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THE IMPACT OF HIGH HEAT INDICES FACED BY GRADE 6 LEARNERS IN LEARNING MUSIC, ARTS, PHYSICAL EDUCATION, AND HEALTH (MAPEH) SUBJECT

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Abstract : The high heat index has caused a drastic shift from traditional to online distance education which resulted in many difficulties to our learning delivery modes. The purpose of this study is to find out what are the challenges of Grade 6 learners in Camiling District, Schools Division Office of Tarlac Province on online distance earning and modular distance learning. The researcher employed the use of phenomenological approach and thematic analysis which include face-to-face and online interviews, watching recorded zoom classes and observations were applied to synthesize and identify the challenges during online classes. Physical and digital distractions, technological and technical difficulties, institutional and academic issues, and personal and psychological barriers are the challenges that the learners encounter during online classes. Designating a specific area or gadget for online classes, providing intensive training on how to navigate the online learning platforms, maintaining an open communication between teachers and learners, using flipped classroom instruction, strengthening parent-teacher partnership in ensuring guidance while learning from home, and providing guidance and counselling to stakeholders are some of the recommended strategies that are suited to the new normal e-learning modality. This research will serve as a guide for educators and learners and researcher in the use of online distance learning.

Keywords: high heat index, learning delivery modality

INTRODUCTION

Academic performance is a crucial aspect that measures student achievement in various academic subjects. It is typically assessed through classroom performance, graduation rates, and results from standardized tests and projects. However, the current issue of extreme heat due to climate change has impacted students' academic performance negatively. Climate change has become a global concern over the past few decades, affecting ecosystems and life on Earth in numerous ways.

The gradual changes in weather patterns over approximately 30 years have been attributed to human activities like the use of fossil fuels and land use changes. The increase in greenhouse gas concentrations has led to a rise in global average temperatures, resulting in more frequent and prolonged heat waves. These extreme heat events can pose serious health risks such as heat-related illnesses and even fatalities.

Moreover, the impact of extreme heat on academic performance is evident, especially in countries like the Philippines where millions of children are affected by high heat frequency and prolonged heatwaves. The projections for the future indicate a worsening situation by 2050, with severe consequences for health, safety, nutrition, education, access to water, and livelihoods.

It is clear that addressing climate change is not only crucial for environmental sustainability but also for safeguarding the well-being and academic success of current and future generations. The urgency to combat climate change and mitigate its effects has never been more pressing.

The accustomed way of Filipino school year usually ends in March, wherein the vacation typically starts in April and May, the summer season in the Philippines. But due to the pandemic,some things have changed which led us to the creation of the new normal society. Two years have passed since students were in modular learning where they studied inside their houses which was caused by the new normal. On October 2022, senior high school students at Nabua National High School started to have their face-

to-face classes. The Philippines experienced high-temperature heat in April, the reason behind this is because summer is nearly approaching. Summer in the Philippines usually begins in the middle of June and lasts until September, but due to climate change, the frequency was changed. The extreme heat affected many people, such as only workers, people inside their homes, children, the elderly, and especially students. Because of the extreme heat, different school heads across the country ordered to implement blended learning for the remaining week of the school year. This is soon followed by Nabua National High School. This is done to ensure the safety of all students. In any case, it is impossible to avoid being affected by the heat because we can feel it even in our homes. This study aims to determine the various effects of extreme heat temperature on the academic performance of senior high school students in Nabua National High School. It aims to raise awareness regarding the significant effects of high heat temperatures on students and how it may possibly affect their learning.

According to Mendell (2005), to assess whether school environments can adversely affect academic performance, they review scientific evidence relating indoor pollutants and thermal conditions, in schools or other indoor environments, to human performance or attendance. Regarding direct associations, little strongly designed research was available. Persuasive evidence links higher indoor concentrations of nitrogen dioxide to reduced school attendance, and suggestive evidence links low ventilation rates to reduced performance. Evidence for direct associations between these aspects of indoor environmental quality (IEQ) and performance or attendance were critically reviewed. Secondarily, it was summarized, without critique, evidence on indirect connections potentially linking IEQ to performance or attendance. Overall, evidence suggests that poor IEQ in schools is common and adversely influences the performance and attendance of students, primarily through health effects from indoor pollutants. Evidence is available to justify (1) immediate actions to assess and improve IEQ in schools and (2) focused research to guide IEQ improvements in schools.

According to Zomorodian et. al. (2016), in modern societies people spend over 90% of their time indoors. Students spending more time at school than any other building except at home highlights the importance of providing comfortable indoor thermal conditions in these buildings. Thermal comfort since has been related to productivity and well-being and energy conservation in schools, has gained importance in recent years. This paper presents an overview of high heat discomfort field surveys in educational buildings over the last five decades. The studies are reviewed in two sections; the first covering the field study methodologies including the objective and subjective surveys, and the second reviewing study results based on the climate zone, educational stage, and the applied thermal comfort approach. Confounding parameters have been discussed to outline priorities for the future research agenda in this field. Reviewed studies have assessed the thermal environment in classrooms compared to common thermal comfort standards. Most of the studies concluded that students thermal preferences were not in the comfort range provided in the standards. Ventilation as an essential determinant of indoor air quality and thermal comfort has been highlighted in most studies. The wide disparity in thermal neutralities underlines the need for micro-level thermal comfort studies.

Climate change is leading to an increase in the frequency and intensity of extreme weather events such as floods, heat waves (HW), droughts, and extreme rainfall. An increase in the frequency of overheating in buildings is one of the major projected effects of climate change on the built environment. Undoubtedly, one of the biggest risks is also the wide range of ill health effects and worsening of allergies when exposed to extreme temperatures depicts the various impacts of climate change and the vulnerable population most affected by it. Categorically, children with developing physiologists and underdeveloped internal coping capabilities may be more vulnerable to these impacts. Children's health is not only significantly threatened by climate change but it also has a serious impact on their academic performance. "As the effects of climate change intensify, children in the tropics will face additional barriers to education".

Research indicates that students' health is negatively impacted by excessive heat, which inevitably affects their learning outcomes. The consequences of heat on cognitive development are anticipated to be more severe in countries such as India where temperatures and levels of poverty are both high. Further, as reported by, exposure to excessive heat may make it more difficult for students to complete their secondary education in tropical regions of the world (such as India). An American student typically spends about 12 school days above 32 °C (90 °F) each year, whereas an average Indian student spends more than 100 such days annually.

With reference to policies, government education agencies and schools scrambled to create foolproof policies on governance structure, teacher management, and student management. Teachers, who were used to conventional teaching delivery, were also obliged to embrace technology despite their lack of technological literacy. To address this problem, online learning webinars and peer support systems were launched. On the part of the students, dropout rates increased due to economic, psychological, and academic reasons. Academically, although it is virtually possible for students to learn anything online, learning may perhaps be less than optimal, especially in courses that require face-to-face contact and direct interactions (Franchi, 2020).

Statement of the Problem

This study sought to identify the challenges faced by Grade 6 learners in online and modular distance learning in Camiling District, Schools Division Office of Tarlac Province during the school year 2023-2024 due to high heat indices. .

Specifically, it sought to answer the following sub-problems:

1. What are the gadgets used by the Grade 6 learners in online learning in their Music, Arts, Physical Education and Health (MAPEH) subject?
2. Who are the Internet providers used by the Grade 6 learners in online learning?
3. How much is the time allotment for online learning?
4. What are the learners' feelings toward online distance learning?
5. What are the technological and technical difficulties, physical and digital distractions, personal and psychological barriers, benefits of face-to-face learning, limitations of face-to-face learning, benefits of Online Distance Learning, managing Online Classes faced by the Grade 6 learners in online distance learning?
6. What is the impact of the high heat index on learners' online learning/ modular learning challenges in terms of:
   6.1 Self-regulation challenges (SRC)
   6.2 Technological literacy and competency challenges (TLCC)
   6.3 Learner isolation challenges (LIC)
   6.4 Technological sufficiency challenges (TSC)

6.5 Technological complexity challenges (TCC)
6.6 Learning resource challenges (LRC)
6.7 Learning environment challenges (LEC)

7. What are the learners' strategies to overcome challenges in an online learning environment?
8. Based from the findings, what intervention measures can be proposed to addressed the challenges encountered by the Grade 6 learners in their online class?

METHODOLOGY

This chapter presents the methodology of the study which includes the research design, sources of data, instrumentation and data collection, and the tools for data analysis.

Research Design

The qualitative research design was used in this study. In-depth individual interviews were conducted with the student-participants to explore their insights. The method was based on the phenomenology as the researcher wished to describe their perceptions and lived experiences. According to Center for Innovation in Research and Teaching of Grand Canyon University, this design is used to describe how human beings experience a certain phenomenon and attempts to set aside biases and preconceived assumptions about human experiences, feelings, and responses to a particular situation. It allows the researchers to delve into the perceptions, perspectives, understandings, and feelings of those people who have actually experienced or lived the phenomenon or situation of interest, or the so-called, "lived-experiences."

The design selected for this research study was qualitative in nature using interviews, observations, and documents. Qualitative research provides an understanding of a situation or phenomenon that tells the story rather than determining cause and effect (Fraenkel & Wallen, 2003). Techniques for conducting qualitative research include observations, interview, and document analysis. Triangulation—putting together various types and pieces of information –can lead to a better analysis or interpretation of a situation. According to Patton (2010), "Studies that use only one method are more vulnerable to errors linked to that particular method than studies that use multiple methods in which different types of data provide cross-data validity checks". Interviews and observations are only two parts of that process. Strengthening the information collected from observations and interviews with other data is not essential, but desirable. The data collection techniques used in this study consisted of the structured and unstructured interviews, observations, and documentations.

Sources of Data

The respondents of this study were the Grade 6 learners of Camiling District, Schools Division Office of Tarlac Province.

Instrumentation and Data Collection

The researcher employed the use of phenomenological approach in gathering data. Phenomenological approach in research focuses on the commonality of a lived experience within a particular group. Face to face and video call interviews were conducted by the researcher since the schools are very accessible with each other. The researcher had observations through the learners' recorded Zoom classes. Also, researcher floated survey questions through google forms in order to get more information from the learners. All interviews were carried out prior to setting of appointments with the concerned respondents. The interviews had no specified time limit as the researcher based it on the learner's convenient time. All interviews were carried out with the help of combining formal and conversational interviews. Standardized open- ended questions were also utilized. Further, the questions were extended to the class and advisers on the challenges being encountered in Online and Modular Distance Learning and blended learning to validate data.

Tools for Data Analysis

The researcher used thematic approach in analyzing data. Thematic analysis emphasizes pinpointing, examining, and recording patterns (themes) within data.

To address the research questions, we used both quantitative and qualitative analyses. For the quantitative analysis, we entered all the data into an excel spreadsheet. Then, we computed the mean scores (M) and standard deviations (SD) to determine the level of challenges experienced by students during online learning. The mean score for each descriptor was interpreted using the following scheme: 4.18 to 5.00 (very great extent), 3.34 to 4.17 (great extent), 2.51 to 3.33 (moderate extent), 1.68 to 2.50 (some extent), 0.84 to 1.67 (small extent), and 0 to 0.83 (not at all/negligible). The equal interval was adopted because it produces more reliable and valid information than other types of scales (Cicchetti et al., 2006).

For the qualitative data, we analyzed the students' responses in the open-ended questions and the transcribed FGD using the predetermined categories in the conceptual framework. Specifcally, we used multilevel coding in classifying the codes from the transcripts (Birks & Mills, 2011). To do this, we identifed the relevant codes from the responses of the participants and categorized these codes based on the similarities or relatedness of their properties and dimensions. Then, we performed a constant comparative and progressive analysis of cases to allow the initially identifed subcategories to emerge and take shape. To ensure the reliability of the analysis, two coders independently analyzed the qualitative data. Both coders familiarize themselves with the purpose, research questions, research method, and codes and coding scheme of the study. They also had a calibration session and discussed ways on how they could consistently analyze the qualitative data. Percent of agreement between the two coders was 86 percent. Any disagreements in the analysis were discussed by the coders until an agreement was achieved.

RESULTS AND DISCUSSSION

This section represents the results and in-depth analysis of the data obtained in the study. Its findings were based on the data gathered through the interview transcriptions and google form results from the respondents. These data were then selected, analyzed and interpreted and emerged as the themes used to answer the research problem.

Figure 1 shows the gadgets/technological equipment used by the Grade 6 learners in their online distance learning. Majority of the learners are using smartphones, with a total of 30%, followed by 27% learners using laptops, 22% of the learners are using desktop computers and 20% of them are using tablets for their online class.

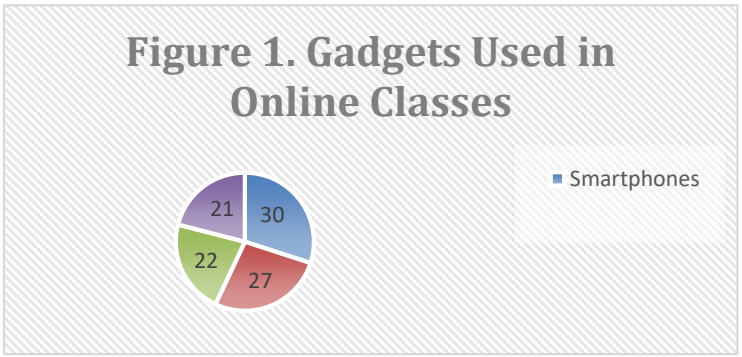


Figure 2 shows which internet provider these learners used in their online class. PLDT Home Fibr has the most with 65.3 percent. Next is Converge ICT with 18.4 percent, followed by Globe DSL Broadband with 10.2 percent

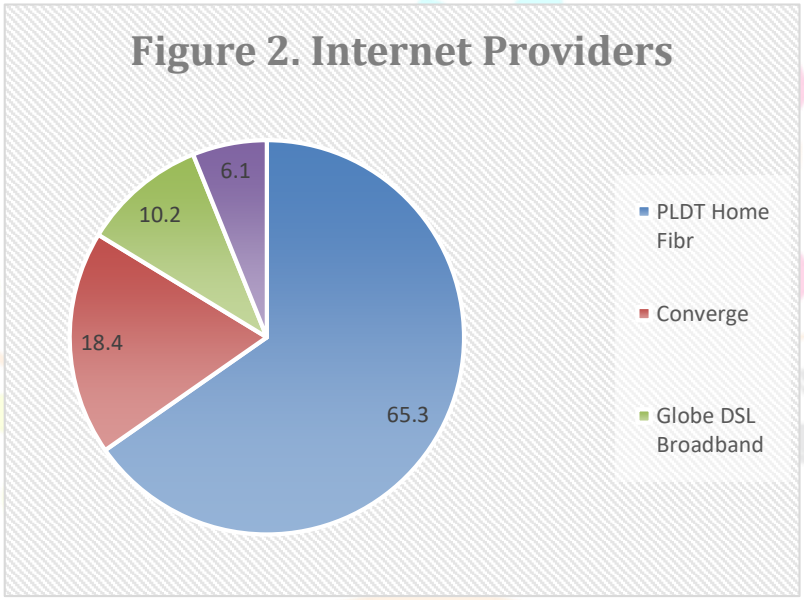


Figure 3 shows the time spent in the learner's online classes. Most of the learners spent 3-4 hours, taking up 28.6 percent while 20.4 percent spent 1 hour and 30 minutes. 16.3 percent of learners spent 2 hours, while others spent an hour and some spent 30 minutes, taking up 14.3 percent

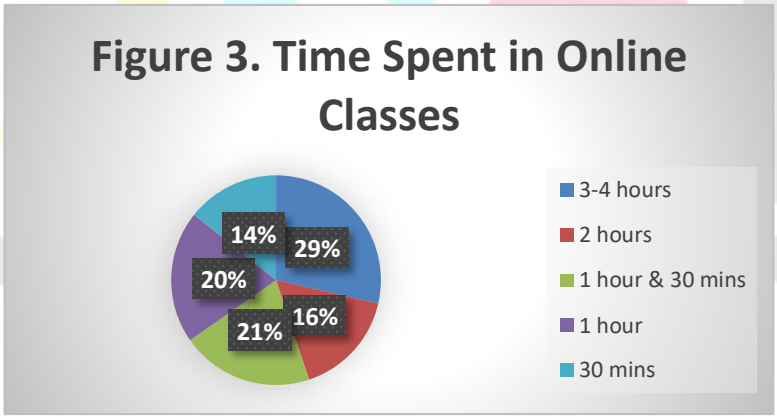
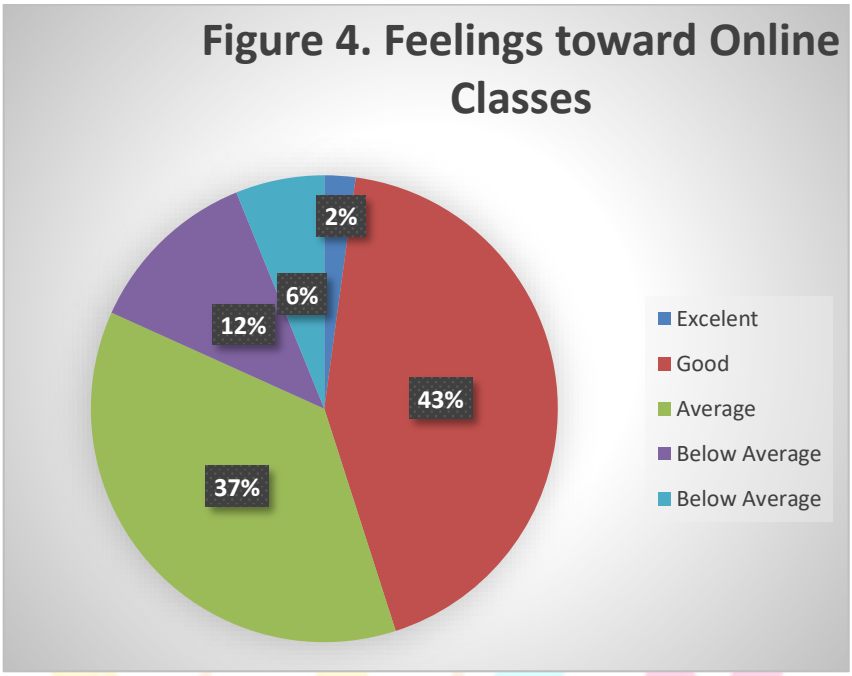


Figure 4 shows the overall feelings of learners toward online distance learning. Majority of the learners felt that it was good, with 42.9 percent. Average, for some learners taking up 36.7 percent, 12.2 percent felt that it was below average and very little felt that the online class was excellent and below average.



Technological and Technical Difficulties

The table presents the technological and technical difficulties faced by learners.

Table 1. Technological and Technical Difficulties

Theme	Quotations
Poor Internet Connectivity	1. "I have slow internet connection"." 2. "I experience lagging and intermittent internet loss during class". 3. "Due to poor connection, the smooth flow of the teacher's discussion is interrupted so I cannot understand what the teacher discussed". 4. "I have no internet provider so I just use Mobile data".

Poor Internet Connectivity. Learners cited poor internet connectivity as one of the major challenges in their online distance learning. According to a study released by the Philippine Institute for Development Studies (PIDS), bad Internet connection is a more pressing problem in the Philippines compared to poverty and corruption,(Ordinario, 2017). One learner uttered:

Some learners don't have the luxury of having laptops or tablets and Internet providers. Some used their mobile data on their phone to connect to their online class. This conforms to the survey of DepEd as cited by Santos (2020) mentioning that 2.8 million learners have no way of going online especially in rural areas where internet access and speed is a challenge.

Physical and Digital Distractions

The table presents the lack of concentration, which is a challenge under physical and digital distractions.

Table 2. Physical and Digital Distractions

Theme	Quotations
Lack of concentration	1. "I am distracted due to the noise coming from another classmate's house like noisy neighbors, cry of baby, barking dogs and some vehicle noises". 2. "I cannot focus since some parents of my classmates join our Zoom class". 3. "Too much noise". 4. "Too rowdy when all of them are online at one".

Lack of Concentration. Due to the nature of online learning, learners face challenges when it comes to their ability to concentrate in their classes. As the majority of learners do online classes at home, the environment and other factors have contributed greatly in the effectiveness of online learning.

Most houses aren't built with soundproofs. All the noises coming from inside and outside the house are beyond control. Also, privacy is a challenge as most families are crammed in a small house or apartment, leaving no room intended for online class.

Personal and Psychological Barriers.

This section presents the table and discussion of personal and psychological barriers that learners encounter in their online learning.

Table 3. Personal and Psychological Barriers

Theme	Quotations
Lack of Motivation	1. "I run around and don't like to study online since the ambiance is inviting me to just play and relax". 2. "Online class is not fun". 3." Too much activity and less time on teaching". 4. "Fewer interactions with fellow students. Can't feel the essence of school learning".
Poor Comprehension and Retention	1. "The teacher didn't explain the lesson well because of limited time in online class". 2. "I learn more effectively if I see my teacher in person while discussing". 3. "I forget easily what I learned the next day". 4." Students just listen to the teacher to be able to answer the activity, but they are not actually learning"
Lack of Support	1. "I am having a hard time coping with the lessons, for there will be no other day to explain things further and my guardians or parents can't help me all the time". 2. "There are lots of activities and I cannot do it alone without my parents and guardians' help".

Lack of Motivation and Participation. The learner's lack of motivation and participation in online classes became another concern of teachers and parents. As there is no face-to-face interaction, more and more learners lost their interest in participating in online classes.

Unlike face-to-face classes, online classes limited the teacher's involvement in the disciplining of the child. The role was then transferred to the parents as they are in their own homes.

Having too many activities during online class and less time teaching has left learners unmotivated to attend class as their time was devoted in making them instead.

Poor Comprehension and Retention. Just like face-to-face, ODL also has some disadvantages. One of which is the lack of retention of what they learned. One parent observed that learners only listen to the teacher in order for them to accomplish the activity at hand, but there is no real learning because the information is not anymore remembered the next day.

There is no doubt that most learners still prefer face-to-face learning over online learning. One student said, "I learn more effectively if I see my teacher in person while discussing". The presence of the teacher in a face-to-face class puts learner's confidence in learning greater than that of online class.

Lack of Support. While online class is becoming a very popular means of continuing education since the pandemic, challenges encountered by learners emerged as they continue to use online learning. Having no support from family or other people is one of the challenges learners face as they go along.

With little support or no support at all, learners tend to miss lessons as no one would assist them, even just logging in to the zoom class and resulting in missing the whole lesson for the day. Having no support has led learners unmotivated and uninterested in the online class. Chances are, learners would just play with their phones instead of attending online class as no one was looking after them.

Benefits of Face-to-Face Learning

This section presents the benefits of face-to-face learning.

Table 4. Benefits of Face-to-Face learning

Theme	Quotation
Benefits of face-to-face learning	1. "I make activities with my classmates." 2. "The teacher can help us if we have questions." 3. "I can understand lessons quickly because I can interact with my teachers and classmates." 4. "It is easy to follow a teacher's lecture." 5. "Teacher can see the real progress of the child." 6. "I can see my teacher and classmates, and we can communicate a lot." 7. "It is the natural way of learning." 8. "I can concentrate more." 9. "I can be more independent, and I can develop self-confidence."

Learners find it enjoyable working with their classmates when they are inside the classroom. This experience opens more opportunities for them to develop their social skills at the same time learning the concepts they need to complete. Inside the classroom, the learners also are given the chance to ask the teacher right away if there are things they have not understood from the

topic. Therefore, student satisfaction is higher in face-to-face learning (Smith & Macdonald, 2015) since needs are immediately addressed.

Limitations of Face-to-Face Learning

This section presents and discusses the limitation of face to face learning.

Table 5. Limitations of Face-to-Face Learning

Theme	Quotation
Limitations of Face-to-Face Learning	1. "There are too many activities from the book." 2. "I should wake up early." 3. It is time consuming and needs time management." 4. "I need more time to prepare." 5. "Too many restrictions from the school."

Majority of the respondents mentioned time management. While online classes provide them with time flexibility, face-to-face classes establish routines that must be followed such as waking up early and preparing things before going to school.

Benefits of Online Distance Learning

This part examines the benefits of online distance learning to Grade 4 learners.

Table 6. Benefits of Online Distance Learning

Theme	Quotation
Benefits of Online Distance Learning	1. "I get to finish activities without pressure." 2. "Teachers post videos for other learners to catch up with the lesson." 3. "Online class is good to avoid COVID." 4. "I like zoom when the teacher asks me." 5. "I can manage my time." 6. "I like it the most when the teacher is explaining well." 7. "I can get dressed or wear my pajamas." 8. "I can learn more how to use the computer by chatting and searching." 9. "Less worries for parents because the child is at home." 10. "It is more comfortable and relaxing."

Since ODL provides time flexibility, majority of the respondents share that they like this the most about online learning.

Furthermore, learners have the freedom to either dress up or just stay in their pajamas that is why few of them mentioned that they are being relaxed and comfortable with their online classes. Some of the learners shared that they learn more about technology when they use their computers for their online class, when chatting with teachers and classmates, and when searching for information.

Managing Online Classes

This section presents and discusses how learners manage their online classes despite all the challenges faced.

Table 7. How do Learners Manage their Online Class?

Theme	Quotation
Managing online classes	1. "My mother guides me throughout and helps me understand the things I get confused with." 2. "Sometimes my parents help if I don't really know the answer then I will ask them for help." 3. "Prepare all the needs before online class." 4. "We can do research in the internet google." 5. "I finish my activities first and help my parents afterwards." 6. "I always remind her that she is supposed to have a class 8 in the morning and 1 in the afternoon." 7. "Parents take charge of everything once activities/modules for their lessons are given." 8. "I am alone and answer my own activities."

Despite the challenges presented by ODL and the issues affecting the learners' attitude towards online classes, these primary learners have to manage at such a young age so learning could continue amidst this high heat index . Almost all of the respondents sought the help from their parents, grandparents, siblings, or other family members during online classes, especially in manipulating their gadgets and in answering their activities. If a family member is not available to help, the activity is postponed or set aside until someone is available to help. This is a real and authentic scenario in accomplishing given homework and activities. If nobody can assist the child, the tendency is to either learn or study independently or to just depend on others which would cause laziness and demotivation.

Table 8. Learners' Challenges during the Online and Modular Learning

CHALLENGES	$\bar{x}$	SD
Self-regulation challenges (SRC)	**2.37**	**1.16**
1. I delay tasks related to my studies so that they are either not fully completed by their deadline or had to be rushed to be completed.	1.84	1.47
2. I fail to get appropriate help during online classes.	2.04	1.44
3. I lack the ability to control my own thoughts, emotions, and actions during online classes.	2.51	1.65
4. I have limited preparation before an online class.	2.68	1.54
5. I have poor time management skills during online classes.	2.50	1.53
6. I fail to properly use online peer learning strategies (i.e., learning from one another to better facilitate learning such as peer tutoring, group discussion, and peer feedback).	2.34	1.50
Technological literacy and competency challenges (TLCC)	**2.10**	**1.13**
7. I lack competence and proficiency in using various interfaces or systems that allow me to control a computer or another embedded system for studying.	2.05	1.39
8. I resist learning technology.	1.89	1.46
9. I am distracted by an overly complex technology.	2.44	1.43
10. I have difficulties in learning a new technology.	2.06	1.50
11. I lack the ability to effectively use technology to facilitate learning.	2.08	1.51
12. I lack knowledge and training in the use of technology	1.76	1.43
13. I am intimidated by the technologies used for learning.	1.89	1.44
14. I resist and/or am confused when getting appropriate help during online classes	2.19	1.52
15. I have poor understanding of directions and expectations during online learning.	2.16	1.56
16. I perceive technology as a barrier to getting help from others during online classes.	2.47	1.43
Learner isolation challenges (LIC)	2.77	1.34
17. I feel emotionally disconnected or isolated during online classes.	2.71	1.58
18. I feel disinterested during online class.	2.54	1.53
19. I feel unease and uncomfortable in using video projection, microphones, and speakers.	2.90	1.57
20. I feel uncomfortable being the center of attention during online classes.	2.93	1.67
Technological sufficiency challenges (TSC)	2.31	1.29
21. I have an insufficient access to learning technology.	2.27	1.52
22. I experience inequalities with regard to access to and use of technologies during online classes because of my socioeconomic, physical, and psychological condition.	2.34	1.68
23. I have an outdated technology.	2.04	1.62
24. I do not have Internet access during online classes.	1.72	1.65
25. I have low bandwidth and slow processing speeds.	2.66	1.62
26. I experience technical difficulties in completing my assignments	2.84	1.54
Technological complexity challenges (TCC)	2.51	1.31
27. I am distracted by the complexity of the technology during online classes.	2.34	1.46
28. I experience difficulties in using complex technology	2.33	1.51
29. I experience difficulties when using longer videos for learning.	2.87	1.48
Learning resource challenges (LRC)	2.93	1.31
30. I have an insufficient access to library resources.	2.86	1.72
31. I have an insufficient access to laboratory equipment and materials.	3.16	1.71
32. I have limited access to textbooks, worksheets, and other instructional materials	2.63	1.57
33. I experience financial challenges when accessing learning resources and technology.	3.07	1.57
Learning environment challenges (LEC)	3.49	1.27
34. I experience online distractions such as social media during online classes.	3.20	1.58
35. I experience distractions at home as a learning environment.	3.55	1.54
36. I have difficulties in selecting the best time and area for learning at home	3.40	1.58
37. Home set-up limits the completion of certain requirements for my subject (e.g., laboratory and physical activities).	3.58	1.52
Average	**2.62**	**1.03**

Legend
4.18 to 5.00 -Very Great Extent
3.34 to 4.17 -Great Extent
2.51 to 3.33 -Moderate Extent
1.68 to 2.50 -Some Extent
0.84 to 1.67 -Small Extent
0 to 0.83 -Not at all/Negligible

Learners' Strategies to Overcome Challenges in an Online Learning Environment

Another objective of this study is to identify the strategies that students employed to overcome the different online learning challenges they experienced. The table presents that the most commonly used strategies used by learners were resource management and utilization, help-seeking, technical aptitude enhancement, time management, and learning environment control. Not surprisingly, the top two strategies were also the most consistently used across different challenges. However, looking closely at each of the seven challenges, the frequency of using a particular strategy varies. For TSC and LRC, the most frequently used strategy was resource management and utilization, respectively, whereas technical aptitude enhancement was the learners' most preferred strategy to address TLCC and TCC. In the case of SRC, LIC, and LEC, the most frequently employed strategies were time management, psychological support, and learning environment control. In terms of consistency, help-seeking appears to be the most consistent across the different challenges in an online learning environment. Table 9 further reveals that strategies used by learners within a specific type of challenge vary.

Table 9. Learners' Strategies to Overcome Online Learning Challenges

Strategies	SRC	TLCC	LIC	TSC	TCC	LRC	LEC	Total
Adaptation	7	1	11	4	10	10	17	60
Cognitive aptitude enhancement	2	3	0	0	2	4	2	13
Concentration and focus	13	2	7	0	4	5	12	43
Focus and concentration	0	3	0	0	0	0	0	3
Goal-setting	8	0	0	2	2	0	1	13
Help-seeking	13	42	2	36	16	28	18	155
Learning environment control	1	3	0	6	3	0	60	73
Motivation	2	0	4	0	5	1	0	12
Optimism	4	5	9	15	9	2	3	47
Peer learning	3	2	6	0	1	0	0	12
Psychosocial support	3	0	53	1	0	0	0	57
Refection	6	0	0	0	0	0	0	6
Relaxation and recreation	16	1	13	0	7	0	0	37
Resource management & utilization	3	11	0	52	20	89	6	181
Self-belief	0	1	11	0	1	0	1	14
Self-discipline	12	3	3	6	3	1	4	32
Self-study	6	0	0	0	0	1	0	7
Technical aptitude enhancement	0	77	0	7	38	0	0	122
Thought control	6	0	2	0	1	1	3	13
Time management	71	3	2	10	4	3	5	98
Transcendental strategies	2	0	0	0	0	0	0	2

Recommendations

1. In order to reduce the effect of these challenges, learners together with parents and teachers, should work together. Learners and parents should stay in touch with their teachers and inform them regarding their situations and conditions.
2. Talking on the phone with classmates or to the teacher for missed lessons and notes will also be helpful. Also, staying in touch with classmates and teachers can motivate learners.
3. Learners should also try to identify a quiet time and place in their house to complete their coursework, and if possible, building a schedule and sharing it to the members of the house so that they know when is the time for online class.
4. In case support is unavailable, learners should look for answers to questions online and watch tutorial videos for items that require deeper understanding.
5. Focusing on the learner's ultimate goal in education should be a priority despite all the challenges online distance learning may bring.
6. Institutions that offer online courses or programs should make an effort to present to faculty the research about the efficacy of fully online and blended learning for achieving learner learning outcomes. Many faculty are either unaware of or unconvinced by the research findings that fully online courses produce learning gains that are indistinguishable from those produced in fully face-to-face environments and that blended instruction has stronger learning outcomes than either mode alone. It should be a critical function of centers for teaching and learning at institutions with online courses or programs to present this evidence to faculty as part of any training in instructional design or use of tools for online teaching.
7. Institutions that offer online courses or programs should provide incentives to faculty to redesign classroom-based courses for the online environment. Stipends and especially course release time are effective motivators for faculty.
8. Researchers studying online teaching and learning should prioritize collecting data about the efficacy of tools, technologies, and practices for which the evidence base is not yet robust. In particular, data on the services provided by learner success management systems such as course suggestions and early-alert systems would be valuable.
9. Institutions and academic units should provide—and actively promote—training for students in the use of technologies that students will use in their courses. Learners will inevitably use many tools and technologies, both commercially available (such as the Microsoft Office and Google Drive suites) and institutionally specific (such as the LMS). Many students feel unprepared to use institutionally specific technology, and some even feel unprepared to use commercial

software. Regardless of the number or size of online courses or programs at an institution, technology is critical to student success, so this lack of knowledge and confidence is a major point of failure for learners. This is comparatively easily remedied, however: Institutions should identify the most critical training needs among the learner body and then provide and actively promote training opportunities in these areas. Faculty are critical to improving student technology literacy by encouraging or even requiring learners to attend the trainings.

10. Institutions that offer online courses or programs should develop reward systems that encourage innovation in teaching. At research institutions particularly, though not exclusively, innovation in teaching is not well rewarded in tenure and promotion processes. Faculty who have more confidence in their classroom management skills are more likely to encourage or require learners to use computing devices in the classroom. This confidence comes naturally with age and with a greater number of years in a faculty position. This confidence should also come from knowledge that the institution's policies regarding evaluation of teaching support the faculty member in experimentation and innovation with technology in the classroom and online.

REFERENCES

Cresell, J.W. (2013). Qualitative Inquiry $ Research Design: Choosing Among the Five Approaches: Thousand Oaks, CA: SAGE Publications, Inc. (pp.77-83)

Kentnor, H. (2015). Digital Commons @ DU Sturm College of Law : Faculty Scholarship Distance Education and the Evolution of Online Learning in the United States. 17(1), 22–34.

Kvale, Steinar. Interviews: An Introduction to Qualitative Research Interviewing. Sage Publications, 1996

Lim, D. H., & Morris, M. L. (2009). Learner and Instructional Factors Influencing Learning Outcomes within a blended learning environment. Educational Technology and Society, 12(4), 282–293.

Maxwell, J.A. (2013). Qualitative Research Design: : An Interactive Approach. Thousand Oaks, CA: SAGE Publications, Inc. (pp.135-136)

Maguire, L. L. (2005). Literature review–faculty participation in online distance education: Barriers and motivators. Online journal of distance learning administration, 8(1), 1-16.

Adonis, M., 2020.Challenges Hound Online Opening Classes. Available: https://newsinfo.inquirer.net/1344074/challenges-hound-online-openingof-classes

Aesaert, K., Van Nijlen, D., Vanderlinde, R., Tondeur, J., Devlieger, I., & Van Braak, J. (2015). The contribution of pupil, classroom and school level characteristics to primary school pupils' ICT competences: A performance-based approach. Computers and Education, 87, 55–69. Available: https://doi.org/10.1016/j.compedu.2015.03.014

Amadora, M., 2020. Common Problems That Occur During Online Classes. Available: https://mb.com.ph/2020/09/18/common-problems-that-occur-during-online-classes/

Alipio, M. (2020). Education during COVID-19 era: Are learners in a less economically developed country ready for e-learning? ZBW- Leibniz Information Centre for Economics.

Averia, L., 2020. Security Challenges in the Online Learning Environment. Available: https://www.manilatimes.net/2020/10/07/opinion/columnists/topanalysis/securitychallenges-in-the-online-learning-environment/777325/

Broadbent, J. (2017). Comparing online and blended learner's selfregulated learning strategies and academic performance. Internet and Higher Education, 33(January 2017), 24–32. Available: https://doi.org/10.1016/j.iheduc.2017.01.004

Department of Information and Communications Technology. 2017. State of the Internet Report. Available: https://dict.gov.ph/ictstatistics/state-of-the-internetrepor/#:~:text=17%20October%202017%20%E2%80%94%20The%20Akamai,105.1 %20Mbps%20for%20the%20Philippines.

Glen, S. (2018). Primary Data & Secondary Data: Definition & Example. Available: https://www.statisticshowto.com/primarydatasecondary/#:~:text=Primary%20data%20is%20data%20that,with%20the%20term %20secondary%20data

Hernando-Malipot, M., 2020. 93 Percent of Public Schools Already Received Online Gadgets-DepEd. Available: https://mb.com.ph/2020/08/25/93-percent-of-public-schools-already-received-online-gadgetsdeped/#:~:text=93%20percent%20of%20public%20schools%20already%20received %20online%20gadgets%20%E2%80%93%20DepEd,- Published%20August%2025&text=The%20Department%20of%20Education%20(DepEd,teachers%20this%20upcoming%20school%20year

Islam, N. et al. (2015, July 13). E-Learning Challenges Faced by Academics in Higher Education. Journal of Education and Training Studies, Vol. 3 (5): 102-112. Available: https://files.eric.ed.gov/fulltext/EJ1069559.pdf

Jacob, B., 2016. The Opportunities and Challenges of Digital Learning. Available:https://www.brookings.edu/research/the-opportunities-and-challenges-ofdigital-learning/

Janvic M. , 2010. As Classes Open, Learning Crisis Highlighted with Millions of Students Left Behind. Available: https://www.onenews.ph/as-classes-openlearning-crisis-highlighted-with-millions-of-students-left-behi

Kaplan, A. M., & Haenlein, M. (2016). Higher education and the digital revolution: About MOOCs, SPOCs, social media, and the Cookie Monster. Business Horizons, 59(4), 441–450. Available: https://doi.org/10.1016/j.bushor.2016.03.008

Llego, M.A., 2020. DepEd Learning Delivery Modalities for School Year 2020-2021. Available: https://www.teacherph.com/deped-learning-deliverymodalities

Markova, T., Glazkova, I., Zaborova, E. Quality Issues of Online Distance Learning. (2017). Available: ile:///C:/Users/Personal/Desktop/online%20distance%20learning/S187704281730043 5.html

Obana, J., 2020. What Will Schools Look Like Under the "New Normal". Available: https://www.grantthornton.com.ph/insights/articles-and-updates1/fromwhere-we-sit/what-will-schools-look-like-under-the-new-normal/

Ordinario, C., 2017.For Filipinos, Poor Internet Connection a Bothersome Issue than Poverty, Corruption. Available: https://businessmirror.com.ph/2017/04/17/for-filipinos-poor-internet-connection-amore-bothersome-issue-than-poverty-corruption/

Santos, P. (2020). In the Philippines, distance learning reveals the digital divide. Available: https://eu.boell.org/en/2020/10/06/philippines-distancelearning-reveals-digital-divide

Shore, J. (2020). Problems in Online Class. Available: https://file:///C:/Users/julie/Desktop/research%20example.pdfeducation.seattlepi.com/ problems-online-classes-1132.html

Simonson, M. (n.d.). Britannica.com. Retrieved October 9, 2020, from Distance Learning: Available: https://www.britannica.com/topic/distance-learning

Smith, M., & Macdonald, D. (2015). Assessing Quality and Effectiveness In Fully Online Distance Education. Journal of Perspectives in Applied Academic Practice, 3(1), 24–38. Available: https://doi.org/10.14297/jpaap.v3i1.14

Adarkwah, M. A. (2021). "I'm not against online teaching, but what about us?": ICT in Ghana post Covid-19. Education and Information Technologies, 26(2), 1665–1685.

Almaiah, M. A., Al-Khasawneh, A., & Althunibat, A. (2020). Exploring the critical challenges and factors infuencing the E-learning system usage during COVID-19 pandemic. Education and Information Technologies, 25, 5261–528

Araujo, T., Wonneberger, A., Neijens, P., & de Vreese, C. (2017). How much time do you spend online? Understanding and improving the accuracy of self-reported measures of Internet use. Communication Methods and Measures, 11(3), 173–190.

Barrot, J. S. (2016). Using Facebook-based e-portfolio in ESL writing classrooms: Impact and challenges. Language, Culture and Curriculum, 29(3), 286–301.

Barrot, J. S. (2018). Facebook as a learning environment for language teaching and learning: A critical analysis of the literature from 2010 to 2017. Journal of Computer Assisted Learning, 34(6), 863–875.

Barrot, J. S. (2020). Scientifc mapping of social media in education: A decade of exponential growth. Journal of Educational Computing Research. https://doi.org/10.1177/0735633120972010.

Barrot, J. S. (2021). Social media as a language learning environment: A systematic review of the literature (2008–2019). Computer Assisted Language Learning. https://doi.org/10.1080/09588221.2021. 1883673.

Bergen, N., & Labonté, R. (2020). "Everything is perfect, and we have no problems": Detecting and limiting social desirability bias in qualitative research. Qualitative Health Research, 30(5), 783–792.

Birks, M., & Mills, J. (2011). Grounded theory: A practical guide. Sage. Boelens, R., De Wever, B., & Voet, M. (2017). Four key challenges to the design of blended learning: A systematic literature review. Educational Research Review, 22, 1–18.

Buehler, M. A. (2004). Where is the library in course management software? Journal of Library Administration, 41(1–2), 75–84.

Carter, R. A., Jr., Rice, M., Yang, S., & Jackson, H. A. (2020). Self-regulated learning in online learning environments: Strategies for remote learning. Information and Learning Sciences, 121(5/6), 321–329.

Cavanaugh, C. S., Barbour, M. K., & Clark, T. (2009). Research and practice in K-12 online learning: A review of open access literature. The International Review of Research in Open and Distributed Learning, 10(1), 1–22.

Cicchetti, D., Bronen, R., Spencer, S., Haut, S., Berg, A., Oliver, P., & Tyrer, P. (2006). Rating scales, scales of measurement, issues of reliability: Resolving some critical issues for clinicians and researchers. The Journal of Nervous and Mental Disease, 194(8), 557–564.

Copeland, W. E., McGinnis, E., Bai, Y., Adams, Z., Nardone, H., Devadanam, V., & Hudziak, J. J. (2021). Impact of COVID-19 pandemic on college student mental health and wellness. Journal of the American Academy of Child & Adolescent Psychiatry, 60(1), 134–141.

Day, T., Chang, I. C. C., Chung, C. K. L., Doolittle, W. E., Housel, J., & McDaniel, P. N. (2021). The immediate impact of COVID-19 on postsecondary teaching and learning. The Professional Geographer, 73(1), 1–13.

Donitsa-Schmidt, S., & Ramot, R. (2020). Opportunities and challenges: Teacher education in Israel in the Covid-19 pandemic. Journal of Education for Teaching, 46(4), 586–595.

Drane, C., Vernon, L., & O'Shea, S. (2020). The impact of 'learning at home'on the educational outcomes of vulnerable children in Australia during the COVID-19 pandemic. Literature Review Prepared by the National Centre for Student Equity in Higher Education. Curtin University, Australia.

Elaish, M., Shuib, L., Ghani, N., & Yadegaridehkordi, E. (2019). Mobile English language learning (MELL): A literature review. Educational Review, 71(2), 257–276.

Fawaz, M., Al Nakhal, M., & Itani, M. (2021). COVID-19 quarantine stressors and management among Lebanese students: A qualitative study. Current Psychology, 1–8.

Franchi, T. (2020). The impact of the Covid-19 pandemic on current anatomy education and future careers: A student's perspective. Anatomical Sciences Education, 13(3), 312–315.

Garcia, R., Falkner, K., & Vivian, R. (2018). Systematic literature review: Self-regulated learning strategies using e-learning tools for computer science. Computers & Education, 123, 150–163.

Gonzalez, T., De La Rubia, M. A., Hincz, K. P., Comas-Lopez, M., Subirats, L., Fort, S., & Sacha, G. M. (2020). Infuence of COVID-19 confnement on students' performance in higher education. PLoS One, 15(10), e0239490.

Hew, K. F., Jia, C., Gonda, D. E., & Bai, S. (2020). Transitioning to the "new normal" of learning in unpredictable times: Pedagogical practices and learning performance in fully online fipped classrooms.

International Journal of Educational Technology in Higher Education, 17(1), 1–22. Huang, Q. (2019). Comparing teacher's roles of F2F learning and online learning in a blended English course. Computer Assisted Language Learning, 32(3), 190–209.

John Hopkins University. (2021). Global map. https://coronavirus.jhu.edu/