

Characterizing the challenges as correlates of senior high students' profile in the new normal setting

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Abstract

In the time of the COVID-19 pandemic, a direct shift from face-to-face classes to online learning causes various challenges for students. This article aimed to assess the different challenges of students that they are experiencing during the pandemic and correlates them with their profile. Cross-sectional and primary data from 190 random samples of senior high students were gathered at Visayas State University-Senior High School, Leyte, Philippines. The data concerning students' profiles and challenges were analyzed using mean, standard deviation, coefficient of variation, percentages, and graphs, and Chi-square tests were employed to determine a uniform distribution and association among variables. The results showed that students are "rarely" challenged with a lack of usable gadgets and technology illiteracy. Students are "sometimes" challenged with poor internet connectivity, lack of a conducive place, and poor cognitive thinking. And "often" challenged with extraneous distractions, social expectations, and poor health. The Chi-square revealed that poor health is associated with the student's grade level, gender, and household size. Moreover, the family monthly income of students is correlated to poor internet connectivity, lack of a conducive place, technology illiteracy, and poor health. Plus, gender is significantly related to social expectations. Conclusively, students' poor mental and physical health must be addressed by the teachers by giving them lively, doable, and interesting activities. Teachers also must provide printed modules and tasks so that students may not spend more on gadgets and the internet. Furthermore, teachers must undergo some training in online learning to remedy the challenges, poor health, and well-being of students while learning online.

Keywords: *Assessment, Challenges, Senior High School, COVID-19 Pandemic, Correlational Analysis*

INTRODUCTION

Several challenges are encountered by students during the new normal setup because of barriers and limitations in the implemented distance education amid the COVID-19 pandemic. Indeed, the challenges are the main reason for students' low academic performance in online learning (Bestiantono et al., 2020; Casinillo et al., 2022). Although the closures of schools worldwide evidenced to be an efficient scheme for diminishing the spread of the infectious COVID-19, several difficulties and problems arose for both students and teachers. The study by Baloran (2020) portrayed that students during the pandemic are experiencing depression and anxiety which hindrances in their critical thinking skills. Additionally, due to the difficulties and obstacles in delivering the lessons, students are uneasy and stressed in understanding the lectures (Kanneganti et al., 2020). In fact, some students in rural areas are having difficulty acquiring a good internet signal for their lecture discussion online (Islam et al., 2020). In that case, some students cannot attend their class discussions and missed some topics needed for the course. In addition, there are also students having difficulty acquiring technology and other

resources needed for their online classes due to family economic crises (Casinillo et al., 2022). Moreover, several students are being distracted by misusing technology which adversely affects their focus on online learning. On the face of it, it is necessary to conduct research from students' points of view on the challenges encountered to address the issues in online learning.

One of the Universities in Leyte, Philippines, namely, Visayas State University has offered a program for senior high school. Most of the students in this institution are living in rural areas where internet connectivity is a problem most of the time (Casinillo, 2022). In that case, students are having a problem understanding their lessons, and teachers cannot regularly monitor and assess their learning progress. In the study by Dubey and Pandey (2020), students cannot perform an inquiring ability since distance learning has resulted in a less interactive form of the classroom environment. So, students, most of the time have the inability to grasp the lessons which negatively affected their achievement level in doing their learning tasks (Amelia et al., 2020). Likewise, Radha et al. (2020) depicted that students' cognitive thinking capacity is relatively declining as they study modular and online during distance education. It is worth noting that during online learning, students are given an individual task wherein they are not properly monitored by teachers. As a result, they cannot ask and even understand fully their task, which ends up procrastinating their learning assignment. Additionally, the distraction from their household members, the internet, and other adverse influence during the lockdown of the pandemic has resulted in students' negative learning behavior (Irawan et al., 2020). In fact, several studies in the literature have discovered that during the pandemic, students' motivation and interest in learning are declining (Amelia et al., 2020; Bakker & Wagner, 2020; Onyema et al., 2020; Talimodao & Madrigal, 2021). Thus, this study is initiated to break down an argument that will remedy the different issues and challenges during online learning amid the health crisis.

Although the ideas of challenges encountered by students in online education during the pandemic are well-researched, the concept of associating the senior high students' various challenges and their profiles is scarce in the literature. In fact, determining the challenges and profile of students as well as their relationships in rural areas in Leyte, Philippines is not yet conducted. Hence, to bridge the gap, this study is initiated. The main goal of this research article is to explain the various challenges of senior high students as correlates of their profile in learning online during the COVID-19 pandemic. The study accomplished its goal by answering the different specific objectives: (1) to summarize the senior high student's profile; (2) to enumerate the senior high students' challenges encountered in online learning; and (3) to determine the association of challenges experienced by students and their profile. The results of this article may provide helpful insights into understanding and addressing the different challenges encountered by students in online learning amid the health crisis. This study also may help policymakers in education to improve the existing programs in online learning to favor the well-being of students and help them free from stress and anxiety in learning. Moreover, the findings may serve as baseline information for practitioners and researchers of distance learning to formulate better ideas for improving the students' learning ability despite the challenges of distance education.

1. Conceptual Framework

Delivering lessons online during the COVID-19 pandemic is adversely affected by several limitations and obstacles due to the unprecedented scheme in distance education (Alea et al., 2020; Francom et al., 2021). Apparently, Ní Fhloinn and Fitzmaurice (2021) depicted that teaching effectiveness during the COVID-19 pandemic is somehow declining due to the challenges experienced by teachers in delivering their lessons at a distance. In that case, most of the students are problematic and challenged in understanding and penetrating the lectures. Moreover, students are also facing difficulties in acquiring resources needed for online learning that includes technological gadgets (e.g. mobile phones, laptops, or tablets) as a tool for an online classes (Casinillo et al., 2022). In addition, students are also facing obstacles in having good internet connections in their respective places which contributes to the level of challenge in learning at a distance. Moreover, Dontre (2020) stated that the focus of students in learning is distracted by the influence of technology.

In the study by Mendoza et al. (2021), it is depicted that due to the negative impact of the pandemic on the educational system, students are experiencing depression and stress which eventually results in learning anxiety. In fact, the study by Casinillo et al. (2020) portrayed that anxiety is a hindrance to good academic performance since it gives a negative learning attitude to students. On the

face of it, students who are learning online during the pandemic are expected to have low learning ability as well as low academic achievement. Meanwhile, students' profile and socioeconomic status are affecting their learning ability during the pandemic (Barrot et al., 2021). In fact, Lam (2014) pictured that the academic performance of students is correlated to socioeconomic status. Hence, the conceptual framework of this article is to stipulate the relationship between the various challenges in online learning and students' profile amid the pandemic. Furthermore, the article characterized the possible argument that will enhance the effectiveness of online learning as well as improve the well-being of students.

METHODOLOGY

1. Research Design

The article's research design is descriptive-correlational, intended to characterize the challenges experienced by students as correlates to their profile during the pandemic. The destination is to methodically characterize the situation or phenomena of online learning at the level of senior high school. The study dealt with primary and cross-sectional data from senior high students studying via online education. In fact, the main goal of this research was to explain the various challenges of students in the newly implemented learning modality for the new normal.

2. Participants, Sampling Procedure and Ethics

The desired participants of this survey were Visayas State University Senior High School (VSU-SHS) students who were currently studying online and in the form of digital modular learning at the time of the study. Indeed, no studies conducted yet in the chosen institution of this article, hence, results may benefit the constituents of the institution and itself. As for the sampling procedure, it dealt with simple random sampling where every senior high student was given an equal chance of being part of the survey. In determining the chosen participants, the list of sampling frames was asked by the VSU-SHS registrar and assigned with numbers. After this, a random number was employed through a scientific calculator to determine the desired participants. Additionally, the sample size was found using Slovin's formula by setting a margin of error of 5%. Hence, there were 190 students selected and it was proportionate in regards to grade level. Table 1 presents the distribution of participants via grade level.

Table 1 Distribution of survey participants

Grade Level	Population (Currently enrolled)	Sample (Participants)	Percentage (%)
Grade 11	177	93	52.54
Grade 12	185	97	52.53
Total	362	190	52.49

Prior to the carrying out of the survey, a formal letter of consent to conduct the study was sent to the Principal's office. After the approval, letters were sent to senior high teachers that informed them to pursue the survey to their students as participants. Furthermore, students chosen as participants were oriented that the data gathered from them contain no sensitive information that may harm their reputation.

3. Research Instrument and Data Gathering

The research instrument of this study was a researchers' developed semi-structured questionnaire that consists of the various profile of students and the challenges they have encountered in distance (online) education during the pandemic. Since the survey was conducted during the physical closure of VSUSHS, the questions were constructed in the Google form survey and printed form for participants who were easy to reach out to. Apparently, the participants communicated through online platforms

such as Facebook and Instagram. The said questionnaire consists of two parts that include a profile of students and challenges encountered in online learning. As for the profile, students were asked about their grade level (11 or 12), sex, monthly family income (Philippine Peso), and household size (counts). For the second part, students were asked to rate (scale of 1 to 5) the following possible challenges during the online learning: (1) lack of usable technology for online learning (e.g. mobile phone, laptop/computer); (2) poor internet connectivity; (3) lack of conducive place for studying; (4) technology illiteracy (e.g. difficulty using a usable technology); (5) extraneous distractions (e.g. household chores, noisy environment, social media usage); (6) social expectations; (7) poor mental and physical health; and (8) poor cognitive thinking. Table 2 summarizes the students' challenge perception scores and its response.

Table 2 Students' challenge perception score and its corresponding overall response

Perception scores	Overall response
1.00 – 1.80	Never
1.81 – 2.60	Rarely
2.61 – 3.40	Sometimes
3.41 – 4.20	Often
4.21 – 5.00	Always

4. Statistical Methods and Data Analysis

In summarizing the profile of students, descriptive statistics were employed that includes a pie graph, bar graph, frequency counts, and percentages. In particular, the family income was categorized into low, middle, and high based on Philippine income statistics. To determine if each profile's categories follow a uniform distribution, the Chi-square test for uniformity was computed and interpreted. On the other hand, descriptive measures such as mean (M) average, standard deviation (SD), and coefficient of variation (CV (%)) were calculated to give a reliable interpretation of the challenges experienced by senior high students in distance education. To evaluate the relationship between the students' profiles and the various challenges they have encountered in online learning, the Chi-square test for independence was calculated via a contingency table since the variables are categorical in nature. A statistical software, STATA version 14.0 was used to obtain accurate results and tested its significance.

RESULTS AND DISCUSSION

1. Profile of Senior High Students

As seen in Figure 1, about 48.95% (93) are grade 11 students and 51.05% (97) are grade 12 students. Based on the Chi-square test ($X^2 = 0.08, P = 0.77$), it is revealed that the distribution of students in the grade level is uniform. This implies that it is sufficient to say that students in VSU-SHS enrolled in grade 11 are statistically equal to the students enrolled in grade 12.

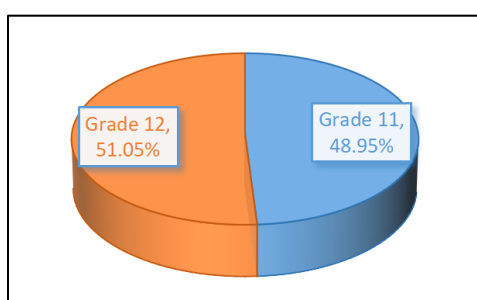


Figure 1 Grade level of senior high students (n=190)

Based on Figure 2, 43.16% (82) of the students are male and about 56.84% (108) are female students. The Chi-square test ($X^2 = 3.56, P = 0.06$) showed that at a 10% level of significance, female students are dominant as opposed to male students. In other words, there is a piece of sufficient evidence (confidence level is 90%) to say that more female students are enrolled in senior high school at VSU compared to male students.

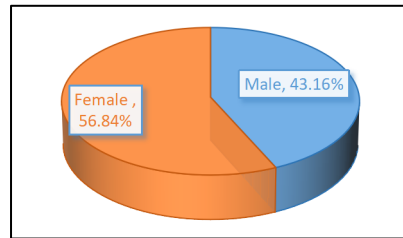


Figure 2 Sex of senior high students (n=190)

In Figure 3, there are 59.57% (113) of the senior high students came from low-income families (9,520.00 PHP to 43,828.00 PHP). Additionally, about 18.95% (36) of them came from middle-income families (43,828.00 PHP to 76,669.00 PHP) and 21.58% (41) came from high-income families (76,669.00 PHP and above). In fact, the Chi-square test ($X^2 = 58.62, P = 0.00$) depicted that the income level of students is not uniformly distributed (highly significant at a 1% level) in three different categories of income level such as low, middle, and high. Hence, there is sufficient evidence to indicate that dominant of the senior high students in VSU-SHS came from low-income families.

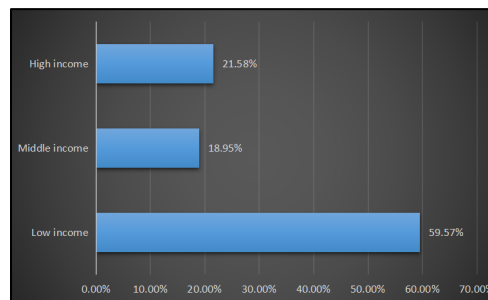


Figure 3 Monthly family income of students (n=190)

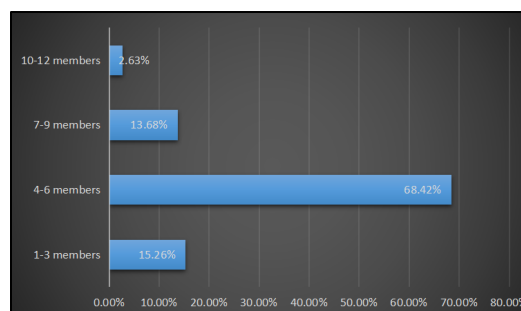


Figure 4 Household size of senior high students (n=190)

Figure 4 shows that 15.26% (29) of the students are having 1-3 members in the family. This indicates that if the two members are the parents, then that student is the only child in the family. Dominantly, there 68.42% (130) of these students are having 4-6 members in their respective families. There are 13.68% (26) of these students are having 7-9 members in the family and only 2.63% (5) of the students are having 10-12 members. Statistically speaking, the number of students in each category

(interval of family members) does not follow a uniform distribution ($X^2 = 198.25, P = 0.00$). This means that it is significant that most of these senior high students in VSU-SHS are living in a household of 4-6 members in the family.

2. Challenges of Senior High Students

Table 3 reveals senior high students are “rarely” ($M=2.12, SD=1.03$) challenged with *a lack of usable gadgets* for online learning. This means that most of the students are being provided by their guardians/parents with mobile phones, laptops, or tablets that are suitable for their online classes. Seemingly, the students who are rarely challenged with usable technologies are the ones with guardians/parents who cannot afford to buy due to the financial crisis amid the pandemic (Casinillo et al., 2022). On average, students are “sometimes” ($M=2.93, SD=0.81$) challenged in their *internet connectivity* during their online learning. It is worth noting that to attend regularly for class discussions, students must have a good internet connection. However, signal strength for the internet is a common problem in rural areas where students find it hard to attend classes regularly (Valenzona et al., 2022). This result is consistent with the studies of Irfan et al. (2020) and Ní Fhloinn and Fitzmaurice (2021) which depicted that students found that online learning is a very challenging experience because of internet problems.

In addition, students are “sometimes” ($M=3.29, SD=0.97$) challenged by the *lack of a conducive place*. In fact, a conducive place to study is a very important factor in good learning behavior which results in better academic performance. However, during the pandemic, students need to learn at home because of the lockdown of schools. And home is not the ideal place for online classes due to various distractions and that makes them challenged in doing their learning tasks (Suprianto et al., 2020; Casinillo, 2022). Students are “rarely” ($M=2.07, SD=0.97$) challenged with *technology illiteracy* (Table 3). This means that students nowadays are quite literate in using modern technology. Indeed, students now are technology-oriented and can easily adopt the phasing of online education (Dontre, 2020). However, students are “often” ($M=3.97, SD=0.91$) challenged by *extraneous distraction*. This implies that students' cognitive behavior is hindered by the various external distraction in their learning environment. According to Bahagia et al. (2022), in online education, students lack focus in studying their lessons because they are distracted by online games, social media activities, and other leisure activities on the internet. Likewise, Suprianto et al. (2020) stated that online learning is not that effective since students are disturbed by the different activities at their home. Students are “often” ($M=3.60, SD=0.98$) challenged with *social expectations*. It goes to infer that these students are pressured by their peers, friends, family, and other people they want to impress. In that case, being pressured socially affects their focus on learning ability which gives them negative cognitive behavior (Baber, 2021; Kim & Park, 2021).

Table 3 Challenges encountered among senior high students during the new normal

Challenges during the new normal	Mean	SD	CV (%)	Response ^a
1. Lack of usable technology for online learning	2.12	1.03	48.58	Rarely
2. Poor internet connectivity	2.93	0.81	27.65	Sometimes
3. Lack of conducive place for studying	3.29	0.97	29.48	Sometimes
4. Technology illiteracy	2.07	0.97	46.86	Rarely
5. Extraneous distractions	3.97	0.91	22.92	Often
6. Social expectations	3.60	0.98	27.22	Often
7. Poor mental and physical health	3.86	0.92	23.83	Often
8. Poor cognitive thinking	2.99	1.01	33.78	Sometimes
Overall	3.10	0.95	30.61	Sometimes

Note: a – see Table 2 for details

Moreover, students are “often” ($M=3.86, SD=0.92$) challenged with *poor mental and physical health*. This indicates that students cannot focus on their online learning if they have a problem with health aspects. In fact, the study by Casinillo (2022) depicted that health is a significant predictor of

challenge level in learning during the COVID-19 pandemic. Furthermore, students are "sometimes" (M=2.99, SD=1.01) challenged with *poor cognitive thinking*. Due to the difficulties and obstacles in online learning during the pandemic, students are encountering poor cognitive behavior which makes them challenged in understanding their lessons. It is worth noting that the adverse effect of the pandemic is not just on the health aspect of students but also on psychological and cognitive aspects due to stress and depression (Irawan et al., 2020). Overall, students are "sometimes" (M=3.10, SD=0.95) challenged due to the encountered limitations and obstacles in online learning. However, based on the coefficient of variation (CV=30.61), their response is not consistent (Reed et al., 2002).

3. Relationship between students' profile and challenges encountered

Table 4 shows that the grade level of senior high students is associated ($X^2 = 8.44, P = 0.07$) with poor mental and physical health which is significant at a 10% level. This means to say that the health aspect of senior high students varies at different grade levels. This is due to the different levels of difficulty in grade level which affects the students' cognitive behavior and physical aspects (DeMatthews et al., 2020). The result reveals that the gender of students is correlated ($X^2 = 9.19, P = 0.06$) to social expectations and it is significant at a 10% level. It goes to infer that male students are different from female students in regard to social expectations and peer pressures (Barros & Sacau-Fontenla, 2021). Also, the gender of students is significantly associated ($X^2 = 13.28, P = 0.01$) with their challenges in poor mental and physical health at 1% level (Table 4). This indicates that male and female students have different struggles with their health during the pandemic. In fact, health has a different impact on the gender of a student due to the contrasting emotional intelligence and social preferences of human beings (Barros & Sacau-Fontenla, 2021). The female individual is more emotional as opposed to the male. Likewise, Prowse et al. (2021) stated that there are gender differences in regard to stress and mental health in coping with the pandemic. The monthly income of students is significantly correlated to the challenges in learning online that include poor internet connectivity ($X^2 = 90.21, P < 0.01$), lack of conducive place for studying ($X^2 = 38.59, P = 0.03$), technology illiteracy ($X^2 = 49.33, P < 0.01$), and poor cognitive thinking ($X^2 = 42.76, P = 0.01$).

Table 4 Relationship between students' profile and challenges encountered in the new normal

Challenges encountered in the new normal	Profile of students			
	Grade level	Gender	Monthly income	Family members
1. Lack of usable technology for online learning	0.56 ^{ns} (0.97)	6.55 ^{ns} (0.16)	23.97 ^{ns} (0.46)	15.23 ^{ns} (0.23)
2. Poor internet connectivity	0.52 ^{ns} (0.97)	5.84 ^{ns} (0.21)	90.21*** (<0.01)	5.39 ^{ns} (0.94)
3. Lack of conducive place for studying	0.51 ^{ns} (0.97)	2.33 ^{ns} (0.68)	38.59** (0.03)	14.75 ^{ns} (0.26)
4. Technology illiteracy	3.69 ^{ns} (0.45)	2.33 ^{ns} (0.67)	49.33*** (<0.01)	8.53 ^{ns} (0.74)
5. Extraneous distractions	3.87 ^{ns} (0.42)	1.12 ^{ns} (0.89)	16.63 ^{ns} (0.86)	7.46 ^{ns} (0.83)
6. Social expectations	7.26 ^{ns} (0.12)	9.19* (0.06)	30.44 ^{ns} (0.17)	11.19 ^{ns} (0.51)
7. Poor mental and physical health	8.44* (0.07)	13.28*** (0.01)	25.37 ^{ns} (0.39)	22.64** (0.03)
8. Poor cognitive thinking	1.97 ^{ns} (0.74)	1.78 ^{ns} (0.78)	42.76*** (0.01)	4.27 ^{ns} (0.98)

Note: Chi-square values are given in every cells and p-values (two-tailed) are enclosed with parenthesis.

ns - not significant

* - significant at 10% level.

** - significant at 5% level.

*** - significant at 1% level.

This implies that monthly family income is a significant predictor of the challenges experienced by senior high students in online learning during the pandemic. It is worth noting that students who can afford suitable resources for online education can have an advantage in learning. In particular, a student who has acquired more comfort, benefits, and a good internet connection for online learning is more likely to experience ease in learning and more likely to perform better (Khan et al., 2021; Morgan, 2022). Furthermore, household size is significantly affiliated ($X^2 = 22.64, P < 0.03$) to poor mental and physical health at a 5% level. This means that the mental and health aspect varies among the different number of family members. It is worth noting that large family size will cause a crowded environment which causes more stress and depression during the lockdown. The pandemic is not just a health crisis but also an economic crisis, hence, crowded families are having difficulty to provide their needs and wants. Hence, large families during the pandemic are more desperate and depressed which results in students' poor mental and physical health aspects (Anser et al., 2021; Al Mamun et al., 2021).

CONCLUSION AND SUGGESTION

The article's main goal is to characterize the different challenges experienced by senior high students and correlate them to their profiles. Results revealed that students enrolled in grades 11 and 12 have statistically equal distribution, and there are more female students compared to males. In addition, dominant of the senior high students came from low-income families, and most of the students are having 4-6 members in their households. The findings of the study revealed that senior high students are "rarely" challenged with the following: *lack of usable gadgets* and *technology illiteracy*. Plus, these students are "sometimes" challenged with the following: *poor internet connectivity*, *lack of a conducive place*, and *poor cognitive thinking*. Moreover, they are "often" challenged with *extraneous distractions*, *social expectations*, and *poor mental and physical health*. The Chi-square test for independence has revealed that *poor mental and physical health* is significantly associated with the student's *grade level*, *gender*, and *household size*. Meanwhile, the family monthly income of students is significantly correlated to *poor internet connectivity*, *lack of a conducive place*, *technology illiteracy*, and *poor mental and physical health*. Furthermore, students' *gender* is significantly related to *social expectations*. On the face of it, the health of students is the most affected by online learning amid the pandemic due to stress and depression. Conclusively, students' poor health must be addressed by the teachers by giving them lively, doable, and interesting activities. Teachers must show their students with good attitudes that motivate them to learn and encourage them to continue despite the challenges encountered in distance education. To address the financial problem of students, teachers must provide printed modules and tasks so that students may not spend more on gadgets and the internet. Furthermore, it is highly suggested that the Department of Education (DepEd) of the Philippines must provide training in online learning to address the health and well-being of students while learning. For further studies, one may consider similar surveys in other places in rural areas in the country to gather richer information and formulate a strong argument to address the challenges of online education.

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DATA AVAILABILITY STATEMENT

Data will be made available on request.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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