to online learning during the COVID-19 pandemic significantly impacted educational systems

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KEYWORDS

social science, science and technology, blended learning policies, student experiences, online learning modalities, policy development, higher education

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worldwide (Kumari & Toshniwal, 2020; Maskály et al., 2021). This "new normal" presented challenges for both educators and students (Inan, 2020). While some institutions readily adapted, others faced difficulties due to limitations in internet connectivity and technological resources (Setyaningsih, 2020). Emergency remote learning utilized various methods, including online platforms, video conferencing tools, and even social media (Stone, 2020). However, research emphasized the importance of a holistic approach that considered factors like cost, technical support, and accessibility.

Studies investigating student experiences with online learning revealed a mixed picture. Some students reported positive outcomes like increased autonomy, improved time management, and exposure to new educational approaches (Idris et al., 2021; Stevanvic et al., 2021; Capinding, 2021). However, a significant portion of students encountered drawbacks such as dissatisfaction, boredom, difficulty with self-directed learning, heightened stress and anxiety, and challenges with focus and time management (Galea et al., 2020; Dangle & Sumaong, 2020; Rotas & Cahapay, 2020; Lai et al., 2021; Amir et al., 2020). Research also identified limitations like limited internet access, inadequate learning resources, unclear content, overloaded coursework, and insufficient teacher support. Students, however, developed coping strategies by seeking help from peers, professionals, online resources, and family members (Sari & Nayir, 2020).

With the move away from emergency remote learning, there was growing interest in blended learning methodologies that combined online and in-person instruction as a possible response to the changing educational environment (Setyaningsih, 2020). Nevertheless, there still needed to be a significant improvement in comprehending the student's encounters throughout the online learning phase of the program, specifically concerning their viewpoints on blended learning methods (Inan, 2020).

The rapid shift to online learning during the COVID-19 pandemic created a significant divide between students' expectations and the realities of remote education. This study aimed to bridge this gap by investigating the experiences of university students at the University of Eastern Philippines Laoang Campus (UEP Laoang) with blended learning policies. While preliminary research explored student experiences with online learning, a more comprehensive examination was needed to understand the specific challenges and opportunities faced by UEP Laoang students.

This study sought to address the following research questions:

- What were the primary learning modalities used by UEP Laoang students in a blended learning environment?
- What were the positive and negative experiences of UEP Laoang students with blended learning?
- 3. What coping strategies did UEP Laoang students develop to overcome challenges in online learning?
- 4. What recommendations did UEP Laoang students have for improving blended learning policies and practices?

By answering these questions, this study aimed to contribute to a better understanding of student experiences with blended learning and provide valuable insights for educational institutions in the Philippines and beyond. The findings would inform the development of effective blended learning policies and practices that were tailored to the specific needs and preferences of UEP Laoang students.

MATERIALS AND METHODS

This study utilized a descriptive research design and adopted a mixed-methods technique, as described by Creswell and Creswell (2018). The study was conducted at UEP Laoang, a University of Eastern Philippines campus, during the second semester of the academic year 2020-2021. Our focus was mainly on undergraduate and graduate students enrolled in different courses at UEP Laoang throughout the pandemic. A purposive sampling technique was employed to obtain a sample that accurately represents the composition of the student population (Creswell & Creswell, 2018; Israel, 1992) which means students experienced both online and offline learning modalities can be included. This strategy involved allocating participants proportionately to different programs (Engineering, Education, Criminology and Industrial Technology). The ultimate sample size of 336 individuals was obtained using Slovin's formula (1960).

The data-gathering process involved a self-administered online survey created using Google Forms. The survey instrument comprised a combination of closed-ended and open-ended questions. Quantitative data was collected through closed-ended questions using different response forms such as multiple-choice and Likert scale. The purpose was to determine students' learning modalities (Objective 1). The open-ended questions investigated student experiences with online learning (Objective 2), the coping mechanisms they created (Objective 3), and their suggestions for improvement (Objective 4). Before broader distribution, the survey was subjected to pretesting with a small group of students to ensure that it was clear and complete.

The quantitative data from closed-ended questions regarding learning modalities was evaluated using descriptive statistics, such as frequency counts and percentages. This analysis aimed to determine students' most common learning modes during the pandemic. The qualitative data obtained from open-ended questions was subjected to thematic content analysis, as described by Braun and Clarke in 2006. This methodical procedure entailed categorizing the students' replies to find recurring themes and patterns about their experiences, coping strategies, and recommendations for enhancement. Thematic analysis yielded profound insights into students' subjective encounters with online education.

The study utilized a mixed methods research approach to comprehensively understand student experiences with online learning and their perspectives on blended learning. By combining these insights, the researchers aimed to gain a deeper understanding of student experiences and viewpoints on blended learning strategies. This comprehensive knowledge ultimately informed the development of specific recommendations for blended learning policies, tailored to the unique needs of UEP Laoang students.

RESULTS AND DISCUSSION

Learning Modalities

As shown in Appendix A, a significant proportion of participants (88.99%, 87.80%, and 63.69%) utilized Google Classroom, Messenger Chats, and emails as their primary methods for online learning. Other popular methods included teleconferencing applications (Zoom, Google Meet), Facebook for class management, YouTube for online presentations, and MOODLE, the University's chosen learning management system.

The study found that Google Classroom was a popular online learning tool among UEP Laoang students, consistent with previous research (Kado et al., 2020). Students' preference for familiar platforms like Facebook and YouTube indicates their adaptability and the importance of considering students' digital literacy when designing online learning environments.

As shown in Appendix A the majority of participants utilized modular instruction by accessing digital versions of downloaded courses. This reflects the challenges posed by unreliable internet connectivity, which necessitated the development of offline learning materials. Approximately 33% of participants reported using downloaded films for educational purposes, primarily in laboratory and performance-oriented courses. This indicates the value of multimedia resources in supporting student learning, particularly in courses that require hands-on experience or demonstrations.

The findings highlight the importance of providing students with flexible and accessible learning options, especially in contexts where internet connectivity may be limited. By developing downloadable modules and films, professors were able to ensure that students could continue their learning even without constant online access.

Blended learning experiences

As presented in Appendix B, six primary themes emerged from the respondents' positive experiences with online learning: improved work and personal values, sufficient time and ease of learning, enhanced technological skills, strengthened relationships, supportive teachers, financial savings, and safety.

Among the seven themes, most respondents provided answers related to improving work and personal values. In contrast, less than one-fourth of the respondents addressed the remaining issues. The participants reported an enhancement in their perception of the worth of their work and their sense of self. The participants expressed their knowledge of values such as self-control, accountability, optimism, ingenuity, resourcefulness, and autonomy. In Idris et al.'s (2021) study, most participants indicated they achieved independence, successfully adjusted to online learning, and developed greater self-motivation. This finding supports the notion that online pedagogy offers advantages in fostering students' autonomy and improving their belief in their abilities.

The participants acknowledged the sufficient amount of time available and the simplicity of the learning process. They asserted that the flexibility of their schedule allowed them to maintain control over their activities and reduced the pressure of meeting educational obligations.

The participants also acknowledged the improvement of their knowledge and proficiency in technology. They expanded their knowledge and skills in technology by utilizing many technological tools, applications, and learning management systems (Nobis, 2021).

The shift to the new normal in education prompted the respondents to find additional avenues for connecting with their family and friends. Without in-person classes, students remained at home and capitalized on the opportunity to spend quality time with their families while engaging in learning activities. The scenario also necessitated frequent communication with their peers. According to Capinding (2021), students view the epidemic as a chance to increase their time with their families, engage in their interests, and acquire knowledge through novel methods.

The participants also reported having significant interactions with their teachers, who provided support in various ways to give teaching to pupils. The participants commented that their

instructors were thoughtful and empathetic.

The respondents found the new usual manner of learning to have a beneficial impact on their financial situation. They commented on the significant savings, particularly in transportation and living costs.

Of all the themes, the topic of safety during the epidemic received the fewest responses from the participants. Paradoxically, only a few participants acknowledged the significance of safety, so they were recommended to remain at home and pursue education through flexible learning methods.

The findings suggest that online learning can offer a variety of benefits beyond academic achievement. By fostering personal growth, improving technological skills, and strengthening relationships, online learning can contribute to students' overall well-being. Additionally, the financial savings associated with online learning can make education more accessible for some students.

However, it is important to acknowledge that the experience of online learning can vary depending on individual circumstances and the quality of online instruction. While many students found online learning to be positive, others may have faced challenges such as limited internet access or lack of social interaction.

As presented in Appendix C, six primary themes emerged from the respondents' negative experiences with online learning: inadequate internet access, stress and health concerns, comprehension challenges, excessive workload, insufficient teacher assistance, and financial limitations.

Among the six themes, a significant majority of the respondents reported experiencing inadequate internet access. Inadequate internet connectivity hampers students' learning activities, such as submitting assignments, taking exams, and attending online classes, among other tasks. Akamai (2017) claimed that the Philippines has the lowest internet connectivity in Asia. Thus, there is no need to be surprised by this fact. According to the research conducted by Dayagbil et al. (2021), most participants indicated that they experienced unreliable internet connections. Students indicated that many could not complete the assignments because they needed an internet connection. Assaf and Nemeh (2022) emphasize that the effectiveness of online learning relies not only on implementing e-pedagogy but also on the presence of a robust infrastructure, appropriate technological resources, and ample digital materials.

The participants encountered stress and other health ailments. In addition to experiencing anxiety and irritation, the respondents reported feeling demotivated and experiencing sleep deprivation. The COVID-19 epidemic has substantially altered students' daily schedules and educational approaches, potentially adversely affecting their sleep patterns and routines (Deutsch & Ehsan, 2021).

Respondents also expressed dissatisfaction with the challenging nature of the subject they were required to study. Some individuals need help understanding the learning material presented in modules. The situation deteriorates when respondents express dissatisfaction with the courses' insufficient learning content and the need for precise directions. If the resources used in emergency remote teaching are unsuitable for the students' setting, it might provide obstacles and negatively impact the quality of learning (Hodges et al., 2020).

In addition to the previous point, the abundance of learning exercises contributes to the complexity of the topic. The participants encountered the stress of simultaneously fulfilling numerous obligations and the constraint of limited time to complete the extensive criteria. All of them. The challenge of remote learning has been substantiated in the research conducted by Sundarasen et al. (2020), in which university students in Malaysia reported feeling stressed due to the excessive workload imposed by their lecturers. Sarvestani et al. (2019) also documented a similar occurrence in which students expressed dissatisfaction with the substantial workload and the abundance of courses required to complete.

In contrast, despite the positive experiences of having helpful teachers noted earlier, respondents also encountered limited teacher assistance. They reported instances of teachers who were unapproachable, unappreciative of students' efforts, and disrespectful. The efficacy of education in online learning is contingent upon the teacher's active engagement by providing unambiguous instructions and utilizing diverse communication channels with the students (Assaf & Nemeh, 2022). The success of e-learning was found to have a substantial correlation with instructor qualities, specifically the availability of teachers to cater to the demands of learners during conversations (Elumalai et al., 2020).

A minority of respondents reported unfavorable encounters with finances. Students faced financial restraints as they had to allocate a significant amount of money towards purchasing devices/gadgets and even the internet load to attend online classes. Galea et al. (2020) acknowledged that online learning incurs financial burdens for families due to the necessity of paying for an internet connection (Galea et al., 2020). Bulusan et al. (2022) asserted that the abrupt shift to emergency remote instruction has disadvantaged pupils from low-income households significantly.

Coping Mechanism

The findings underscore in Appendix D the multifaceted challenges faced by students during the transition to online learning. Addressing these challenges requires a comprehensive approach that considers factors such as internet infrastructure, teacher support, learning materials, and student well-being. While online learning offers flexibility and accessibility, it is essential to ensure that students have the resources and support needed to succeed in this environment.

Approximately a minority of the participants reported that they relied on tenacity and determination to cope with the challenges posed by learning throughout the pandemic. The responders demonstrated persistence and determination in their studies by maintaining focus, keeping their goals in mind, and staying inspired.

Another strategy for dealing with stress is the effective allocation of time. Developing a well-defined strategy is crucial to managing the difficulties associated with learning and juggling time between studying and household responsibilities, mainly when students are confined to their own houses. According to the research conducted by Babicka-Wirkus et al. (2021), planning emerged as a prominent coping strategy among Polish students. Purwadi et al. (2021) acknowledged that pupils with proficient self-management skills are more likely to comprehend academic material successfully than students with inadequate self-management abilities.

Some respondents demonstrate initiative and resourcefulness. They independently sought tools and strategies to aid them in overcoming their daily learning challenges without relying solely on teacher guidance.

The participants also acknowledged the role of family, educators,

and companions as a means of managing stress. Seeking support from family members and seeking guidance from friends and teachers are methods for respondents to gain reassurance that they were not facing their challenges in isolation. According to Lai et al. (2021), students relied on three primary sources of support during the pandemic: family, classmates, and schools. These sources played a crucial role in offering psychological assistance and alleviating the difficulties caused by the pandemic. According to Babicka-Wirkus et al.'s (2021) study, a prominent coping strategy observed among Polish students was the active pursuit of emotional support.

A minority of respondents acknowledged that their hopefulness, positivity, and confidence in God were powerful tools for persevering and progressing in their learning endeavors despite challenging circumstances. Purwadi et al.'s (2021) study found that students maintain a feeling of thankfulness and optimism, believing that future challenges will ultimately lead to future benefits. The combination of gratitude and confidence motivates pupils to maintain discipline and autonomy in their studies.

Some participants regarded relaxing as a strategy for dealing with stress. The respondents emphasized the importance of maintaining a relaxed and peaceful demeanor and not allowing stress to burden their lives excessively. They also highlighted the necessity of taking breaks, when necessary, to alleviate the stresses associated with learning.

The findings highlight the diverse coping strategies employed by students to navigate the challenges of the new educational paradigm. Effective time management, persistence, relaxation, optimism, resourcefulness, and social support were all identified as important factors in resilience and success.

These findings can inform the development of support programs and interventions to help students cope with the challenges of online learning and promote their overall well-being. Additionally, educators can play a crucial role in fostering resilience and providing support to students during difficult times.

Suggestion for Blended Learning Policy

As presented in Appendix E, participants offered several recommendations to improve the online learning experience. These recommendations fell into five categories: increased teacher empathy, enhanced teaching and learning methods, a return to in-person classes, student self-development, and improved internet access.

Approximately 47.02% of the participants recommended increasing empathy towards instructors. They requested increased attention to student problems, particularly those related to inadequate internet connectivity, such as late submissions and difficulty accessing materials. Additionally, they proposed that teachers demonstrate consideration for students' learning aptitude and provide appropriate support to facilitate their learning process.

One further recommendation from the survey participants is to enhance many areas of the teaching and learning process, specifically focusing on the learning materials. The suggestion was to streamline modules to enhance their learnability and reduce the number of activities or tasks, mainly if there are time constraints for submission.

Several participants proposed a return to in-person classes, albeit with restrictions, if authorities mandate it. Guzzella, as Griffiths (2020) mentioned, emphasized that establishing connections and engaging with peers, students, and supervisors is crucial for

achieving profound comprehension. In addition, Griffiths (2020) cited an Australian vice-chancellor who expressed the belief that face-to-face interaction will always surpass other forms of communication in terms of quality despite temporary trends that may seem to favour non-human interaction. Purwadi et al. (2021) argued that students desire in-person instruction during the COVID-19 epidemic to cover the course material effectively and to experience the unique environment and dynamics of face-to-face learning, which provide valuable learning opportunities.

A few participants acknowledged the need for remedies to address learning difficulties amidst the pandemic. The replies could flourish during the pandemic by demonstrating responsibility, optimism, patience, goal-oriented focus, faith in God, and other positive values. According to Camacho Legare (2016), students must assume accountability for their learning, exhibit greater self-direction, and choose their areas of interest and the amount of time they allocate to learning outside the classroom.

One other recommendation highlighted by several participants is enhanced internet connectivity. Although beyond the school's control, the respondents acknowledged that this is a fundamental factor contributing to the many issues listed. The current health crisis has necessitated a transformation in how education is delivered, posing a problem of establishing an inclusive IT infrastructure to ensure high-quality education for all learners (Internet Society, 2017).

The findings highlight the multifaceted challenges and opportunities presented by online learning. While students appreciate the flexibility and accessibility of online learning, they also emphasize the importance of human connection, supportive teachers, and a well-designed learning environment.

To enhance the online learning experience, it is crucial to address both technological and pedagogical factors. This includes providing clear and engaging learning materials, fostering a supportive and empathetic teaching environment, and ensuring equitable access to technology and resources. Additionally, encouraging students to develop self-directed learning skills and a positive mindset can help them navigate the challenges of online learning.

CONCLUSION

To summarize, this study highlights the significant impact of blended learning in emergency distant learning situations and in fostering good student growth. However, achieving successful implementation relies on a comprehensive approach that tackles multiple crucial areas.

Technology Infrastructure and Equality: Dependable internet connectivity and meticulously crafted digital learning resources are crucial. Guaranteeing equal access to technology for all pupils is crucial to preventing worsening educational inequalities.

Faculty Development: It is essential to invest in continuous online pedagogy training for faculty to provide them with the necessary skills to properly employ blended learning tools and create captivating online experiences.

Understanding how students cope with problems in mixed learning contexts might help create specific support services that address their needs. In addition, promoting student autonomy and cultivating self-directed learning abilities will enable students to flourish in such environments.

Policy Development: The valuable input from students, which includes a well-rounded approach that combines in-person components, encourages independent learning, and tackles internet connectivity problems, provides a helpful guide for creating effective blended learning policies.

By prioritizing these areas, future policies on blended learning can be designed to optimize student achievement, welfare, and overall educational experiences in a world after the pandemic. Moreover, this research provides opportunities for further investigation into the lasting effectiveness of blended learning models on several facets of student growth beyond academic success.

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CONFLICT OF INTEREST

The study's authors claim no conflict of interest, indicating no personal, professional, or financial ties that could have influenced the research or interpretation. They are not affiliated with institutions or organizations that could gain an advantage, ensuring objectivity and impartiality in their conclusions.

CONTRIBUTIONS OF INDIVIDUAL AUTHORS

The original conception of this article was formulated and drafted by Dr. Ronato S. Ballado. The final paper is the culmination of numerous discussions and revisions by Dr. Ballado, Dr. Martin L. Nobis, Jr., and Dr. Chona B. Froilan. Dr. Nobis, was responsible for the formatting and finalization of the article.

REFERENCES

Alqahtani, M. S. N., and Abumelha. M. A. (2020). Factors affecting the quality of e-learning during the COVID-19 pandemic from the perspective of higher education students. Journal of Information Technology Education: Research, pp. 19, 731–753. https://doi.org/10.28945/4628

Amir, L.R., Tanti, I., Maharani, D.A. *et al.* Student perspective of classroom and distance learning during the COVID-19 pandemic in the undergraduate dental study program Universitas Indonesia. *BMC MedEduc* **20**, 392 (2020). https://doi.org/10.1186/s12909-020-02312-0

Assaf, J., & Nehmeh, L. (2022). The Remote Learning Experience in Lebanon: Learners' Attitudes and Practices. Pedagogical Research, 7(1), em0115. https://doi.org/10.29333/pr/11551

Babicka-Wirkus A, Wirkus L, Stasiak K, Kozłowski P (2021). University students' coping strategies during the coronavirus pandemic: Data from Poland. PLoS ONE 16(7): e0255041. https://doi.org/10.1371/journal.pone.0255041

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3 (2), 77–101. https://doi.org/10.1191/1478088706qp063oa

- Bulusan, F., Codamon-Dugyon, E.M., and Bolintao, J.J.M. (2022). Exploring the challenges of tertiary students in non-laboratory courses after the first year of emergency remote teaching. European Journal of Education Research, 11(1), 481-492. https://doi.org/10.12973/eu-jer.11.1.481
- Capinding, A. T. (2021). Analysis of learning and academic performance of education students before and during the coronavirus disease pandemic. European Journal of Educational Research, 10(4),1953-1962. https://doi.org/10.12973/eu-jer.10.4.1953
- Chua, E.R., Sibbaluca, B.G., Miranda, R.D., Palmario, Georgina B., Moreno, R.P. and Soon, JPT (2020)The Status of the Implementation of the E-Learning Classroom in Selected Higher Education Institutions in Region IV-A Amidst the COVID-19 Crisis. Journal of Critical Reviews 7(11) DOI: http://dx.doi.org/10.31838/jcr.07.11.41
- Dayagbil FT, Palompon DR, Garcia LL and Olvido MMJ (2021). Teaching and Learning Continuity Amid and Beyond the Pandemic. Front. Educ. 6:678692. doi 10.3389/feduc.2021.678692
- Deutsch, R., and Ehsan, Z. (2021). Sleepless in a pandemic: A medical student's perspective. Journal of Clinical Sleep Medicine, 17(4), 867-868. https://doi.org/10.5664/jcsm.9076
- Elumalai, K. V., Sankar, J. P., R, K., John, J. A., Menon, N., Alqahtani, M. S. N., and Abumelha. M. A.(2020). Factors affecting the quality of e-learning during the COVID-19 pandemic from the perspective of higher education students. Journal of Information Technology Education: Research, pp. 19, 731–753. https://doi.org/10.28945/4628
- Elumalai, K. V., Sankar, J. P., R, K., John, J. A., Menon, N., Sundarasen, S., Chinna, K., Kamaludin, K., Nurunnabi, M., Baloch, G. M., Khoshaim, H. B., Hossain, S. F. A. & Sukayt, A (2020). The psychological impact of COVID-19 and lockdown among university students in Malaysia: Implications and policy recommendations. International Journal of Environmental Research and Public Health, 17(17), 6206. https://doi.org/10.3390/ijerph17176206
- Galea, S., Merchant, R. M., and Lurie, N. (2020). The mental health consequences of COVID-19 and physical distancing: The need for prevention and early intervention. JAMA Internal Medicine, 180,(6), 817-818. https://doi.org/10.1001/jamainternmed.2020.1562
- Griffiths, B. J. (2020). Returning to campus during the COVID-19 pandemic: Perceptions of calculus students in Florida. In I. Sahin and M. Shelley (Eds.), Educational practices during the COVID-19 viral outbreak: International perspectives, pp. 239–253. ISTES Organization. Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. EDUCAUSE Review. https://bit.ly/3IRzdRl
- Idris, F., Zulkipli, I.N., Abdul-Mumin, K.H. et al. (2021). Academic experiences, physical and mental health impact of COVID-19 pandemic on students and lecturers in health care education. BMC MedEduc 21, 542. https://doi.org/10.1186/s12909-021-02968-2
- Inan, H. Z. (2020, November 29). Challenges of Distance/Online and Face-to-Face Education in the NewNormal: Experiences of Reggio Emilia-Inspired Early

- Childhood Educators in Turkey. PedagogicalResearch, 6(1), em0086. https://doi.org/10.29333/pr/9304
- Internet access and education: Key considerations for policymakers (2017). Internet Society.https://www.internetsociety.org/resources/doc/2017/internet-access-and-education/
- Kado, K., Dem, N., and Yonten S. (2020). Effectiveness of Google classroom as an online learning management system in the wake of COVID-19 in Bhutan: Students' perceptions. In I. Sahin and M.Shelley (Eds.), Educational practices during the COVID-19 viral outbreak: International perspectives, 121–142. ISTES Organization
- Kasapakis, V., and Dzardanova, E. (2022, November 16). Virtual reality learning environments: using high-fidelity avatars to enhance distance learning experience. Interactive Learning Environments, 1–14. https://doi.org/10.1080/10494820.2022.2146140
- Kumari, P., and Toshniwal, D. (2020, December). Impact of lockdown on air quality over major cities across the globe during the COVID-19 pandemic. Urban Climate, 34, 100719. https://doi.org/10.1016/j.uclim.2020.100719
- Kwan Lai, A., et al. (2021). A Phenomenological Study on the Positive and Negative Experiences of Chinese International University Students From Hong Kong Studying in the UK and US in the Early Stage of the COVID-19 Pandemic. Front. Psychiatry 12:738474. Doi: 10.3389/fpsyt.2021.738474
- Maskály, J., Ivković, S. K., and Neyroud, P. (2021, April 28). Policing the COVID-19 Pandemic: Exploratory Study of the Types of Organizational Changes and Police Activities Across the Globe.CrimRxiv. https://doi.org/10.21428/cb6ab371.54053219
- Nobis, M. (2021). Digital Literacy of Mathematics Teachers in State Universities and Colleges (SUCs). Asian Journal Of Research In Education And Social Sciences, 3(2), 99–113. Retrieved from https://myjms.mohe.gov.my/index.php/ajress/article/view/14 083
- Nobis. (2021, June). Factors that Encourage Teachers and Barriers in ICT Integration in Mathematics Teaching. Asian Intellect Journal Publication, 19(ISSN:2467-4885). http://www.asianintellect.org/research-education-journal.html
- Purwadi, Saputra, W. N. E., Wahyudi, A., Supriyanto, A., Muyana, S., Rohmadheny, P. S., Ariyanto, R. D., and Kurniawan, S. J. (2021). Student perceptions of online learning during the COVID-19 pandemic in Indonesia: a study of phenomenology. European Journal of Educational Research, 10(3),1515-1528. https://doi.org/10.12973/eu-jer.10.3.1515
- Rotas, EE and Cahapay, M.B. (2020). Difficulties in Remote Learning: Voices of Philippine University Students in the Wake of COVID-19. Asian Journal of Distance Education, 15(2), 147-158
- Sari, T., Nayir, F. (2020). Challenges in Distance Education During the (Covid-19) Pandemic Period. Qualitative Research in Education, 9(3), 328-360. doi:10.17583/qre.2020.5872
- Sarvestani, M. S., Mohammadi, M., Afshin, J. & Raeisy, J. (2019). Students' experiences of e-Learning challenges: A

- phenomenological study. Interdisciplinary Journal of Virtual Learning in MedicalSciences, 10(3), 1–10. https://doi.org/10.30476/IJVLMS.2019.45841
- Schmitz, B., and Hanke, K. (2021, December 19). Engage Me: Learners' expectancies and teachers' efforts in designing effective online classes. Journal of Computer Assisted Learning, 39(4),1132–1140. https://doi.org/10.1111/jcal.12636
- Setyaningsih, E. (2020, March 2). Face to Face or Online Learning: Students' Perspectives on Blended Learning in Indonesia. Journal of English Language Studies, 5(1), 1. https://doi.org/10.30870/jels.v5i1.6256
- Sofi, A., and Laafon, M. (2020). Effect of using the online learning platform in teaching during the COVID-19 pandemic. In I. Sahin and M. Shelley (Eds.), Educational practices during the COVID-19 viral outbreak: International perspectives, 167–180. ISTES Organization.
- Stone, K. (2020). Zoom for educators: How to set up virtual classrooms for distance learning. Retrieved from GetVoIP Web site: https://getvoip. com/blog/2020/04/08/zoomforeducators.
- UNESCO. (2020). Education: From disruption to recovery. Retrieved fromhttps://en.unesco.org/covid19/educationresponse

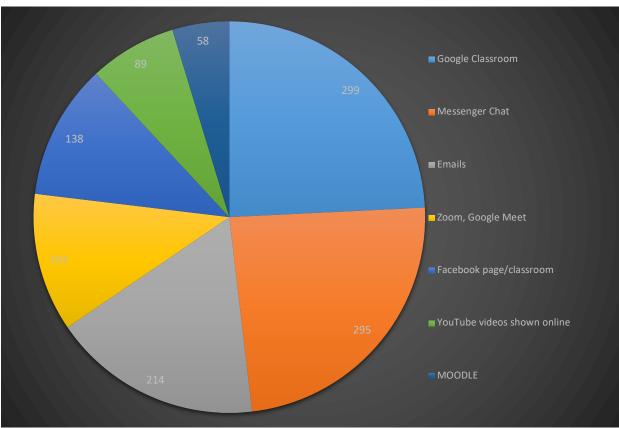


Figure 1a: Online Learning Modalities of the Respondents

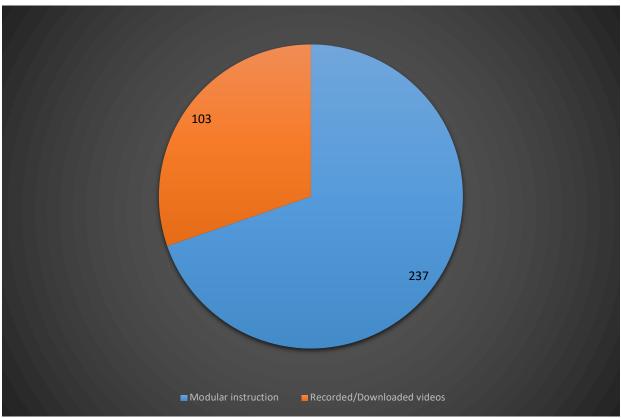


Figure 1b: Offline Learning Modalities of the Respondents

APPENDIX B

Table 1a: Positive Experiences of Respondent

Theme	Sample responses
Enhancement	I became more disciplined in studying my lessons. Online learning pushed me to develop a strong work ethic
of work and	and dedication to stay on top of my studies.
personal	The online environment helped me discover my strengths. It opened my eyes to abilities I never knew I
values	possessed, allowing me to grow as a learner.
	Online learning challenged me to hone my creativity when solving problems. It forced me to think outside the
	box and develop innovative solutions.
	Through online learning, I realized abilities I didn't know I had. This unexpected discovery fostered a growth
	mindset and a sense of personal potential.
	Online learning fostered my independence. I learned to take control of my learning style and become more self
	reliant, managing my studies with minimal external support.
Adequate	Was able to work during the daytime
time and ease	The deadline was not rush
of learning	Flexible time for learning the lesson
	Have enough time to answer modules
	I have the control of time
	No need to wake up early to attend classes
	Not pressured in submission
	Work it anytime
	It could make them choose where and when to study
Enhancement	Online learning boosted my tech skills.
of knowledge	I got better at researching online.
and skills in	Now, I can use new tech tools for learning.
technology	I explored different online learning platforms.
	The internet became my go-to resource for tough topics.
Opportunity	Online learning gave me more time to bond with my family.
to bond with	I could easily communicate with classmates online.
the family	Online learning allowed me to help my parents with their work.
and peers	I had more opportunities to get help from family.
Supportive	My teachers were encouraging and patient.
teachers	Our teachers made sure we learned the material.
	Teachers were considerate and gave us enough time for assignments.
	The professors did their best to ensure we received the learning materials.
Savings on	Online classes saved me a ton on travel costs!
educational	I could keep more of my allowance thanks to online learning.
costs	Online learning saved me money on housing since I didn't need to live on campus.
	Submitting work online meant no more travel expenses for assignments.

APPENDIX C

Table 1b: Negative Experiences of Respondents

Theme	Sample responses
Poor	The bad internet makes it impossible to keep up with class.
internet	My lousy internet connection is killing online learning for me.
connectivity	I need to catch up on deadlines because my internet cuts out during exams and assignments.
	I need internet at home to attend online classes.
	The constant internet problems are driving me crazy!
Stress and	Online classes are stressing me out! I feel anxious and exhausted all the time.
other	The deadlines and all this online work are killing me. I can't sleep, and I'm so frustrated.
health	Studying on my own online is draining my motivation and making me feel down.
issues	I'm struggling with depression because of all the pressure and having to wake up so early for online stuff.
	Online learning just doesn't work for me. I can't focus, and I feel like I'm not learning anything at all.
Difficulties	These online modules need to be clarified! I can't understand the material at all.
in learning	The modules need to explain things better, and I amI need help.
content	The instructions for assignments could be clearer, making it easier to know what to do.
	I miss the hands-on learning. Online classes make it hard to develop my skills.
Overloaded	I'm drowning in assignments! There are just too many activities due at a time.
learning	The deadlines are insane! I need to catch up with all these requirements.
activities	There needs to be more time in the day to finish all this online work. (Focuses on workload vs. time)
	The sheer volume of modules is overwhelming. It is impossible to learn everything properly.
Limited	It's challenging to get help online. Some teachers could be more approachable.
teacher	I wish teachers were more available online. It takes forever to get a response sometimes.
support	Learning online with clear explanations from teachers is easy. I miss having them guide us.
Financial	Struggling financially makes online learning tough. I need to work to pay for the internet and materials.
constraints	The cost of internet data just to attend classes eats into my food budget. Online learning is expensive.

APPENDIX D

	anisms of the respondents
Theme	Sample responses
Persistence and	No matter how tough it gets, I give online learning my all.
determination	Even when it's hard, I stay disciplined and focused on finishing my studies.
	My dream keeps me going. I put in the extra effort, even if it means late nights, to achieve my goals.
	Online learning tests my patience, but I persist. Education is important, and I won't give up.
Efficient time	I tackle my online modules at night when the internet is faster. It helps me stay on schedule.
management	To-do lists are my lifesaver! They keep me organized and ensure I remember everything.
	The syllabus is my bible! I plan my work around deadlines to avoid last-minute rushes.
	I get a head start on assignments whenever possible. It reduces stress and frees up time later.
Initiative and	I don't just rely on the modules! I search online for extra resources and examples to deepen my
resourcefulness	understanding.
	The internet is my learning playground! I browse for videos, articles, and anything else that can help me
	better grasp the concepts.
	A weak internet connection will not stop me! I hunt down a strong signal so I can stay updated on class and
	complete my work.
Asking for support from	I don't hesitate to ask for help! My classmates and teachers are always there to answer my questions and keep me on track.
family, peers, and teachers	Online learning can be tough, but I'm lucky to have a support system. My family encourages me, and I can always turn to friends or teachers for help with a topic.
Optimism and	Online learning has its challenges, but I stay positive! I trust in myself and believe I can overcome any
faith in God	obstacle.
	Even when things get tough, I keep the faith. With God's help, I know I can get through online learning and
	achieve my goals.
Relaxation	I schedule breaks for myself. It's important to disconnect and unwind to avoid becoming overwhelmed by online learning.
	Deadlines can be stressful, but I don't panic. I take things one step at a time and make sure to take breaks to recharge.

APPENDIX E

Table 3: Suggestions for Improving Learning

Table 3: Suggestions for Improving Learning		
Theme	Sample answers	
More	I wish teachers understood how frustrating it is to deal with bad internet. A little patience would go a long	
compassion	way.	
from teachers	Sometimes, online learning feels overwhelming. Teachers who are approachable and encouraging make a	
	big difference.	
	Teachers shouldn't pile on the pressure. Giving us manageable deadlines and workloads would be a huge	
	help.	
	Only some learn at the same pace. It would be great if teachers could be more understanding of that.	
Improved	I wish online classes had more engaging activities! It would make learning more interactive and	
teaching-	interesting.	
learning	Clear instructions are key! Confusing modules make it hard to learn effectively. Teachers should explain	
process	things clearly and provide relevant resources.	
	The workload can be overwhelming. It would be great if teachers could tailor the modules and	
-	assessments to our learning pace and capacity.	
Resumption of	I miss in-person classes! I wish we could go back to face-to-face learning as soon as possible. Although	
face-to-face	online learning has its challenges, even a few face-to-face classes per week would make a big difference.	
classes	I would be happy with a mix! Maybe a reduced schedule with some in-person classes for better interaction	
-		
Students' self-	Online learning is challenging, but it pushes me to be more disciplined and manage my time effectively.	
improvement	I'm also putting in extra effort to understand every topic. I believe in myself, and I'm determined to	
	succeed in online learning. I study hard, stay focused on my goals, and practice patience when things get	
	tough.	
Strong internet	A stable internet connection is key! It would make online learning so much smoother.	
connectivity	Ugh, internet problems are the worst! I wish I had a stronger connection so I could participate fully in	
	online classes.	