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Research Article

Shapes and Shades of Blended Learning in Tertiary Mathematics

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ABSTRACT

The COVID-19 pandemic accelerated the integration of alternating blended learning modalities in higher education, drastically transforming the teaching and learning environment. This phenomenological study explored the lived experiences, challenges, and coping strategies of tertiary mathematics faculty and extreme performers (both high- and low-achieving students) at the University of Eastern Philippines during the implementation of alternating blended learning. Guided by social constructivist and personalized learning theories, qualitative data were collected through semi-structured interviews and analyzed using Colaizzi's method. The study revealed five major themes from the students' experiences: (1) Internet Connectivity and Technological Difficulties, (2) Financial Difficulties and Budget Management, (3) Health, Motivation, and Emotional Struggles, (4) Teaching Strategies and Learning Resources, and (5) Coping Mechanisms and Time Management. High-performing students demonstrated greater resilience and adaptability, whereas low-performing students struggled with technological, financial, and emotional barriers. Similarly, six themes emerged from faculty experiences: (1) Adjustments in Teaching Methods and Work Environment, (2) Delivery and Integrity of Student Assessment, (3) Communication Methods and Delivery Platforms, (4) Connectivity Barriers and Technological Limitations, (5) Faculty Innovations and Adjustments in Instructional Materials, and (6) Faculty Recommendations for Future Improvement. Faculty faced challenges in instructional delivery, student engagement, and digital resource management but showed innovation and flexibility in adapting their strategies. The findings highlight the urgent need for strengthened digital infrastructure, professional development, mental health support, and more inclusive, flexible instructional practices. This study offers valuable insights for policy formulation, curriculum adjustments, and future research on enhancing the effectiveness of alternating blended learning in mathematics education.

Keywords: Experiences, Challenges, and Coping Mechanism

1. INTRODUCTION

The COVID-19 pandemic accelerated the integration of digital technologies into education, compelling higher education institutions worldwide to adopt flexible learning modalities. Among these, blended learning- which combines face-to-face instruction with online learning—has become a prominent model in the "new normal" of education.

This necessitated a rapid shift to flexible learning, including alternating blended learning—one week online, one week face-to-face—to maintain educational continuity. In tertiary education, blended learning has emerged as a key instructional model that bridges traditional digital pedagogy. The pandemic accelerated its adoption, promoting universities worldwide to develop flexible models suited to their context. This transition, while addressing immediate needs, highlighted pre-existing inequalities and presented significant challenges.

The shift to alternating blended learning impacted both faculty and extreme performers in mathematics classes. Faculty faced difficulties with instructional delivery, assessment, and navigating the digital divide. Extreme performers in mathematics classes struggled with online learning and the challenges of modular distance learning, particularly in subjects like mathematics, where abstract concepts proved difficult to convey online. These challenges were further compounded by existing resource disparities, particularly in rural areas.

The need for accessible, quality education is enshrined in Republic Act No. 7722 (Higher Education Act of 1994), this act asserts that the state shall protect, foster and promote the right of all citizens to affordable quality education at all levels and shall take appropriate steps to ensure that education shall be accessible to all. And reinforced by CHED's commitment to flexible learning (CHED Memorandum Order No. 06, series of 2022) explains the following:

The Higher Education Institutions (HEIs) shall determine and implement the appropriate teaching and learning approach, decide on the conduct of face-to-face classes and / or flexible learning mode relative to achievements of discipline, specific program outcomes suitable to conditions. The addendum therefore is adapted to support HEIs for the agile response to adapt the current changes relative to the implementation of flexible learning approaches that are convertible (flexible, face to face, blended, and

others), hence this can be utilized by teachers and students in different settings, environments, or circumstances (CHED Memo Order No. 6, 2022).

Despite existing literature on blended learning's impact on academic performance, there's a gap in understanding the lived experiences of faculty and extreme performers in mathematics classes within this specific alternating blended learning model.

While much has been written about the design and outcomes of blended learning, fewer studies have explored the lived experiences of those navigating this environment—particularly in the context of mathematics education at the tertiary level. Mathematics, by nature is a subject that demands clarity, continuous practice, and immediate feedback. The shift to alternating modalities has transformed how both faculty and extreme performers in mathematics classes interact with mathematical content, with varying degrees of success and difficulty. While several studies have explored student performance, satisfaction level, and digital readiness in blended learning environment.

The University of Eastern Philippines -- Catarman, with the onset of the pandemic, was one caught to doing more still to transcend to another modality. The previously practiced learning and teaching modalities need to change and need to be reviewed and modified for the teaching-learning process not to stop. Learning systems of academic institutions were revisited and modified such that they respond to the call of times. Faculty experienced difficulties with the complexity of instructional delivery, teaching strategies selection, on assessing the learners and on the digital divide (De Villa & Manalo, 2020). This is because, undeniably, the faculty are on the forefront of defining and redefining, scoping and rescoping, designing and redesigning of platforms, strategies just to cope to the educational demands of the stakeholders. On the other hand, the learners had to face the reality of the phenomenon, switching from the more physically participative and engaged learners to being learners online. Challenges were reported on how the extreme performers in mathematics classes cope with the receiving, answering and participating in the very common modular distance learning.

This study addresses this gap by exploring the experiences of faculty and extreme performers in mathematics classes (high-performing and challenged) in the University of Eastern Philippines' tertiary mathematics classes. It examines the challenges and coping strategies employed during the pandemic, using self-learning modules and online platforms. The findings will contribute valuable insights to the body of knowledge on effective teaching and learning strategies in this unique context.

2. MATERIALS AND METHODS

This chapter presents the research methods and procedures of the study. It discusses the research design, the locale and the time of the study, participants of the study, sampling procedure, and instrumentation, validation of the instrument and data gathering procedures.

The researcher employed a qualitative research design. This design is appropriate for the study because it allowed the researcher to explore the unquantifiable meanings of the tertiary mathematics faculty and extreme performers in mathematics classes on blended learning with an in-depth and detailed description of their experiences. Furthermore, it investigated the significance and meanings of such experiences toward increased awareness of the phenomenon (Taylor & Frances, 2013). Specifically, a phenomenological research design was employed to collect and describe the conscious and firsthand experiences of both the extreme students and faculty as participants in this study. Creswell (2013) states that a phenomenological research design gives emphasis to the lived experiences of a specific sector and their shared attributes.

Likewise, the Colaizzi's method of data analysis was used. This method of data analysis classifies data according to themes, concepts or similar features by extracting the essential and significant meaning from the large amount of data (Kiger & Varpio, 2020)

For a more dig deep analysis of the data, the study recognizes the best characteristics of qualitative methodologies using the very common qualitative techniques like observations, key informants, and review of secondary data.

Key informants and or participants are those who may exhibit characteristics whose commonalities are beyond compare. Their responses were part of the significant findings of the study which thematized accordingly and systematically.

The study was conducted at the University of Eastern Philippines Main Campus as it really exemplifies the employment of the blended learning. Specifically, the qualified participants are faculty members of the three (3) colleges who are teaching mathematics in the undergraduate program with struggling students in their classes. The three colleges are the following: College of Education, particularly Bachelor in Elementary and Secondary Education; College of Science, and College of Engineering, particularly Electrical and Civil engineering Departments. This study was conducted this second semester, school year 2022-2023.

There were two groups of participants in this study. The first group were the tertiary mathematics faculty who employed blended learning, and the second group were the extreme students in their mathematics classes.

The participants were selected based on the following criteria (Villar et al., 2022):

1. Participants should be teaching in tertiary mathematics from year 2020 up to the present,

2. Participants regardless regular permanent or part-time lecturer if they utilized blended learning modality from the start of the pandemic,
3. There is no specific teaching experience or years in service to participate in this study, and
4. Willingness to participate in the study.
5. Inclusion Criteria (Student-Participants)
6. Participants with lowest grades in their mathematics subject,
7. Participants regularly enrolled for the second semester school year 2022-2023,
8. He/she was under the classes of the instructors-participants included in the study, and
9. Willingness to participate in the study.

This study used a purposive sampling technique in such a way that the participants will be interviewed to detail their experiences as extreme performers in mathematics classes and faculty during the pandemic. Furthermore, an inclusion criterion is provided to give more information about the qualifications of the participants voluntarily participated in this study. The criteria used by the researcher were based on the study of Villar et al. (2022).

A semi-structured interview guide for performer-participants and faculty-participants were used during the conduct of the study. The researcher created an interview guide to ensure that every topic will be covered to gather the information necessary for the study. The interview consisted of a few primary questions, which were supplemented by supporting questions when more information is needed. The idea was to ask open-ended, non-leading questions that allowed the interviewee to decide on the depth and direction of his or her response. The questions were broad enough to allow for a wide range of responses and responses of varying quality. The interview guide was also translated in layman's language for better understanding by the performers-participants not much on the faculty-participants. The researcher interviewed the eight faculty and sixteen students until data reached saturation, that is, the inquirer no longer finds new information that adds to an understanding of a category or theme (Creswell, 2013). The audio-recorded interviews were transcribed in full. The researcher presented the interview transcripts to the faculty and student-participants for member-checking before starting the data analysis. Researcher's journal was utilized by the researcher on jotting down the important details mentioned during the interview. This was also used in recording the observations about the participants' gestures, expressions and feelings.

To ensure the validity of the interview guide, the research instruments were validated according to the research questions with three experts. One (1) Doctor of Philosophy in the field of mathematics, one (1) Doctor of Philosophy in the field in English, and an expert in phenomenological research. After taking into consideration all the suggestions of the experts, the interview guides were revised. Further, the research instruments were being subjected for pilot testing of the participants who fell under the same criteria but are from a different university. The researcher must be able to ask pre-made and unplanned questions that will give the participants the opportunity to address and discuss unclarified issues and concerns. After the tools had been verified, revise, and modified followed before interviewing the eight (8) tertiary mathematics faculty and sixteen (16) students of the study.

After securing permission and approval to conduct the study from the research adviser, panel members, Vice President for Academic Affairs, and the University President, a demographic survey was conducted to identify the research participants who qualified under the set criteria. In identifying the faculty-participants, the researcher handled the transmittal letter to the Dean for Instruction to provide her the copies of the actual teaching load of the faculty for three (3) semesters. After identifying the participants of the study, a letter of consent was given to signify their full participation and willingness in the study. When the letter was already signed, the identified participants were asked on their most convenient time and place where they were comfortable and available for the conduct of interview. The study conducted face-to-face and onsite interviews to gather data that will describe the real-world experiences of both the faculty and extreme performers in mathematics classes. During the actual interview process, the researcher read the informed consent agreement form to the participant to assure that the data gathered is treated with confidentiality. A tape recorder was used, and the recorded audio was transcribed. At the same time, the researcher observed and wrote down the participant's behavior and gestures while answering the interview questions.

After the in-depth face-to-face interview, the outcomes of the study were processed using the Colaizzi's method of data analysis to interpret and analyze the data. This method of data analysis classifies data according to themes, concepts, or similar features by extracting the essential and significant meanings from the large amount of data collected (Kiger & Varpio, 2020).

3. RESULTS AND DISCUSSION

This chapter presents, analyzes, and interprets the findings from the data gathered with the aid of the research instruments. The discussions are aligned to the five (5) main objectives of the study which focuses on the shapes and shades of blended learning in tertiary mathematics classroom as basis in formulating policy formulation.

As defined in this study "shapes" significantly refer to the experiences and challenges of extreme performers and Faculty in mathematics classes on the implementation of alternating blended learning. And the "shades" is referred to coping strategies while on alternating blended learning. These challenges and coping strategies are translated and articulated experiences have the following themes:

THEME 1: Internet Connectivity and Technological Difficulties

One dominant challenge among students during blended learning was unstable internet connection and limited access to gadgets. This problem significantly influenced their ability to participate in classes, submit assignments, and comprehend lessons. Below are the experiences, separated by performance level. Here are the extreme students responses:

A. Low Performers:

Low-performing students experienced substantial setbacks due to poor internet connectivity and inadequate technological resources. Their struggles often led to missed classes, late submissions, and reliance on external sources like YouTube for learning. The impact of unstable signals and insufficient gadgets greatly hindered their academic performance and engagement.

"During online medyo challenging saam kay adi kami sa kanya-kanya boarding house... So adali challenge iton saam, kailangan namo magi imod pa sa mga tutorial sa Youtube para la mahibaro... Tapos danay deri ak nakaka-join sa online kay maluya an signal." (Student 1)
(During online classes, it was quite challenging for us because we lived separately in different boarding houses... It was really a challenge for us; we needed to rely on YouTube tutorials just to learn... Sometimes I couldn't join online classes because the signal was weak.)

"An na-experience ko po kay an ako man dati sito pagtikang kay first time, san first year kay waray po ak siton cellphone... unstable ngada na dati ditoy pa man la an may wifi." (Student 2)
(My experience was that when I started during my first year, I didn't have a cellphone yet... and the internet was unstable, only few places had Wi-Fi.)

"Maluya an internet connection, an ako cellphone danay nagha-hang... nadidisturbo kay ginsusugo ka s aim mama... disappointed ka pag dere ka submit on time..." (Student 3)
(The internet connection was weak, and my cellphone would often hang... I would get distracted because my mother would send me to do errands... I felt disappointed when I couldn't submit on time.)

"Dere namo nasabutan kay maluya an signal... another challenge an gadgets kay cellphone la ak gamit." (Student 4)
(We couldn't understand each other because the signal was weak... Another problem was the gadgets since I only used a cellphone.)

"Kay mahina man an internet connection, an resulta nakakapasa ak saak mga task ngan activities urhi na..." (Student 5)
(Because the internet connection was poor, I would often pass my tasks and activities late.)

"Makuri para saak kay an signal o an internet connection deri stable..." (Student 6)
(It was hard for me because the signal or internet connection was not stable.)

"An internet liwat an sayo sa problema para maka participate ak sa online class kay need pa maghanap sin "piso-wifi"..." (Student 7)
(The internet was also a problem for me to participate in online classes because I had to look for 'piso-wifi' (coin-operated Wi-Fi hotspots).)

"Mahirap kasi kailanagan pa sin strong internet connection pag nagparticipate kasi sa online class." (Student 8)
(It was difficult because you needed a strong internet connection to participate in online classes.)

For low-performing students, unreliable internet and limited gadgets created major obstacles to active participation and timely submission of academic requirements. Many faced persistent frustrations, often resulting in incomplete tasks, missed lessons, and a heavier dependence on self-directed learning methods that were not always effective.

B. High Performers:

High-performing students, although also affected by internet and gadget limitations, demonstrated stronger adaptability and resourcefulness. Instead of succumbing to these barriers, they found ways to maintain consistent participation and academic performance.

"The internet connection was not stable tapos there are some apps nga diri gumagana sa ako gadget." (Student 1)
(The internet connection was not stable, and there were some apps that didn't work on my gadget.)

"Pag abot sa load diri gud permanente. Diri gud stable anam financial resources." (Student 2)
(When it came to mobile data load, it was not always available. Our financial resources were not stable.)

"Tapos danay di ka liwat maka-attend sa online class kasi kinahanglan mo lat load or wifi... nauubusan ak load/data tas waray pan piso wifi." (Student 3)
(Sometimes I couldn't attend online class because I needed either mobile load or Wi-Fi... I would run out of load/data and there was no piso Wi-Fi available.)

"An signal an sayo sa pinaka challenge kay kami, ada gad kami sa bungto pero medyo ligid na kami san bungto, maiton nga an signal medyo maluya." (Student 4)
(The signal was one of the biggest challenges because although we were near town, we were still a bit far, so the signal was weak.)

"Sa amo kasi place maluya kasi an signal so kailangan ko magmata kaagahon para mag search sa internet." (Student 5)
(In our place, the signal was weak so I had to wake up early to search the internet.)

"An poor internet connection an sayo san pinaka problema kay an amo lugar deri gud stable an signal." (Student 6)
(Poor internet connection was one of the biggest problems because in our area, the signal was not stable.)

"Dinhi an connection liwat is mahina. Kailangan kopa maghanap kami kun diin an malaksi an signal." (Student 7)
(Here, the internet connection was also weak. We had to search for a place where the signal was strong.)

"Sometimes we cannot attend online class because of slow internet connectivity." (Student 8)
(Sometimes we cannot attend online class because of slow internet connectivity.)

While high-performing students faced similar internet and gadget challenges, their ability to actively seek solutions — such as waking up early to find better internet signals, using available resources effectively, and prioritizing academic activities — helped them maintain strong academic outcomes despite technological difficulties.

Internet connectivity and technological resources were critical barriers to both high and low performers. Both groups faced similar obstacles, but high performers often demonstrated resilience by actively finding ways (e.g., searching for strong signal areas, using YouTube tutorials) to continue learning despite difficulties. Low performers, meanwhile, frequently struggled to cope, often relying on delayed submissions and external help.

THEME 2: Financial Difficulties and Budget Management

Financial constraints emerged as a major theme affecting students' participation and performance during online and blended learning. Students highlighted issues like the cost of loading mobile data, buying gadgets, and managing everyday living expenses. These realities influenced their learning experience differently based on their coping mechanisms. Here are the extreme students responses:

A. Low Performers:

Low-performing students experienced direct negative impacts from financial constraints. Limited resources to afford mobile data, unstable gadgets, and additional household expenses contributed to delayed submissions, poor class participation, and

heightened academic stress. Their responses reflected greater difficulty in finding ways to adapt to these financial burdens.

"Medyo magastos pag abot sa expenses kay kailangan gud mag load... Problema namo in danay kon pano kami mag-approach san kuan sa amon instructor kay online." (Student 1)
(It was quite expensive regarding expenses because we really needed to buy mobile load... Sometimes, we also had problems on how to approach our instructor online.)

"Dati po anak adali experience na iba about sa internet connection, siton nagkayaon na gadget tapos iton about sa internet connection na danay unstable... Internal problems like wifi, maghuhulog tas deri gud kaya naghuhulog lah kami sa wifi vendo tapos kapos danay an kwarta." (Student 2)
(Before, my experience was different regarding internet connection — we already had a gadget but the internet was still often unstable... We had internal problems like having to insert coins in a Wi-Fi vendo, and sometimes we didn't have enough money for it.)

"An ako cellphone danay nagha-hang... disappointed ka pag dere ka submit on time... limited an imo knowledge nga makukuha." (Student 3)
(My cellphone would sometimes hang... I felt disappointed when I couldn't submit on time... and the knowledge I could get was limited.)

"An poor connection, permi laak late sa pagpasa san modules tapos late pag receive san mga updates... kailangan ko pa isipon an transportation an iba pa nga problema." (Student 5)
(Because of poor connection, I was always late in submitting modules and receiving updates... I also had to think about transportation and other problems.)

"Financial difficulties kay siton nga adlaw waray kami internet connection. Para kami maka gamit san internet, kailangan pa namo magpaload 50 pesos kada adlaw ngan darako na para saam..." (Student 6)
(We had financial difficulties because some days, we didn't have internet connection. To use the internet, we had to spend 50 pesos a day, and that was already a lot for us.)

"Need pa maghanap sin 'piso-wifi' pero okay man an signal ngan nakabulig para ma continue an learning ko... struggle lat ak sa paggamt san gadget." (Student 7)
(I had to look for 'piso-wifi' but the signal there was okay and it helped me continue my learning... I just struggled with using gadgets.)

"Sa gadget an usage san loads since kailanagn namo sin load para ma access an internet..." (Student 8)
(We needed mobile load to use our gadgets and access the internet.)

For low-performing students, financial difficulties served as a substantial barrier that directly hindered their learning process. Many struggled to maintain consistent online participation and performance, as limited finances restricted their access to necessary resources. Unlike their high-performing peers, they showed less evidence of strategic adaptation to these financial hardships.

B. High Performers:

High-performing students, while equally affected by financial challenges, demonstrated resilience and practical strategies to overcome these obstacles. They managed limited resources effectively, adapted creatively, and maintained focus on their academic goals despite economic hardships.

"Noong first year po ako there was only one cellphone which my brother and I parang naghuhuramay la po kami." (Student 1)
(During my first year, there was only one cellphone, and my brother and I would take turns using it.)

"Diri man tanan na oras may kwarta... Kun willing talaga mag attend siton na klase, maniguro gud ak." (Student 2)
(Not all the time do we have money... If you really want to attend class, you will find a way.)

"An load kasi sadto depende, 1 week sadto an 100. Tapos kun pagwaray ngani ak 100, puyde nagpipisowifi nala ak sadto." (Student 3)
(Before, 100 pesos for load could last a week. If I didn't have 100, I would just use piso-wifi.)

"Online, para sa ako pabor iton kay harayo kami ngadi sa UEP, pagpinamasahe. Nagasto man pero load la." (Student 4)
(For me, online was favorable because we lived far from UEP (school), saving transportation costs. Even though we still spent money, it was only for mobile load.)

"That time makuri an amo pangabuhi san ak parents so naging advantage iton san online kay dere kami naggagasto nagbabayad san boarding house, san transportation." (Student 5)
(During that time, my parents were struggling financially, so online learning was an advantage because we didn't have to spend on boarding house or transportation.)

"Magdadara ak sarili ko nga WIFI connection... nag outsourcing para makahanap pa sin impormasyon." (Student 6)
(I would bring my own Wi-Fi connection... I also did outsourcing to find more information.)

"An gastos niyan nga mga adalw natig hataas. An pamasahe, pagkaon ngan mas mahalaga nga hirimuon kon magi-aaram kaki sa amon panhimalay." (Student 7)
(Nowadays, expenses have gone up. Transportation, food, and it's even more important to manage studies while at home.)

"Dinhi an connection liwat is mahina. Kailangan kopa maghanap kami kun diin an malaksi an signal." (Student)
(Here, the connection was also weak. We had to look for a place with a strong signal.)

Despite financial hardships, high-performing students showed strong adaptability and resourcefulness. They maximized limited resources, sought alternative solutions, and prioritized their academic needs effectively. Their ability to manage and overcome financial constraints played a key role in sustaining their learning engagement and academic success.

Both low and high performing students grappled with financial challenges like affording mobile data and maintaining gadgets. However, high performers often approached these constraints creatively—sharing devices, managing limited load, or making sacrifices like studying at odd hours. In contrast, low performers typically emphasized how these financial issues directly impeded their studies, with less evidence of strategic adaptation.

THEME 3: Health, Motivation, and Emotional Struggles

Students' physical health, emotional struggles, and overall motivation were heavily impacted during blended learning. Lack of sleep, stress, physical discomfort, and emotional difficulties such as frustration and distraction became important themes in their learning experiences. Here are the extreme students responses:

A. Low Performers:

Low-performing students were heavily impacted by physical health issues and emotional struggles. Frequent distractions, mental exhaustion, disorganization, and personal health problems often hampered their ability to stay focused and meet academic demands. Their experiences revealed a pattern of being overwhelmed without consistently effective coping mechanisms.

"During online class makadamo ak adto hiranat kay deri ak sanay nga nagpipiraw." (Student 1)
(During online classes, I often had fevers because I wasn't used to staying up late.)
"Danay utod-utod an pag-bagaw san professor... Sa pdf, an iba deri maintindihan... naghuhulog lah kami sa wifi vendo tapos kapos danay an kwarta." (Student 2)
(Sometimes the professor's voice would cut off... Some parts in the PDF were hard to understand... We would just rely on piso-WiFi but sometimes we didn't have enough money.)

"An imo mental health ada ka la perme natutok sa gadget, tapos disappointed ka pag dere ka submit on time, nag oover think ka sa imo grades..." (Student 3)
(Your mental health suffers because you're always glued to gadgets, and you feel disappointed when you can't

submit on time, and you start overthinking about your grades...)

"Danay nakukurian lat ak e organize an ako task ngan activities nga hihimuon... distraction kay san social media, an tendency natutunga anak focus." (Student 5)
(Sometimes, I had difficulty organizing my tasks and activities... Social media was a distraction, and my focus would get divided.)

"An pagpaload para saak is darako nga stress kay anam kwarta limitado... anak cellphone is daan na, tas nag lalag lat kaya na-iinterupt anak mga trabahoon..." (Student 6)
(Buying load was a huge stress for me because money was limited... My cellphone was also old and kept lagging, which interrupted my work.)

"May problema lat po ak sa pamati kay anak left ear deri na gumagana... an boses san teacher deri gud dako para mabatian ko an mga lesson..." (Student 7)
(I also had a hearing problem because my left ear was not functioning... The teacher's voice was not loud enough for me to hear the lessons properly.)

"Sa modular, nag sesearch laak answer sa online... minsan ko an teacher deri naghahatag pokus sa topic deri gud ak nasabot sa ngatan nga aranseran ngan activities." (Student 8)
(In modular learning, I would just search for answers online... Sometimes the teacher didn't focus much on the topic so I couldn't understand all the lessons and activities.)

Low-performing students faced compounded difficulties from health issues, emotional stress, and distractions. Their inability to effectively manage these problems often led to poor academic organization, decreased focus, and lower overall performance during blended learning.

B. High Performers:

Despite experiencing health and emotional challenges, high-performing students demonstrated resilience by maintaining motivation and seeking proactive solutions. They recognized the difficulties but continued to strive toward their academic goals through self-regulation, perseverance, and strategic learning behaviors.

"San pandemic po kasi nagkasakit po ak... so na-diagnose po ak sin gastritis tas ulcer po." (Student 1)
(During the pandemic, I got sick... I was diagnosed with gastritis and ulcer.)

"An pagbagsak... para kasi saak sadto bagan ka-unfair... Iisipon ko hala malimpyo paak." (Student 3)
(Failing felt unfair to me before... but I would think to myself, 'I can still recover.)

"Danay nahingangalimot ak kumaon to the point nga nagsusuol na an ako tiyan sa online damo kasi an amo mga activities." (Student 5)
(Sometimes I would forget to eat to the point that my stomach would hurt because of so many online activities.)

"An ako course deri gud aligned sa mathematics kaya nag adapt gud ak sine nga subject kasi maaram ak nga may fundamental knowledge nga magagamitan ko sa future..." (Student 6)
(My course was not really aligned with Mathematics, but I adapted to the subject because I knew it contained fundamental knowledge that I could use in the future.)

"Makuri gud an sugad sine nga pag-aradman kay lack of knowledge is permi ada kay waray man kami time para direct nga mangutana sa teachers..." (Student 7)
(Studying this way was really hard because the lack of knowledge was constant since we didn't have time to directly ask our teachers.)

"Sa online learning, anam teacher is nagdidiscuss san lesson dikan may mga parts na diko naiintidhan, ako dayun ginsesearch sa google." (Student 8)

(In online learning, when there were parts of the lesson that I didn't understand during the discussion, I would immediately search them on Google.)

High-performing students showed an ability to navigate health and emotional challenges by maintaining motivation and adapting their learning approaches. Despite physical and emotional setbacks, they remained focused on their goals and consistently found ways to overcome knowledge gaps and personal obstacles.

Both low and high performing students faced health and emotional difficulties such as stress, distraction, sickness, and mental exhaustion. High performers, however, tended to recognize these obstacles and still push through by finding motivation in family or future goals, whereas low performers often became overwhelmed by these problems, impacting their ability to focus and organize their work consistently.

THEME 4: Teaching Strategies and Learning Resources

The way teachers delivered content and the resources provided to students significantly shaped their learning experience. Some students appreciated modules, problem sets, and online explanations, while others struggled due to limited teacher interaction, unclear materials, or lack of immediate feedback. Here are the extreme students responses:

A. Low Performers:

Low-performing students encountered difficulties with the structure and delivery of teaching materials. Although resources were available, issues like unclear explanations, limited feedback, reliance on self-study, and lack of immediate interaction often hindered their understanding and reduced their academic performance.

"Okay man saam magtutdo si sir Ampuan pag-abot sa online class... so deri danay naka-clarify so siguro sa about iton sa connection... pagnag-didiscuss siya online danay deri nababatian an kanya boses." (Student)
(Sir Ampuan was okay in teaching during online classes... but sometimes things weren't clarified, maybe because of the connection... When he discussed online, sometimes we couldn't hear his voice clearly.)

"Modular through online source, gindodownload la an pdf file tapos bahala na kaki magi basa tas mag study... Danay deri poh maintindihan an process..." (Student 2)
(Modular learning was through online sources; we would just download the PDF files and study by ourselves... Sometimes the process was really hard to understand.)

"In terms of delivery e send an module an module thru google classroom/messenger... disappointed ka pag dere ka submit on time." (Student 3)
(In terms of delivery, modules were sent through Google Classroom or Messenger... You would feel disappointed if you couldn't submit on time.)

"An module was sent thru Google classroom, an online discussion using PowerPoint. Quizzes was sent through Google forms, pero an major exam face to face." (Student 4)
(The module was sent through Google Classroom, and online discussions were done using PowerPoint. Quizzes were sent through Google Forms, but major exams were done face-to-face.)

"Learning in modular para saak maupay kay gintatagan dako nga oras para masabot an problem... May laak problema kahuman pagpasa saak modules kay deri ak nakaka-receive feedback." (Student 5)
(Learning through modules was good for me because it gave me more time to understand the problems... My only problem was after submitting my modules, I didn't receive feedback.)

"Sa modular naman mas maupay kay provided kami san hardcopies... Sa mga quizzes nakaka answer naman kami kay mayaon man kaki harcopy ngan softcopy..." (Student 6)
(Modular learning was better because we were provided with hardcopies... In quizzes, we could answer because we had both hard and soft copies.)

"Nag engage kami mga video tutorials ngan interact through facebook page... an amo exam is face-to-face kaya challenging..." (Student 7)

(We engaged with video tutorials and interacted through a Facebook page... Our exams were face-to-face, which made it challenging.)

"Nag aanounce nala an amo teacher kon may update about sa assessment ngan activity through messenger... Tapos minsan ko an teacher deri naghahatag pokus sa topic." (Student 8)
(Our teacher would just announce updates about assessments and activities through Messenger... Sometimes the teacher didn't focus enough on the topic.)

For low-performing students, the availability of modules and online materials did not fully compensate for the lack of structured guidance and feedback. This often resulted in confusion, incomplete understanding of lessons, and greater reliance on self-study without adequate teacher support, contributing to lower engagement and academic performance.

B. High Performers:

High-performing students made better use of teaching strategies and available learning resources. Even when faced with imperfect delivery systems, they proactively engaged with materials, sought clarification, and valued interactive learning opportunities, enhancing their understanding and performance.

"It was the problem set given by Sir Bless it really helped us a lot since the more problem set he give to us, the more we master the topic in integral calculus." (Student 1)
(The problem sets given by Sir Bless really helped us because the more he gave, the more we mastered the topic in integral calculus.)

"Pag-abot po sa pagtutdo makuri danay sumabot kay online... more on discussion." (Student 2)
(When it came to teaching, sometimes it was hard to understand because it was online... it was mostly discussion-based.)

"Danay nagpapa-exam si Sir paiba-iba man lat danay; waray man ini igtutdo, waray ba ig-discuss." (Student 3)
(Sometimes Sir would give exams even though the topics had not been taught or discussed yet.)

"Sa pagtutdo, mao ta gad kan Sir pag kuan, ugaring la deri kami mismo nakakasubaybay kay putol-putol." (Student 4)
(In teaching, Sir was good at explaining, but we couldn't really follow well because the connection kept cutting off.)

"An positive, pag sumbission kay diba ginko-consider man nira pag-abot san internet connection maiha sira maghatag sin duration pagsubmit san requirements." (Student 5)
(The positive thing was that they considered our internet connection issues by giving us longer durations to submit requirements.)

"Bisan deri ak fun san mathematics kay an amo teacher dali la mahibaro. Kon paano niya gintututdo doon ak nahihibaro gud." (Student 6)
(Even though I wasn't fond of Mathematics, our teacher made it easy to learn. The way he taught really helped me understand.)

"Maupay kon mayaon interaction between students ngan teachers. Kay pwede ko direkta nga mangutana saak teacher kon mayaon ak pakiana ngan an teacher naghahatag dayon feedback." (Student 7)
(It's good when there's interaction between students and teachers because I can directly ask the teacher if I have questions, and the teacher immediately gives feedback.)

"Anam teacher dire saam naghahatag exam or task kapag wara namo ka discuss or ka tutdo an lesson pa gud. Anam teacher gin susure na naiintidhan namo an topic bago maghatag quizzes and examination." (Student 8)
(Our teacher didn't give exams or tasks if the lesson hadn't been discussed yet. The teacher made sure we understood the topic before giving quizzes and examinations.)

High-performing students effectively engaged with the provided materials and teaching methods, maximizing learning opportunities even when online delivery had limitations. Their willingness to seek clarification, participate actively, and use problem sets strategically contributed significantly to their academic success during blended learning.

Teaching strategies and resource delivery greatly impacted students' engagement. High performers maximized the provided materials, participated actively in problem-solving exercises, and sought clarification when needed. Low performers, although receiving similar resources, were more prone to confusion, lacked consistent feedback, and faced difficulties self-studying from modular contents or fragmented discussions.

THEME 5: Coping Mechanisms and Time Management

To overcome the obstacles presented by online learning, students adopted various coping strategies. Some demonstrated strong time management and self-discipline, while others found it difficult to stay focused and organized. This theme explores how students navigated their academic responsibilities despite challenges. Here are the extreme students responses:

A. Low Performers:

For low-performing students, navigating the challenges of online learning can be especially difficult, often compounded by distractions and inconsistent strategies. Despite these struggles, many low performers still attempt to manage their time by employing various coping mechanisms. These students often try to set schedules and make use of external resources like YouTube tutorials or borrowing devices to enhance their learning. However, maintaining focus and staying organized remains a significant challenge, influencing their ability to manage academic tasks efficiently.

"Na mamnage ko nala nag set schedule kon kano magpipitaw kon kan-o tratrabahuo an mga activities." (Student 1)
(I just managed by setting a schedule for when I would answer and work on activities.)

"Pagabot man sa pdf, anak technique na gingamit is youtube and other resources... Nag time management nala po ak." (Student 2)
(When it came to the PDFs, my technique was using YouTube and other resources... I also practiced time management.)

"Dere ak nala nag oonline in aga para deri ak gin-susugo, naghahanap youtube tutorial para ma improve ak knowledge sa pagsolve, e manage an time sin maupay, bawal magrelax-relax..." (Student 3)
(I just avoided going online in the morning so I wouldn't be sent on errands. I looked for YouTube tutorials to improve my solving skills, managed my time well, and avoided relaxing too much.)

"During vacant time I studied my lesson, have an advanced reading, pag mag hang cp borrow san mga kamag-anak nga may cp pansamantala." (Student 4)
(During vacant time, I studied my lessons, did advanced reading, and when my phone hung, I temporarily borrowed phones from relatives.)

"Self-discipline para makapokus, e-organize an ako mga subject pra dire masamok, ngan time management para maiwasan an cramming." (Student 5)
(Self-discipline to stay focused, organizing my subjects so they wouldn't get messy, and time management to avoid cramming.)

"Sa internet, since anak ate karuyag niya magkayaon sin sarili nga internet connection... nakiki-connect nala ak sa wifi niya." (Student 6)
(Regarding internet, since my older sister wanted to have her own internet connection, I just connected to her Wi-Fi.)

"Time management para saak an susi para maging malipyo ngan dali la an pag organize adali task ngan activities kada adlaw para maiwasan an distraction." (Student 7)
(Time management was key for me to stay organized and easily finish daily tasks and activities to avoid distractions.")

"Pagiging good listener ngan focus sa teacher habang nagdi-discuss. Ngan pag save san kwarta agap para prepare sa budget..." (Student 8)
(Being a good listener and focusing on the teacher during discussions. Also, saving money early to prepare a budget...)

Low-performing students employ time management strategies such as setting schedules and using external resources, but often face challenges in maintaining focus and consistency. Distractions, lack of discipline, and difficulties with organization hinder their ability to manage tasks effectively. While they demonstrate effort in adapting to the demands of blended learning, their strategies are often less consistent or face more barriers, which can affect their academic success.

B. High Performers:

High-performing students, on the other hand, tend to adopt more structured and proactive approaches to time management and coping. They emphasize strict scheduling, self-study, and actively seek external resources to enhance their understanding. These students tend to be more self-disciplined, often going above and beyond to ensure that they stay on track with their academic responsibilities. Through effective use of time management strategies, they navigate challenges more successfully, consistently meeting deadlines and excelling in their tasks.

"When it comes to time management para po makapasa ak on time ginpipirawan ko gud siya." (Student 1)
(When it came to time management, I really stayed up late to make sure I could pass requirements on time.)

"Kun willing talaga mag attend siton na klase, maniguro gud ak... kusa na dumuok sa imo mga classmate nga maaram na." (Student 2)
(If you are really willing to attend class, you will really find ways... even voluntarily approaching classmates who already understand the lessons.)

"Sa pag-aram ko, mahil-ing ak nala tutorial tapos nagse-self study ka nala." (Student 3)
(When studying, I would just look for tutorials and do self-study.)

"Sugad ni Sir, an technique talaga siton practice. Magprinaktis pagsolve." (Student 4)
(Just like what Sir said, the real technique was practice. Practicing solving problems.)

"Gin momotivate ko ka ak sarili, ginhimo ko nga motivation an ako family an mga ginhihimo nira para makatangpos ak." (Student 5)
(I motivated myself by making my family and everything they have done for me my inspiration to finish my studies.)

"Nag aaram gud ak ngan nag outsourcing para makahanap pa sin impormasyon, ngan nagprapractice ak pagsolve equations ngan word problem..." (Student 6)
(I really studied and outsourced information to find more knowledge, and practiced solving equations and word problems...)

"Namamanage ko anak time sin maupay ngan daramo anak nahihimo nga mga butang sa sayo ka adalw." (Student 7)
(I managed my time well and was able to accomplish many tasks in just one day.)

"Anam teacher dire saam naghahatag exam or task kapag wara namo ka discuss or ka tutdo an lesson pa gud. Anam teacher gin susure na naiintidhan namo an topic bago maghatag quizzes." (Student 8)
(Our teacher didn't give exams or tasks unless the lesson had been discussed or taught. The teacher made sure we understood the topic before giving quizzes.)

High-performing students excel in time management by employing consistent and proactive strategies, such as self-study, strict scheduling, and seeking external resources. These students maintain a high level of self-discipline, enabling them to manage their academic tasks efficiently and effectively. Their ability to navigate the challenges of online learning through structured approaches plays a key role in their success, setting them apart from their peers who may struggle to maintain similar levels of organization and focus.

While both high and low performers experienced challenges in managing their time, high performers demonstrated more proactive behaviors such as strict scheduling, self-study, and seeking external resources like tutorials. Low performers, although also attempting scheduling and focus, often faced greater distractions or lacked consistent strategies to maintain productivity.

Table 1: Alternating Blended Learning: A Comparative Analysis of Extreme Student Experiences

Theme	Low-Performing Students	High-Performing Students
Internet Connectivity and Technological Difficulties	▪ Significant struggles with unstable internet, weak signals, and limited access to reliable Wi-Fi. ▪ Frequently rely on expensive mobile load or travel to areas with better connectivity. ▪ Difficulty participating in online classes, submitting assignments on time, and accessing materials. ▪ Gadgets often limited to basic or outdated cellphones.	▪ Also experience unstable internet but are more resilient and adaptive. ▪ Actively seek strong signal areas, utilize YouTube tutorials, and schedule their study around internet availability. ▪ Use limited gadgets strategically for academic tasks.
Financial Difficulties and Budget Management	▪ Major financial strain due to recurring costs for mobile data and load. ▪ Late submissions and missed classes due to lack of internet budget. ▪ High levels of stress managing daily costs for connectivity.	▪ Financial challenges are also present, but students creatively manage resources. ▪ Share gadgets, prioritize essential needs, minimize internet usage, or access free Wi-Fi points.
Health, Motivation, and Emotional Struggles	▪ High levels of stress, anxiety, sleep deprivation, and mental fatigue. ▪ Struggle to balance academic demands and personal health. ▪ Feelings of overwhelm and demotivation are common.	▪ Acknowledge health struggles but actively develop resilience. ▪ Draw motivation from family goals or personal ambitions. ▪ Implement self-care, time for rest, and stress management strategies.
Teaching Strategies and Learning Resources	▪ Experience unclear instructions, limited interaction, and delayed feedback.- ▪ Heavily dependent on self-study and YouTube due to lack of guidance. ▪ Struggle to understand complex topics without structured support.	▪ More proactive learners. ▪ Engage with materials actively, participate in problem-solving, and seek clarification. ▪ Use online resources effectively and build peer-support networks when necessary.
Coping Mechanisms and Time Management	▪ Frequent struggles with procrastination, disorganization, and cramming. ▪ Lack consistent strategies for handling workload and distractions.	▪ Strong time management and discipline. ▪ Develop schedules, use self-study, manage distractions, and seek additional resources proactively.

The student responses highlight the significant challenges faced during alternating blended learning, particularly in terms of internet connectivity, gadget access, financial difficulties, and mental well-being. While both low and high-performing students experienced these obstacles, their coping mechanisms and overall impact on their learning varied. Low-performing students often struggled to adapt to the demands of alternating blended learning, experiencing difficulty engaging with learning materials, and suffering from stress and distractions. In contrast, high-performing students demonstrated more resilience and adaptability, actively seeking solutions, utilizing learning resources effectively, and maintaining motivation and focus. The study suggests that blended learning presents unique challenges for all students, but low-performing students are particularly vulnerable to the negative impacts

of these challenges. The study highlights the need for educators and institutions to provide more support and resources to help students overcome these obstacles and achieve academic success.

The sudden shift to blended learning due to unforeseen circumstances prompted a significant transformation in the educational landscape at University of Eastern Philippines. This report delves into the experiences of faculty members as they navigated this new terrain, focusing on six key themes that emerged from their narratives: Adjustments in Teaching Methods and Work Environment; Delivery and Integrity of Student Assessment; Communication Methods and Delivery Platforms; Connectivity Barriers and Technological Limitations; Faculty Innovations and Adjustments in Instructional Materials; and Faculty Recommendations for Future Improvement.

THEME 1: Adjustments in Teaching Methods and Work Environment

Faculty members shared how blended learning altered their teaching routines, technology use, and personal work environments. Some mentioned benefits such as time savings, while others described the pressure of constant screen exposure, disruptions at home, and health impacts. Here are the Faculty responses:

"Ang maganda lang sa blended, na-manage mo yong time mo, hindi na nale-late, hindi mo na kailangan mag-travel, you can save money... Masakit ang ulo mo dahil palagi kang puyat at palaging nakatutok sa gadget." (Faculty 1)
(The good thing about blended learning is that you can manage your time, you are no longer late, you don't need to travel, and you can save money... However, you often get headaches because you lack sleep and are always focused on gadgets.)

"The positive side, I was able to utilize online materials while discussing... I was at home during the sessions, I can do some activities after online." (Faculty 2)

"Sa printed nagrereklamo ang mga students kasi self-learning nga it needs more explanation... Tapos sa bahay lang ako mag-o online di maiwasan na mag ingay ang dalawa kong mga bata, I have to stop for a while para sawayin sila." (Faculty 3)
(In printed materials, students complained because self-learning needed more explanation... Also, since I was just doing online classes at home, it was unavoidable that my two kids made noise, and I had to stop for a while to reprimand them.)

"An math makuri ig tutdo tapos limited an imo discussion sa online... may ibang mga estudyante walang laptop o cellphone." (Faculty 4)
(Math is difficult to teach and online discussions are very limited... Some students do not have a laptop or cellphone.)

"I think I was able to explore with other methods... Preparations of lesson, hindi madali magprepare specially making videos, power point presentation because we are not used to it." (Faculty 5)
(I think I was able to explore other methods... Preparing lessons is not easy, especially making videos and PowerPoint presentations because we were not used to it.)

"Eager to find ways and innovations... happy ako kasi kahit papano mayaon ta man ak na e impart sa kanra... Another issue an retrieval san module san mga students nga harayo tapos wara signal." (Faculty 6)
*(***I was eager to find ways and innovations... I was happy because at least I had something to impart to them... Another issue was retrieving modules from students who lived far away and had no signal.)**

"If na lessen an submission of hardcopies, para malessen liwat an basura... ak ginhihimo ako if may student nga di nakakaattend ak nala gin rerecord tapos gin sesend ko sa kanira." (Faculty 7)
(If the submission of hardcopies is lessened, it would also reduce waste... What I do is that if a student cannot attend, I record the session and send it to them.)

"Before during san waray pa pandemic, parang expose kit sa face to face... pag abot sa pandemic I learned a lot of new things, I am now expose with google meet, via zoom, applications, google form." (Faculty 8)
(Before, when there was no pandemic, we were exposed to face-to-face classes... When the pandemic came, I

learned a lot of new things, and I am now familiar with Google Meet, Zoom, various applications, and Google Forms.)

The shift to blended learning reshaped the faculty's teaching approach and daily routines. Some valued the flexibility of remote work, while others encountered fatigue, disruptions at home, and the demands of adapting quickly to digital platforms. Despite the different conditions, faculty continued to adjust their methods to fulfill instructional responsibilities.

THEME 2: Delivery and Integrity of Student Assessment

Faculty discussed their efforts in administering assessments, the issues they faced with dishonesty, and the adjustments they made to maintain fairness and accuracy in evaluating student outputs during blended learning. Here are the Faculty responses:

"During assessment online, ang hirap gumawa ng mga symbols sa math, kaya time consuming. Mayroong mga studyante na na wrong send, mayroon naman studenyante na ibang tao ang nagta-take nga exam nila, nandiyan ang cheating and dishonesty... Sa paggawa ng assessment, ini iba-iba ko bawat grupo to avoid cheating." (Faculty 1)

(During online assessments, it was hard to create math symbols, so it was time-consuming. Some students sent their answers incorrectly, and there were others whose exams were taken by someone else; cheating and dishonesty were present... To avoid cheating, I varied the assessments for each group.)

"During assessment, I consider the limitations on online assessments cannot submit their answers using the google forms because of the slow internet connection... I give a follow up with online recitation or even face to face recitation." (Faculty 2)

"Pag sa assessment naman, I'm giving them the benefit of the doubt, I cannot really rely if they are the one who took the exam, ang ginawa selfie muna bago mag-exam... pagdating sa result ng exam, nadismaya ako kasi ang dami paring bumagsak despite na ginawa ko naman ang lahat." (Faculty 3)

(In assessments, I gave them the benefit of the doubt because I could not be sure if they were the ones who took the exam. I required a selfie before starting the exam... However, when the exam results came out, I was disappointed because many still failed despite all my efforts.)

"Pag mag quiz duda ka kon nagkurupyahay kay dere mo sira maiimod... Another challenge, sa northern samar uso an brown-out." (Faculty 4)

(When giving quizzes, you doubt if they are collaborating or cheating because you cannot see them... Another problem is that brownouts are common in Northern Samar.)

"When I give a quiz based on the exercises in the module, I did not record the score because lessons were not yet discussed since it is just some sort of diagnostic test." (Faculty 5)

"An ginhihimo ko mahatag ak problem set online tapos e send saak an solution, pero mayaon ta koropyahay kay napansin ko an kanra mga solutions pare-parehas la... naghahatag nala ak practical questions orally, iton dayon ipapaimod nira an kanra solution, kada student iba nga question an ak ginhatag." (Faculty 6)

(What I did was send a problem set online and ask them to send me their solutions, but I noticed that their solutions were very similar, suggesting they copied... So instead, I gave practical questions orally where each student had a different question to solve and show their solution immediately.)

"Pag nag eexam online nahihikit an dayun san estudyante an answer dikan ginsusugad nira sa mga estudyante nga wara pag take exam... Nag study gud ak kun pano gamiton an google form nga deri mag leak an answer." (Faculty 7)

(When exams were conducted online, students would immediately share the answers with classmates who had not yet taken the exam... I really studied how to use Google Forms in a way that would prevent answer leakage.)

"In terms of evaluation talaga sa google form and then sa content halimbawa sa amo solving mathematics anak gn hihimo is sa google form una ig sesend nira pictures of their solutions then mayaun part of portion is mayaun siya brief explanation through the method given about the solutions." (Faculty 8)

(In terms of evaluation, we used Google Forms, and for content like solving mathematics problems, the students

would first send pictures of their solutions via Google Form, and there was also a section where they had to briefly explain their method.)

Faculty members actively addressed academic dishonesty by modifying assessments, requiring visual proof like selfies, designing group-specific tasks, and supplementing online exams with oral recitations. Despite their efforts, concerns about cheating and incomplete reliability in evaluation remained common, highlighting the complexity of maintaining integrity during remote assessment.

THEME 3: Communication Methods and Delivery Platforms

Faculty outlined how they delivered lessons and communicated with students using a variety of platforms and applications. Adjustments were made to accommodate both technology limitations and students' diverse accessibility situations. Here are the Faculty responses:

"Before the start of the classes, nagcreate ak group chat tapos ini-isa isa ko sila e-add na nakabase sa class list mo... Before the discussion, nag-explore muna ako ng Apps, na nandoon ang module mo, nagdi-discuss ka habang nagsosolve, tapos ina upload ko sa U-tube na kaprivate lang, e ka copy ko ang kink at e se send sa Group Chat." (Faculty 1)

(Before classes started, I created a group chat and added students one by one based on the class list... Before discussions, I explored apps where you could have the module open while discussing and solving. I uploaded the discussions privately to YouTube, copied the link, and sent it to the group chat.)

"I shifted to reporting type of delivery to maximize students' participation. I give students the topic by group, then during face to face I do the discussion... I realize that discussing online is not effective way of delivering the lesson." (Faculty 2)

"I use online platforms, the google classroom and the zoom application. I tried also to use facebook ang messenger to send my modules and videos." (Faculty 3)

"During online discussion I used platforms like Google Meet, and Zoom." (Faculty 4)

"I upload the materials and even the exercises... I upload the module sa word lang then the students would write their answers and picture it and upload them in the google classroom." (Faculty 5)

"An sa online naman, I implemented google classroom, those activities, syllabi, nagkakaroon kami online send it google classroom." (Faculty 6)

(For online, I implemented Google Classroom; activities and syllabi were posted there, and we would submit everything through Google Classroom.)

"I am using module and I also uploaded the learning material then a presentation na ginagamit during the discussion through google meet... And in submission the output I use online platform but my part nga di ko maintindihan I required them to submit a hardcopies to clarify san ira gin submit." (Faculty 7)

(I used modules and uploaded learning materials along with a presentation that I used during discussions through Google Meet... For submissions, I used an online platform, but if I couldn't fully understand their work, I required them to submit hardcopies to clarify their submissions.)

"Deri laak sa zoom nagkaklase lat ak via youtube live para lat sa mga students, kasi mas madali mag tutdo sa youtube kasi mas madali an server nira sa youtube compare sa via zoom and google meet." (Faculty 8)

(I did not only hold classes on Zoom but also used YouTube Live for students, because teaching was easier on YouTube since its server was faster compared to Zoom and Google Meet.)

Faculty members used a blend of Google Meet, Zoom, Google Classroom, Facebook, Messenger, YouTube, and private uploads to communicate and deliver content. Adjustments such as switching to private YouTube videos, uploading modules in different formats, and flexible submission requirements were common to ensure lessons reached as many students as possible despite internet limitations.

THEME 4: Connectivity Barriers and Technological Limitations

Faculty described persistent problems related to internet access, unstable connections, lack of student gadgets, and power interruptions. These technical issues disrupted teaching flow, limited student participation, and complicated the overall learning process. Here are the Faculty responses:

"During online discussion, kakaunti lang ang nagpaparticipate kasi dahil nga sa signal... hindi ko alam kung may naiintindihan sila... Slow internet connectivity." (Faculty 1)
(During online discussions, only a few participated because of poor signal... I wasn't sure if they understood anything... The internet connectivity was slow.)

"Not all students have gadgets. The slow internet connection. Power interruptions during online." (Faculty 2)

"Sa online naman, ayaw nila ng online kasi and signal mahina, kailangan pa nila pumunta sa bukid para makasagap ng malakas na signal para maka attend sa online class." (Faculty 3)
(Students didn't like online classes because the signal was weak; they even had to go to the hills to get stronger signal so they could attend online classes.)

"Stability of internet connection- halos iton an ngatanan an problema san mga estudyante lalo na kon adto sa isla o mga remote areas. Another challenge, sa northern samar uso an brown-out." (Faculty 4)
(Internet connection stability was almost everyone's problem, especially students from islands or remote areas. Another problem was that brownouts were common in Northern Samar.)

"Blended learning itself is a challenge, specially that students and teachers are not familiar with this type of learning... Printing of the materials, magastos imagine I have 500 students." (Faculty 5)
(Blended learning itself was difficult, especially because students and teachers were not familiar with this type of learning... Printing materials was expensive; imagine having 500 students.)

"Slow internet connection, students are not motivated, lack of interest... retrieval san module san mga students nga harayo tapos wara signal." (Faculty 6)
(Slow internet connection, lack of student motivation, and lack of interest... Retrieval of modules from students living far away and without signal was also a problem.)

"Sa online danay tigda nagbabrown out, tapos kundi man an internet tigda na wawara an cignal, kaya di nakakadiritso san klase." (Faculty 7)
(During online classes, sometimes there would suddenly be a brownout, or the internet signal would suddenly disappear, so classes couldn't continue properly.)

"Sa internet ma'am before an una na introduce for delivery is zoom tara what happened the zoom is kailangan account or may limitation lang siya and then mas mahirap siya kumuha ng signal via zoom... tapos after that is google meet medyo okay na siya mas madali friendly siya madali la but same pa rin ang iba parang data consumption." (Faculty 8)
(Regarding internet use, at first we used Zoom for classes, but Zoom required accounts and had limitations, and it was harder to get a good signal through Zoom... After switching to Google Meet, it was somewhat better and easier to use, though it still consumed a lot of mobile data.)

Faculty consistently reported that unstable internet, lack of access to proper devices, and frequent power outages seriously hindered the effectiveness of blended learning. These technical limitations created gaps in student engagement and made smooth lesson delivery difficult across all teaching platforms.

THEME 5: Faculty Innovations and Adjustments in Instructional Materials

Faculty members made significant modifications in preparing and delivering instructional materials to address gaps in student understanding and accessibility. This included creating digital content, modifying assessments, and personalizing materials based on students' needs. Here are the Faculty responses:

"Before the discussion, nag-explore muna ako ng Apps, na nandoon ang module mo, nagdi-discuss ka habang nagsosolve, tapos ina upload ko sa U-tube na kaprivate lang, e ka copy ko ang kink at e se send sa Group Chat." (Faculty 1)
(Before discussions, I first explored apps where you could have the module open while discussing and solving, then I uploaded the videos privately on YouTube, copied the link, and sent it to the group chat.)

"I shifted to reporting type of delivery to maximize students' participation... I give students the topic by group, then during face to face I do the discussion." (Faculty 2)

"Nag se send ako ng video kung paano magsolve ng word problem, nag-aral akong ng mga applications, nag-aral ako magrecord ng video, nag explore akong mag-edit ng videos para lang ma deliver ko ang lesson ng maayos, bumili ako ng tablet na kung saan doon ako magsusulat with the electronic pen." (Faculty 3)
(I sent videos showing how to solve word problems, I studied various applications, learned how to record videos, explored video editing — all just to deliver the lesson properly. I even bought a tablet where I could write using an electronic pen.)

"Medyo challenging kay dere ta iton aram kon paano ig implement... During online discussion I used platforms like Google Meet, and Zoom." (Faculty 4)
(It was a bit challenging because we were not familiar with how to implement it... During online discussions, I used platforms like Google Meet and Zoom.)

"I upload the materials and even the exercises... When I give a quiz based on the exercises in the module, I did not record the score because lessons were not yet discussed since it is just some sort of diagnostic test." (Faculty 5)

"An sa modular, usa an module nga amo ginagamit pero gin revised based san ability/capability of students kasi kulang sira basic skills... An sa online naman, I implemented google classroom, those activities, syllabi, nagkakaroon kami online send it google classroom." (Faculty 6)
(For modular learning, we used a standard module but revised it based on the students' abilities and capabilities because many lacked basic skills... For online, I implemented Google Classroom for activities and syllabi, and we submitted everything online through Google Classroom.)

"I am using module and I also uploaded the learning material then a presentation na ginagamit during the discussion through google meet... required them to submit hardcopies to clarify san ira gin submit." (Faculty 7)
(I used modules and uploaded learning materials along with a presentation used during discussions through Google Meet... I required students to submit hardcopies to clarify what they submitted.0

"I learned a lot of new things, I am now expose with google meet, via zoom, applications, google form... I made my own YouTube tutorial on my topic, nag discuss ako, nag sosolve ako dun, and then ina upload ko sa youtube." (Faculty 8)
(I learned a lot of new things; I am now exposed to Google Meet, Zoom, various applications, and Google Forms... I created my own YouTube tutorial on my topic where I discussed and solved problems, and then uploaded it to YouTube.)

Faculty members actively adapted their instructional methods by creating videos, using digital tools, revising modules based on student capabilities, and integrating online platforms. These adjustments aimed to bridge learning gaps caused by remote delivery and varying levels of student preparedness.

THEME 6: Faculty Recommendations for Future Improvement

Faculty provided several recommendations to enhance blended learning, focusing on technological support, academic policies, infrastructure development, and improving instructional delivery to better serve students in a flexible learning environment. Here are the Faculty responses:

"Discourage online exam; Proper pagpili ng LMS; whole studentry can access to free wifi; need pa ng framework ng Blended learning para makuha ang perfect blend, need more research on blended learning." (Faculty 1)

(Discourage online exams; properly select the Learning Management System (LMS); ensure that all students have access to free Wi-Fi; there is a need for a blended learning framework to achieve the right balance; more research on blended learning is needed.)

"Provision of technological infrastructure from the university. The university could provide to all students' gadgets and free wifi instead of giving money. The university should conduct intensive training for faculty who are not techno-savy." (Faculty 2)

"Think outside the box." (Faculty 3)

"Face to face la gihapon kay an Math makuri kasi ig tutdo." (Faculty 4)
(Prefer face-to-face classes because Mathematics is difficult to teach online.)

"More workshop/training to expose the faculty on different strategies specially we are not an education graduate. University should look into Blended learning continuity program. Provision of concrete plan on how blended learning be implemented uniformly. Provision of more library holdings. We have to work in the department as a group." (Faculty 5)

"Habaan nalang ang deadline for submission ng mga requirements. For no cellphone, borrow for the meantime. Group by group an submission san activity tapos gin video an kanra whole area." (Faculty 6)
(Extend the deadlines for the submission of requirements. For students without cellphones, allow them to borrow temporarily. Group activity submissions should be done by group and recorded by video to show their area.)

"Sa maluya an signal gintutuyangan ko na once a week la sira mag attend online class... Pag maluya an signal natuyang ak nga hard copy an kanra ipasa." (Faculty 7)
(For students with weak signals, I allowed them to attend online classes just once a week... If the signal was too weak, I required them to submit hardcopies instead.)

"The university to the college kailangan siguro the in terms of internet, or maki coordinate ang university sa mga LGU's... kailangan siguro in terms of accounts, students should have official accounts for better access to educational resources." (Faculty 8)
(The university and colleges should work on improving internet access, possibly coordinating with local government units (LGUs)... Students should also have official school accounts for better access to educational resources.)

Faculty emphasized the need for institutional support in the form of improved internet access, provision of gadgets, intensive training for both teachers and students, structured plans for blended learning, and a focus on face-to-face interactions for subjects requiring deeper comprehension like mathematics. Strengthening collaboration among departments and revising academic procedures were also suggested for more effective implementation.

Table 2: Faculty Experiences, Challenges, Adjustments, and Recommendations During Alternating Blended Learning

Theme	Faculty Responses
Adjustments in Teaching Methods and Work Environment	Faculty 1: Time management improved but experienced fatigue. Faculty 2: Utilized online resources and home-based setup. Faculty 3: Struggled balancing online teaching with household distractions. Faculty 4: Limited discussions due to online constraints. Faculty 5: Explored new teaching methods but faced difficulty preparing materials. Faculty 6: Found convenience but noted issues in student module retrieval. Faculty 7: Adjusted by recording sessions for absent students. Faculty 8: Learned new digital skills through necessity.
Delivery and Integrity of Student Assessment	Faculty 1: Encountered dishonesty; diversified assessments. Faculty 2: Used recitations to verify learning. Faculty 3: Required selfies for verification, still noted exam failures. Faculty 4: Suspected dishonesty during quizzes.

	Faculty 5: Used diagnostic tests without grading initially. Faculty 6: Assigned different problem sets; oral checking. Faculty 7: Studied Google Form techniques to avoid cheating. Faculty 8: Required explanation of answers along with solution images.
Communication Methods and Delivery Platforms	Faculty 1: Used private YouTube videos linked to group chat. Faculty 2: Assigned group reports, face-to-face discussion. Faculty 3: Used Google Classroom, Zoom, Facebook, Messenger. Faculty 4: Used Google Meet and Zoom for sessions. Faculty 5: Uploaded modules and exercises via Google Classroom. Faculty 6: Implemented Google Classroom for all activities. Faculty 7: Combined Google Meet discussions and hard copy outputs. Faculty 8: Preferred YouTube live sessions over Zoom or Meet.
Connectivity Barriers and Technological Limitations	Faculty 1: Participation low due to poor signals. Faculty 2: Noted lack of gadgets and power interruptions among students. Faculty 3: Students needed to climb mountains for signal. Faculty 4: Cited remote areas and frequent brownouts. Faculty 5: Massive costs and difficulties with module printing. Faculty 6: Noted motivation problems and retrieval difficulties. Faculty 7: Frequent brownouts and signal loss interrupted lessons. Faculty 8: Transitioned platforms to cope with high data use.
Faculty Innovations and Adjustments in Instructional Materials	Faculty 1: Uploaded problem-solving videos to YouTube. Faculty 2: Changed delivery to student reporting. Faculty 3: Learned video recording, editing, and used tablet writing. Faculty 4: Continued online classes using basic tools. Faculty 5: Used preliminary exercises for diagnostics. Faculty 6: Customized modules for non-STEM students. Faculty 7: Combined online submission and hard copies. Faculty 8: Created YouTube tutorials and interactive sessions.
Faculty Recommendations for Future Improvement	Faculty 1: Discourage online exams, proper LMS, free wifi access. Faculty 2: Technological infrastructure and faculty training. Faculty 3: Encourage innovative thinking. Faculty 4: Return to face-to-face especially for Math. Faculty 5: Workshops, continuity programs, stronger library support. Faculty 6: Flexible deadlines, stricter academic integrity monitoring. Faculty 7: Hardcopy options and lenient submission timelines. Faculty 8: Coordination with LGUs for internet access; official school accounts for students.

4. CONCLUSION

Several suggestions were also identified by the faculty as to developing the skills on how to manipulate gadgets and utilize applications to make sure that the delivery of the lesson is effective. Despite the challenges brought about by this pandemic, both the faculty and the extreme performers in mathematics classes willingly took part to make sure that quality education is not compromised while adhering to the health protocols and while adapting to the new learning modality.

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