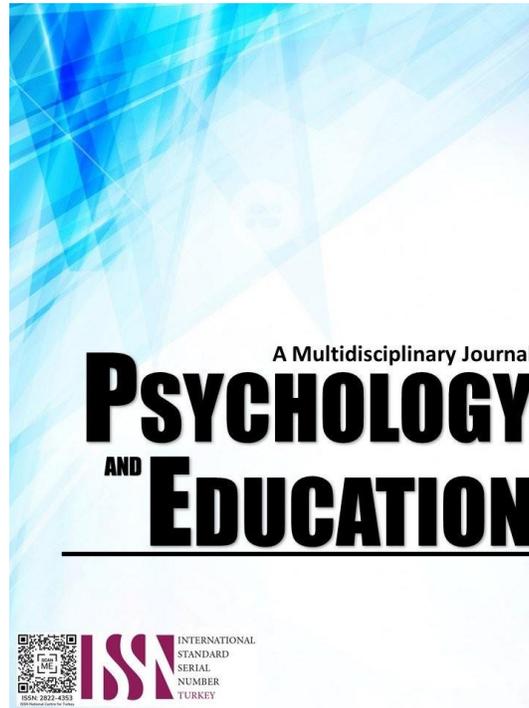


INTERPERSONAL CHALLENGES AND STRATEGIES IN THE IMPLEMENTATION OF E-LEARNING MODALITY AMONG SENIOR HIGH SCHOOL TEACHERS IN THE DISTRICT OF BOTOLAN



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Interpersonal Challenges and Strategies in the Implementation of E-Learning Modality Among Senior High School Teachers in the District of Botolan

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Abstract

This study determined the challenges experienced by the teachers in the implementation of E-learning modality along the technological challenge, organizational issues and support, and domestic challenge and the strategies in the implementation of this modality in the District of Botolan. The descriptive-survey research design was used with the questionnaire as the main data gathering tool. The teachers involved in the study were the eighty-two (82) senior high school in Botolan. The data gathered revealed that majority of the senior high school teacher-respondents are female, in their early adulthood stage, married, with units in MA/MS, Teacher I and with adequate years in service. The senior high school teachers strongly agreed on the challenges as to Technological, Organizational and Domestic challenges in the implementation of e-learning modality. The senior high school teachers perceived the strategies as to Technological and Organizational Support Strategies in the implementation of e-learning modality to be “Always Used”. The following conclusions were derived: There was a significant difference on the challenges in the implementation of e-learning modality as to technological challenge among senior high school teachers when grouped according to sex, civil status and years in service and significant as to domestic challenge when grouped according to civil status. There was a significant difference on the strategies in the implementation of e-learning modality as to technological strategy among senior high school teachers when grouped according to age, highest educational attainment, position and years in service; and significant as to organizational support strategy when grouped according to civil status. There was no significant difference on the strategies in the implementation of e-learning modality among senior high school teachers. There was no significant difference on the challenges in the implementation of e-learning modality among senior high school teachers and there was significant relationship on the challenges and strategies in the implementation of e-learning modality among senior high school teachers. With these findings the following are the recommendations provided; DepEd may consider addressing the challenge in the implementation of e-learning modality among senior high schools by making the gadgets such as smart phones, desktop computers and tablets readily available. Strengthen support and massive implementation of the learning continuity plan. DepEd may consider providing wider space conducive on teaching online. Improvement in the level of e-learning modality implementation may be achieved by utilizing different learning platforms that is easy to use, utilizing power bank for charging the gadgets to continue use in case of power interruption, and providing policies to strictly abide schedules on e-learning. Teachers may also be provided greater opportunities for learning experiences to improve on foundational knowledge, instructional planning, instructional methods and strategies, assessment and evaluation, and management for implementing e-learning modality. And a similar study with a larger group of respondents from different localities may be conducted to validate and improve the generalizability of the findings.

Keywords: *interpersonal, strategies, modality,*

Introduction

COVID-19 appeared in Wuhan, a city in China, in December 2019. Although health officials are still tracing the exact source of this new coronavirus, early hypotheses thought it may be linked to a seafood market in Wuhan, China. Some people who visited the market developed viral pneumonia caused by the new coronavirus. Coronaviruses are a type of virus. There are many different kinds, and some cause disease. A newly identified coronavirus, SARS-CoV-2, has caused a worldwide pandemic of respiratory illness, called COVID-19 (Suaer, 2020).

These have resulted in the widespread disruption such as travel restrictions (Chinazzi et al., 2020), closure of schools (Viner et al., 2020), global economic recession (Fernandes, 2020), political conflicts (Barrios & Hochberg, 2020), racism (Habibi et al., 2020), and misinformation and controversies (Enitan et al., 2020), to name a few. Academe is one of the most affected sector in the world. When COVID-19 community lockdown and community quarantine of several across the country have resulted learners and teachers to study and work from home.

In response to this pandemic, the Department of Education (DepEd) implemented a responsive Basic Education Learning Continuity Plan to the context and available resources of the schools and students nationwide. DepEd embarked on the development of the BE-LCP to enable learners of basic education to continue learning, and for teachers to be able to deliver instruction in a safe work and learning environment amid the threat of COVID-19 (DepEd Order No. 012, s. 2020).

In Botolan District, the learning delivery modalities adopted by the different schools depending on the COVID-19 restrictions and the particular context of the learners in the school or locality. One of the learning delivery modalities is Online Distance Learning. The

Polytechnic College of Botolan, Panan National High School, Botolan National High School, Santa Monica Parochial School and Lyceum Western Luzon of Zambales among private and public educational institutions adopted the online distance learning. It features the teacher as facilitator, engaging learners' active participation through the use of various technologies accessed through the internet while they are geographically remote from each other during instruction. The internet is used to facilitate learner-teacher and peer-to-peer communication. Online learning allows live synchronous instruction. It is more interactive than the other types of distance learning and the responses are in real-time. The learners may download materials from the internet, complete and submit assignments online, and attend webinars and virtual classes.

However, different challenges encountered by the teachers in teaching and facilitating learning of the distance online education. The internet connection is one of the challenges of the teachers in this approach. During the online classes, they experienced to automatically disconnect to the application. They also encountered the unstable connection of internet before and during the online classes. Since, this kind of approach is new to some of the teachers, they are not knowledgeable on the educational application used. Teachers lack with technical skills. They do not know how to operate computers and use handle devices resulting to lack of motivation to teach. Even though teachers have alternative working assignments, they felt anxiety and stress during this pandemic. They felt the environment for teaching is not conducive for learning because of loud sounds that may cause concentration during the online classes.

With the implementation of e- learning during amidst COVID- 19 pandemic, the senior high schools teachers in Botolan District experienced challenges. These challenges are technological, organizational issues and support, and domestic. However, even though the senior high school teachers are facing challenges in e- learning implementation, they do cope to overcome the said challenges by developing strategies that may enhance their instruction and provide quality education to the learners.

Research Questions

The objective of this study was to determine the challenges and strategies in the implementation of e- learning modality among senior high teachers in Botolan District, Division of Zambales. Specifically, it sought answer the following questions:

1. What is the respondents' profile in terms of:
 - 1.1 sex;
 - 1.2 age;
 - 1.3 civil status;
 - 1.4 highest educational attainment;
 - 1.5 position; and
 - 1.6 years in service?
2. How are the challenges in the implementation of e- learning modality of among senior high teachers may be described in terms of:
 - 2.1 technological challenge;
 - 2.2 organizational issues and support; and
 - 2.3 domestic challenge?
3. how are the strategies in the implementation of e- learning modality of among senior high teachers may be described in terms of:
 - 3.1 technological strategy;
 - 3.2 organizational support strategy?
4. Is there a significant difference on the challenges in the implementation of e- learning modality of among senior high teachers when grouped according to respondents' profile?
5. Is there a significant difference on the strategies in the implementation of e- learning modality of among senior high teachers when grouped according to respondents' profile?
6. Is there a significant difference on the strategies in the implementation of e- learning modality of among senior high teachers?
7. Is there a significant difference on the challenges in the implementation of e- learning modality of among senior high teachers?
8. Is there a significant relationship on the challenges and strategies in the implementation of e- learning modality of among senior high teachers?

Methodology

This section presented the research design, respondents and location, instruments used, data collection and data analysis employed by the researcher.

Research Design

Descriptive research design was used in this study. The checklist questionnaire was distributed to the respondent's responses and measured the challenges and strategies implementation of e- learning modality of among senior high teachers in Botolan District. Descriptive research aimed accurately and systematically described a population, situation or phenomenon. It answered what, where, when and how questions, but not why questions. A descriptive research design used wide variety of research methods to investigate

one or more variables (McCombes, 2020). Koh, E.T. & Owen, W.L. (n.d) states that the value of descriptive research was based on the premise that problems solved and practices improved through observation, analysis, and description. The most common descriptive research method was the survey, which includes questionnaires, personal interviews, phone surveys, and normative surveys.

Participants

The senior high schools teachers were the respondents of the teaching e-learning. The researcher was utilized the population of senior high school teachers was the participants in this study. A total of eighty - (82) high school teachers teaching e- learning in Botolan District.

Table 1. *Distribution of the Respondents*

<i>Name of School</i>	<i>Number of Senior High School Teachers</i>
Polytechnic College of Botolan	29
Panan National High School	7
Botolan National High School	28
Santa Monica Parochial School	6
Lyceum of Western Zambales	12
Total	82

The study was conducted in Botolan, District. The Senior High School Teachers from Polytechnic College of Botolan, Panan National High School, Botolan National High School, Santa Monica Parochial School and Lyceum of Western Zambales.

Instruments

The researcher adopted and modified the instrument used in data gathered. Part 1 deals with respondents' profile as to age, sex, civil status, highest educational attainment and position, and years in service. Part 2 deals with the challenges in the implementation of e-learning modality among senior high teachers in terms of technological challenge, organizational issues and support and domestic challenge. Part 3 deals with the strategies in the implementation of e- learning modality among senior high teachers in terms of technological strategy, and organizational support strategy.

The researcher validated the subject conducted of data gathered to the thesis panel. For refinement and enhancement, all the comments and suggestions was incorporated to the instrument. Once approved, the researcher tried- out to the five senior high school teachers of Taugtog National High School. These respondents was not included in the actual distribution of the questionnaire.

Figure 2 shows the vicinity map of the different schools in Botolan District.

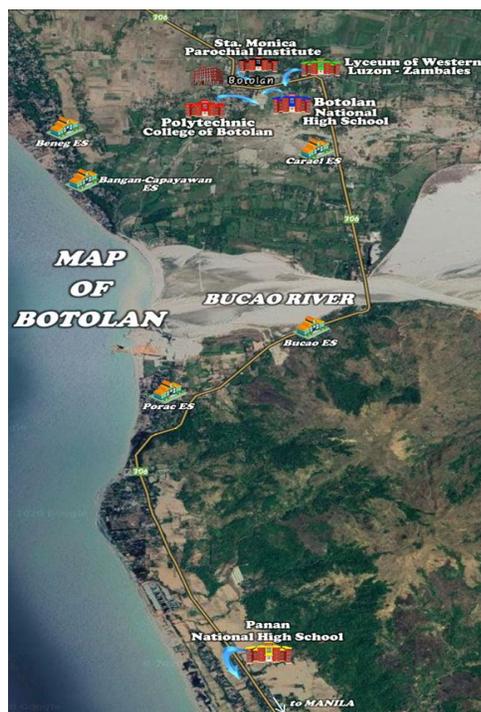


Figure 2. *Vicinity Map of Botolan District showing the location of the study*

Data Collection

The researcher seek permission to conduct a study to the Schools Division Superintendent in the DepEd Division of Zambales. The researcher personally visited the different schools in Botolan District the researcher distributed the questionnaire to the respondents and asked assistance to the School Principals. The researcher discussed the aim of this study to the respondents and informed them on the information they were provided that it was treated with outmost confidentiality.

After a week, the researcher retrieved the answered questionnaire to the respondents and it was tabulated, analysed and interpreted the collected data.

Data Analysis

The data gathered were tallied, tabulated, analyzed and interpreted accordingly. The statistical treatment of this study was utilized the descriptive statistical tools such as frequency, weighted mean and percentage. Analysis of Variance (ANOVA) and Pearson-r respectively. The following are the explanations of the utility of the aforementioned statistical tools.

1. Frequency Distribution. This is the number of items a certain data has been used or occurred in a category.
2. Percentage. This is used to determine the proportion of the respondents to a specific category.
3. Weighted Mean. This is used to determine the extent of each of the statements.
4. Likert Scale. The 4-point rating is used for the interpretation on the results on the challenges and strategies in the implementation of e-learning modality among senior high school teachers.

Challenges in the Implementation of E- Learning Modality

<i>Point</i>	<i>Point Scale</i>	<i>Qualitative Interpretation</i>	<i>Symbol</i>
4	3.25-4.00	Strongly Agree that it is a Challenge	SA
3	2.50-3.24	Agree that it is a Challenge	A
2	1.75-2.49	Disagree that it is a Challenge	DA
1	1.00-1.74	Strongly Disagree that it is a Challenge	SD

Strategies in the Implementation of E- Learning Modality

<i>Point</i>	<i>Point Scale</i>	<i>Qualitative Interpretation</i>	<i>Symbol</i>
4	3.25-4.00	Always Used	AU
3	2.50-3.24	Often Used	OU
2	1.75-2.49	Sometimes Used	SU
1	1.00-1.74	Never Used	NU

5. Pearson-r. This was used to determine the relationship on the challenges and strategies in the implementation of e-learning modality among senior high school teachers.

Interpretation of Correlation Coefficient Value (C)

<i>Correlation Coefficient</i>	<i>Qualitative Description</i>
± 1.000	Perfect positive or negative correlation
± 0.75 to ± 0.99	Very high positive or negative correlation
± 0.50 to ± 0.74	High positive or negative correlation
± 0.25 to ± 0.49	Low positive or negative correlation
± 0.01 to ± 0.24	Very low positive or negative correlation
Less than ± 0.01	No correlation

6. Analysis of Variance (ANOVA). This was used to test the significant difference on the challenges and strategies in the implementation of e-learning modality among senior high school teachers when grouped according to profile variables.

Decision Rule 1: If the computed and significant value is greater or higher than ($>$) 0.05 Alpha Level of Significance, accept the null hypothesis and reject the alternative.

Decision Rule 2: If the computed significant value is less or lower than ($<$) 0.05 Alpha Level of Significance, reject the null hypothesis and accept the alternative.

Results and Discussion

This section presents the gathered and processed data using tabular form, interpreted and analyzed in order to provide a better and clear understanding on the problems stated in Chapter 1.

1. Profile of Senior High School Teacher-respondents



Table 2. Frequency and Percentage Distribution on the Senior High School Teacher-respondents' Profile Variables

Profile Variables		Frequency (f)	Percentage (%)
Sex	Male	38	46.30
	Female	44	53.70
	Total	82	100.00
Age (years) Mean = 33.55 or 34 years old	51-60	4	4.90
	41-50	13	15.90
	31-40	28	34.10
	21-30	37	45.10
	Total	82	100.00
Civil Status	Single	32	39.00
	Married	44	53.70
	Widow	2	2.40
	Widower	1	1.20
	Annulled	3	3.70
	Total	82	100.00
Highest Educational Attainment	Doctoral degree	1	1.20
	Masteral degree	27	32.90
	With units in MA/MS	39	47.60
	BS/AB degree	15	18.30
	Total	82	100.00
Position	Master Teacher II	1	1.20
	Master Teacher I	6	7.30
	Teacher III	15	18.30
	Teacher II	20	24.40
	Teacher I	40	48.80
	Total	82	100.00

Table 2. Frequency and Percentage Distribution on the Senior High School Teacher-respondents' Profile Variables

Profile Variables		Frequency (f)	Percentage (%)
Years in Service Mean = 7.61 or 8 years	20-24	2	2.40
	15-19	9	11.00
	10-14	14	17.10
	5-9	29	35.40
	0-4	28	34.10
	Total	82	100.00

Table 2 shows the frequency, percentage and mean distribution on the senior high school teacher-respondents' profile variables of sex, age, civil status, highest educational attainment, position and years in service.

1.1. Sex. Majority of the senior high school teacher-respondents with 44 or 53.70% are females while 38 or 46.30% are males. The superiority of female senior high school teachers is evident over males in the education sector. It can be noted in the study of Beriales, Permocillo Bartizo and Porrás (2017) that majority of teachers in DepEd Division are females who are much equipped and suited for teaching jobs as the study claims that females tend to show support and care to children than males. The majority of their number engaged in the teaching profession is accounted on the mindset of that females can be more effective in working for children and socially inclined to provide parental care to students.

1.2. Age. Most of the senior high school teacher-respondents with 37 or 45.10% are from age group 21-30 years old; 28 or 34.10% are from age group 31-40 years old; 13 or 15.90% are from age group 41-50 years old; and 4 or 4.90% are from age group 51-60 years old. The computed mean age of senior high school teacher-respondents was 33.55 or 34 years old. The study further reveals that the respondents were on their early adulthood stage. This scenario is similarly observed by Umali, Dagdagan, De Torres, Felipe, Maranan, & Maranan (2013) that school teachers are at their early adulthood stage characterized on their willingness to work hard and exert extra efforts for the the teaching profession that will help to sustain their daily family needs or even their graduate studies as one requirement for job promotion.

1.3. Civil Status. Majority of the senior high school teacher-respondents with 44 or 53.70% are married; 32 or 39.00% are single; 3 or 3.70% are annulled; 2 or 2.40% are widow; and 1 or 1.20% is widower. Clearly garnered from the data that majority of the respondents are married. This further shows the emotional and psychological preparedness of the respondents in handling marital relationship and parental responsibilities as reflected on their work as teachers. This finding is similar to the study of Bundang (2017) where married respondents dominate in her study.

1.4. Highest Educational Attainment. Majority of the senior high school teacher-respondents with 39 or 47.60% are with units in MA/MS; 27 or 32.90% with Masteral degree; 15 or 18.30% with BS/AB degree; and 1 or 1.20% with Doctoral degree. Numerous studies reveal that teachers' academic preparation, certification type, and years of teaching experience, among others, are often taken as indicators of teacher quality (Goldhaber & Anthony, 2013). Those teachers with sufficient academic preparation are seen to be competent in subject matter content and pedagogical skills enabling them to be effective in classrooms and produce larger student achievement gains (Darling-Hammond, 2010).

1.5. Position. The academic rank/position of most respondents is Teacher I with 40 or 48.80%; 20 or 24.40% are Teacher II; 15 or 18.30% are Teacher III; 6 or 7.30% are Master Teacher I; and 1 or 1.20% is Master Teacher II. Teachers in the DepEd are ranked after they applied when there is an open ranking. They are ranked based on criteria as to performance rating, experience, outstanding accomplishments, education, training, potential, and psycho-social as per Department Order 66, series of 2007. This can also be further explained of their length of service and that promotion usually takes years.

1.6. Years in Service. There were 29 or 35.40% with 5-9 years in service; 28 or 34.10% with 0-4 year/s in service; 14 or 17.10% with 10-14 years in service; 9 or 11.00% with 15-19 years in service; and 2 or 2.40% with 20-24 years in service. The computed mean for years in service was 7.61 or 8 years. The data clearly suggests on the determination and commitment of the respondents in the teaching profession. According to them, they have no more intention to leave teaching and committed to stay up to the age of retirement.

2. Challenges in the Implementation of E-Learning Modality

2.1. Technological Challenge

Table 3 shows the perceived challenges in the implementation of e-learning modality as to Technological Challenge.

The respondents strongly agreed that the "2. Availability of gadget such as smart phones, desktop computers and tablets" as a challenge with a rating of 3.62 (rank 1) while "4. Lack of knowledge and understanding on how to use technology to deliver learning" and "7. Designing an on line classroom calendar with due dates, testing dates and events that students can sync to their phones" had the lowest mean of 3.41, respectively (rank 6.5) interpreted as "Strongly Agreed as Challenges". On average, the respondents strongly agreed on the challenges in the implementation of e-learning modality as to Technological Challenge with mean rating of 3.52.

Table 3. *Perceived Challenges in the Implementation of E-Learning Modality as to Technological Challenge*

	<i>TECHNOLOGICAL CHALLENGE</i>	<i>Weighted Mean</i>	<i>Descriptive Equivalent</i>	<i>Rank</i>
1	Difficulty with access due to lack of devices or gadgets.	3.60	Strongly Agree that it is a Challenge	2
2	Availability of gadgets such as smart phones, desktop computers and tablets.	3.62	Strongly Agree that it is a Challenge	1
3	Unreliable, slow, or no internet access from Wi-Fi or mobile data	3.54	Strongly Agree that it is a Challenge	4
4	Lack of knowledge and understanding on how to use technology to deliver learning	3.41	Strongly Agree that it is a Challenge	6.5
5	Available gadget does not match the learning platform of the students.	3.57	Strongly Agree that it is a Challenge	3
6	Provision of internet connection in the campus or at home during skeletal.	3.52	Strongly Agree that it is a Challenge	5
7	Designing an online classroom calendar with due dates, testing dates and events that students can sync to their phones.	3.41	Strongly Agree that it is a Challenge	6.5
	Overall Weighted Mean	3.52	Strongly Agree that it is a Challenge	

According to Singh (2016) the information and Communication Technology (ICT) brings with it various challenges that teachers need to face. First of all, there is a need for adequate availability of technology in the schools which includes huge costs incurred on acquiring, installing, operating, maintaining and replacing ICT's. The basic infrastructural requirements suited for making adequate provision of ICT are required. Secondly, it is imperative to make all teachers ICT literate and effective in handling ICT tools for the teaching-learning processes. Another challenge is that the teachers need to develop their own capacity so as to efficiently make use of the different ICTs in different situations.

2.2. Organizational Issues and Support

The perceived challenges in the implementation of e-learning modality as to Organizational Issues and Support is shown in Table 4.

Table 4. *Perceived Challenges in the Implementation of E-Learning Modality as to Organizational Issues and Support*

	<i>Organizational Issues and Support</i>	<i>Weighted Mean</i>	<i>Descriptive Equivalent</i>	<i>Rank</i>
1	Administrative support and lack of implementing the learning continuity plan.	3.65	Strongly Agree that it is a Challenge	1
2	Policies and practices that neglect teacher welfare.	3.56	Strongly Agree that it is a Challenge	2
3	Lack of preparation in shifting to online education.	3.44	Strongly Agree that it is a Challenge	4.5
4	Poor and lack of quality of teaching materials.	3.45	Strongly Agree that it is a Challenge	3
5	Gaps in knowledge and skills from current teaching methods.	3.44	Strongly Agree that it is a Challenge	4.5
	Overall Weighted Mean	3.51	Strongly Agree that it is a Challenge	

The respondents strongly agreed that the “1. Administrative support and lack of implementing the learning continuity plan” as a challenge with a rating of 3.65 (rank 1) while “3. Lack of preparation in shifting to online education” and “5. Gaps in knowledge and skills from current teaching methods” had the lowest mean of 3.44, respectively (rank 4.5) interpreted as “Strongly Agreed as Challenges”. On the average, the respondents strongly agreed on the challenges in the implementation of e-learning modality as to Organizational Issues and Support with an overall weighted mean of 3.51.

Teachers are supposed to move their classes online right away having no additional training and extra budget. As the comprehensive learning management systems usually cost an arm and a leg, teachers have to use numerous digital tools to deliver e-learning. They start their day by opening multiple tabs for multiple purposes, switching between them. They attend virtual school, parents, and student meetings, trying to handle the amount of information that they were facing right now and decide on the teaching strategy. They evaluate the assignments coming from different places. They stay online 10 hours per day to clean up this mess, set up, and streamline the processes making online learning more efficient.

A study carried out by Cornelius & Macdonald (2008) revealed that states academics which teach distance learning programmes for the Open University in Scotland, who are not based on campus, fail to acknowledge the needs of distance learning in terms of training and support. The Open University is one of the first institutions in the UK to take distance learning as their core method of delivering education and if their online support and training is not adequate to support their teachers, then a reasonable question can be posed to the state of all other institutions who have taken up e-learning much later than the Open University. Those academics who attended the training complained that training was not as they expected; it was an overview session without emphasis on practice, it did not give them enough confidence, it was not inspiring enough for them to carry on learning, training sessions was badly planned with errors, and it was rushed and not fully functional (Jackson and Fearon, 2013).

Adequate training would help academics do their job effectively whether this relates to managing online discussion forums or identifying pedagogical needs amongst students. Training is vital on how to academics utilise pedagogy in the e-learning environment, how do they adapt learning style in their material, correctly using the e-learning features are important, if academics do not know then investment will not yield the expected result.

2.3. Domestic Challenge

The perceived challenges in the implementation of e-learning modality as to Domestic Challenge is presented in Table 5.

Table 5. *Perceived Challenges in the Implementation of E-Learning Modality as to Domestic Challenge*

	<i>Domestic Challenge</i>	<i>Weighted Mean</i>	<i>Descriptive Equivalent</i>	<i>Rank</i>
1	Limited space conducive on teaching online.	3.70	Strongly Agree that it is a Challenge	1
2	Power interruptions.	3.56	Strongly Agree that it is a Challenge	2
3	Need to fulfill responsibilities at home.	3.48	Strongly Agree that it is a Challenge	5
4	Mobility restrictions due to community quarantine.	3.49	Strongly Agree that it is a Challenge	4
5	Financial distress within the household.	3.50	Strongly Agree that it is a Challenge	3
	Overall Weighted Mean	3.55	Strongly Agree that it is a Challenge	

The respondents strongly agreed that the “1. Limited space conducive on teaching online” as a challenge with a rating of 3.70 (rank 1) while the “3. Need to fulfill responsibilities at home” had the lowest mean of 3.48 interpreted as “Strongly Agreed that it was a Challenge”. On the average, the respondents strongly agreed on the challenges in the implementation of e-learning modality as to Domestic Challenge with an overall weighted mean of 3.55.

Hand (2018) discussed that online learning is incredibly convenient, but with this benefit come a few drawbacks. Connecting with academic peers, communicating with the instructor, and maintaining a personal social life can become a challenge when all interactions take place remotely. Recent studies have indicated that individuals who spend an excessive amount of time on electronic devices experience difficulties focusing and internet addiction (which is not formally recognized as a mental illness by the American Psychiatric Association) that can seriously impact our lives. It can lead to social isolation, ultimately resulting in decreased academic achievement and even mental illnesses such as depression.

2.4. Summary: Challenges in the Implementation of E-Learning Modality

The summary on the perceived challenges in the implementation of e-learning modality is shown in Table 6.

Table 6. *Summary on the Perceived Challenges in the Implementation of E-Learning Modality*

	<i>Challenges</i>	<i>Overall Weighted Mean</i>	<i>Descriptive Equivalent</i>	<i>Rank</i>
1	Technological Challenge	3.52	Strongly Agree that it is a Challenge	2
2	Organizational Issues and Support	3.51	Strongly Agree that it is a Challenge	3
3	Domestic Challenge	3.55	Strongly Agree that it is a Challenge	1
	Grand Mean	3.53	Strongly Agree that it is a Challenge	

The respondents strongly agreed on the challenges in the implementation of e-learning modality as to: Domestic Challenge (3.55, rank 1); Technological Challenge (3.52, rank 2); and Organizational Issues and Support (3.51, rank 3). Overall, senior high school teachers

strongly agreed on the challenges in the implementation of e-learning modality with an overall weighted mean of 3.53.

If instructors create an effective online learning environment and turn those challenges to opportunities and growth, it will lead students towards higher levels of learning. Students will become actively involved in the course. Studies have shown that their involvement is enhanced by the development of course content that works in an online environment and is also applicable to real world situations. This is what encourages the development of critical thinking skills and creates the lifelong learner (Fish and Wickersham, 2010).

3. Strategies in the Implementation of E- Learning Modality

3.1. Technological Strategy

Table 7 shows the strategies in the implementation of e-learning modality as to Technological Strategy.

The respondents perceived the “6. Utilization of easy to use and understand learning platforms” to be “Always Used” with a rating of 3.56 (rank 1) while the “4. Utilization of different learning platform that is easy to use” and “7. Utilization of power bank for charging the gadgets to continue use in case of power interruption” had the lowest mean of 3.41, respectively (rank 6.5) interpreted as “Always Used”. On average, the respondents perceived the Technological Strategy in the implementation of e-learning modality to be “Always Used” with mean rating of 3.47.

Table 7. *Strategies in the Implementation of E-Learning Modality as to Technological Strategy*

	<i>Technological Strategy</i>	<i>Weighted Mean</i>	<i>Descriptive Equivalent</i>	<i>Rank</i>
1	Share gadgets like smart phones and tablets.	3.46	Always Used	4
2	Use of other sim cards for internet connectivity.	3.45	Always Used	5
3	Watch tutorials videos to enhance computer skills.	3.49	Always Used	2
4	Utilize different learning platform that is easy to use.	3.41	Always Used	6.5
5	Utilize data mobile for internet connectivity.	3.48	Always Used	3
6	Utilize easy to use and understand learning platforms.	3.56	Always Used	1
7	Utilize power bank for charging the gadgets to continue use in case of power interruption.	3.41	Always Used	6.5
Overall Weighted Mean		3.47	Always Used	

Institutions have a variety of applications and computer operating systems for various uses such as the student registration system, and research support applications such as NVIVO and SPSS. All these applications have to be merged and linked within one e-learning environment to make it accessible and enable central support; however, this requires the merging and linking of various applications. This creates increased network traffic to support the centralised infrastructure, thus it should be robust and have enough capacity and capability to handle student academic communication. This is a complex process especially where old and new applications meet, and is a strategy of using a system.

3.2. Organizational Support Strategy

The strategies in the implementation of e-learning modality as to Organizational Support Strategy is shown in Table 8.

Table 8. *Strategies in the Implementation of E-Learning Modality as to Organizational Support Strategy*

	<i>Organizational Support Strategy</i>	<i>Weighted Mean</i>	<i>Descriptive Equivalent</i>	<i>Rank</i>
1	Implements learning continuity plan.	3.66	Always Used	1
2	Provides alternative working arrangement.	3.41	Always Used	4
3	Provides policies to strictly abide schedules on e- learning.	3.38	Always Used	5
4	Provides trainings and seminars on instructional materials development.	3.44	Always Used	3
5	Provides training and seminar on teaching online.	3.51	Always Used	2
Overall Weighted Mean		3.48	Always Used	

The respondents perceived the “1. Implementation of learning continuity plan” to be “Always Used” with a rating of 3.66 (rank 1) while “3. Providing policies to strictly abide schedules on e- learning” had the lowest mean of 3.38 (rank 5) interpreted as “Always Used”. On average, the respondents perceived the Organizational Support Strategy in the implementation of e-learning modality to be “Always Used” with an overall weighted mean of 3.48.

For years now, educators have known that procrastination has been a major problem affecting online courses students. Students tend to wait for the assignment due dates approach before completing coursework, often submitting within an hour of the deadline. Keeping in mind that many instructors set the deadline time at late hours (often at midnight or later), this can result in some unhealthy habits (Hand, 2018).

3.3. Summary: Strategies in the Implementation of E- Learning Modality

The summary on the strategies in the implementation of e-learning modality is presented in Table 9.

Table 9. *Summary on the Strategies in the Implementation of E- Learning Modality*



	<i>Strategies</i>	<i>Overall Weighted Mean</i>	<i>Descriptive Equivalent</i>	<i>Rank</i>
1	Technological Strategy	3.47	Always Used	2
2	Organizational Support Strategy	3.48	Always Used	1
	Grand Mean	3.48	Always Used	

The respondents perceived the strategies in the implementation of e-learning modality to be “Always Used” as to: Organizational Support Strategy (3.48, rank 1) and Technological Strategy (3.47, rank 2). Overall, senior high school teachers perceived the strategies in the implementation of e-learning modality to be “Always Used” with an overall weighted mean of 3.48.

Online teaching often involves stepping in to teach a class that’s already set up. Strategies on course materials could be upgraded for an effective teaching-learning process (Hardy, 2017).

4. Test of Difference on the Challenges in the Implementation of E- Learning Modality among Senior High School Teachers when Grouped According to Profile

4.1. Technological Challenge

Table 10 shows the analysis of variance to test difference on the challenges in the implementation of e-learning modality as to Technological Challenge among Senior High School teachers when grouped according to profile.

There was a significant difference on the challenges in the implementation of e-learning modality as to technological challenge among senior high school teachers when grouped according to sex (Sig. = 0.045), civil status (Sig. = 0.041) and years in service (Sig. = 0.004). The computed significance values (Sig.) were less than (<) 0.05 alpha level of significance, therefore null hypothesis is rejected.

Table 10. Analysis of Variance to test difference on the Challenges in the Implementation of E-Learning Modality as to Technological Challenge among Senior High School Teachers when Grouped According to Profile

<i>Sources of Variations</i>		<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>	<i>Decision / Interpretation</i>
Sex	Between Groups	0.195	1	0.195	4.146	0.045	Reject Ho Significant
	Within Groups	3.759	80	0.047			
	Total	3.954	81				
Age	Between Groups	0.175	3	0.058	1.201	0.315	Accept Ho Not Significant
	Within Groups	3.780	78	0.048			
	Total	3.954	81				
Civil Status	Between Groups	0.474	4	0.118	2.620	0.041	Reject Ho Significant
	Within Groups	3.481	77	0.045			
	Total	3.954	81				
Highest Educational Attainment	Between Groups	0.150	3	0.050	1.022	0.387	Accept Ho Not Significant
	Within Groups	3.805	78	0.049			
	Total	3.954	81				
Position	Between Groups	0.376	4	0.094	2.022	0.100	Accept Ho Not Significant
	Within Groups	3.578	77	0.046			
	Total	3.954	81				
Years in Service	Between Groups	0.701	4	0.175	4.146	0.004	Reject Ho Significant
	Within Groups	3.253	77	0.042			
	Total	3.954	81				

However, the computed significance value (Sig.) for age (Sig. = 0.315), highest educational attainment (Sig. = 0.387) and position (Sig. = 0.100) were all greater than (>) 0.05 alpha level of significance. The results indicate that there was no significant difference on the challenges in the implementation of e-learning modality as to technological challenge among senior high school teachers when grouped according to age, highest educational attainment and position.

Researchers have pointed out various problems when instructors use e-learning technology. Phipps and Merisotis (1999) authored a 48-page report reviewing and examining research papers throughout the 1990s on the effectiveness of e-learning technology. They put forward recommendations to cover the gaps in research that require further investigation. They recommend that “there needs to be more emphasis on individual differences such as gender, age, educational experience, motivation and learning style”. Implying current research on e-learning learning does not identify individual needs. This poses a question as how instructors are coping with the technology to teach a variety of students with different educational needs, and coming from different backgrounds. It is common that students, lecturers and institutions use a variety of different application platforms for learning and teaching, therefore they suggest that in the future “research should focus on the interaction of multiple technologies rather than the impact of single technologies”.

4.2. Organizational Issues and Support

The analysis of variance to test difference on the challenges in the implementation of e-learning modality as to Organizational Issues and Support among Senior High School teachers when grouped according to profile is presented in Table 11.



The computed significance value (Sig.) for sex (Sig. = 0.289), age (Sig. = 0.120), civil status (Sig. = 0.936), highest educational attainment (Sig. = 0.416), position (Sig. = 0.319) and years in service (Sig. = 0.168) were all greater than (>) 0.05 alpha level of significance. The results indicate that there was no significant difference on the challenges in the implementation of e-learning modality as to organizational issues and support among senior high school teachers when grouped according to sex, age, civil status, highest educational attainment, position and years in service.

Table 11. Analysis of Variance to test difference on the Challenges in the Implementation of E-Learning Modality as to Organizational Issues and Support among Senior High School Teachers when Grouped According to Profile

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.080	1	0.080	1.141	0.289	Accept Ho Not Significant
	Within Groups	5.616	80	0.070			
	Total	5.696	81				
Age	Between Groups	0.408	3	0.136	2.007	0.120	Accept Ho Not Significant
	Within Groups	5.287	78	0.068			
	Total	5.696	81				
Civil Status	Between Groups	0.059	4	0.015	0.202	0.936	Accept Ho Not Significant
	Within Groups	5.636	77	0.073			
	Total	5.696	81				
Highest Educational Attainment	Between Groups	0.203	3	0.068	0.959	0.416	Accept Ho Not Significant
	Within Groups	5.493	78	0.070			
	Total	5.696	81				
Position	Between Groups	0.333	4	0.083	1.196	0.319	Accept Ho Not Significant
	Within Groups	5.362	77	0.070			
	Total	5.696	81				
Years in Service	Between Groups	0.452	4	0.113	1.658	0.168	Accept Ho Not Significant
	Within Groups	5.244	77	0.068			
	Total	5.696	81				

4.3. Domestic Challenge

The analysis of variance to test difference on the challenges in the implementation of e-learning modality as to Domestic Challenge among Senior High School teachers when grouped according to profile is shown in Table 12.

There was a significant difference on the challenges in the implementation of e-learning modality as to domestic challenge among senior high school teachers when grouped according to civil status (Sig. = 0.039). The computed significance value (Sig.) was less than (<) 0.05 alpha level of significance, therefore null hypothesis is rejected.

Table 12. Analysis of Variance to test difference on the Challenges in the Implementation of E-Learning Modality as to Domestic Challenge among Senior High School Teachers when Grouped According to Profile

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.299	1	0.299	4.630	0.034	Reject Ho Significant
	Within Groups	5.163	80	0.065			
	Total	5.462	81				
Age	Between Groups	0.288	3	0.096	1.446	0.236	Accept Ho Not Significant
	Within Groups	5.174	78	0.066			
	Total	5.462	81				
Civil Status	Between Groups	0.664	4	0.166	2.664	0.039	Reject Ho Significant
	Within Groups	4.798	77	0.062			
	Total	5.462	81				
Highest Educational Attainment	Between Groups	0.432	3	0.144	2.234	0.091	Accept Ho Not Significant
	Within Groups	5.030	78	0.064			
	Total	5.462	81				
Position	Between Groups	0.603	4	0.151	2.387	0.058	Accept Ho Not Significant
	Within Groups	4.859	77	0.063			
	Total	5.462	81				
Years in Service	Between Groups	0.319	4	0.080	1.193	0.321	Accept Ho Not Significant
	Within Groups	5.143	77	0.067			
	Total	5.462	81				

On the other hand, the computed significance value (Sig.) for age (Sig. = 0.236), highest educational attainment (Sig. = 0.091), position (Sig. = 0.058) and years in service (Sig. = 0.321) were all greater than (>) 0.05 alpha level of significance. The results indicate that there was no significant difference on the challenges in the implementation of e-learning modality as to domestic challenge among senior high school teachers when grouped according to age, highest educational attainment, position and years in service.



The study findings of Fatih (2019) also show that the domestic challenge experienced by adult learners in e-learning vary depending on their age, gender, knowledge and skills as well as the context in which they study. The findings of this study, which has an exploratory nature, have several implications for distance education stakeholders such as administrators, instructors, instructional designers, and policy makers.

5. Test of Difference on the Strategies in the Implementation of E- Learning Modality among Senior High School Teachers when Grouped According to Profile

5.1. Technological Strategy

Table 13 shows the analysis of variance to test difference on the strategies in the implementation of e-learning modality as to Technological Strategy among Senior High School teachers when grouped according to profile.

Table 13. Analysis of Variance to test difference on the Strategies in the Implementation of E-Learning Modality as to Technological Strategy among Senior High School Teachers when Grouped According to Profile

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.231	1	0.231	3.159	0.079	Accept Ho Not Significant
	Within Groups	5.853	80	0.073			
	Total	6.084	81				
Age	Between Groups	0.696	3	0.232	3.357	0.023	Reject Ho Significant
	Within Groups	5.388	78	0.069			
	Total	6.084	81				
Civil Status	Between Groups	0.744	4	0.186	2.682	0.038	Reject Ho Significant
	Within Groups	5.340	77	0.069			
	Total	6.084	81				
Highest Educational Attainment	Between Groups	0.927	3	0.309	4.676	0.005	Reject Ho Significant
	Within Groups	5.156	78	0.066			
	Total	6.084	81				
Position	Between Groups	1.135	4	0.284	4.417	0.003	Reject Ho Significant
	Within Groups	4.948	77	0.064			
	Total	6.084	81				
Years in Service	Between Groups	1.073	4	0.268	4.123	0.004	Reject Ho Significant
	Within Groups	5.011	77	0.065			
	Total	6.084	81				

There was a significant difference on the strategies in the implementation of e-learning modality as to technological strategy among senior high school teachers when grouped according to age (Sig. = 0.023), civil status (Sig. = 0.038), highest educational attainment (Sig. = 0.005), position (Sig. = 0.003) and years in service (Sig. = 0.004). The computed significance values (Sig.) were less than (<) 0.05 alpha level of significance, therefore null hypothesis is rejected.

Meanwhile, the computed significance value (Sig.) for sex (Sig. = 0.079) was greater than (>) 0.05 alpha level of significance. The result indicates that there was no significant difference on the strategies in the implementation of e-learning modality as to technological strategy among senior high school teachers when grouped according to sex.

Observations at an urban university in the mid-west show vast variation in terms of faculty who choose to utilize instructional technology, specifically the course management system. Even though this university has promoted the use of the course management system, offered training and support for its integration, and provided stipends for the development of online courses, the faculty's integration of the course management system has been slow, if not non-existent, in some areas especially those under older age bracket. Further, educational attainment affects their technological strategies of using the e-learning (Allen & Seaman, 2018).

5.2. Organizational Support Strategy

The analysis of variance to test difference on the strategies in the implementation of e-learning modality as to Organizational Support Strategy among Senior High School teachers when grouped according to profile is presented in Table 14.

Table 14. Analysis of Variance to test difference on the Strategies in the Implementation of E-Learning Modality as to Organizational Support Strategy among Senior High School Teachers when Grouped According to Profile

Sources of Variations		SS	df	MS	F	Sig.	Decision / Interpretation
Sex	Between Groups	0.000	1	0.000	0.002	0.967	Accept Ho Not Significant
	Within Groups	7.749	80	0.097			
	Total	7.749	81				
Age	Between Groups	0.559	3	0.186	2.023	0.118	Accept Ho Not Significant
	Within Groups	7.189	78	0.092			
	Total	7.749	81				



Civil Status	Between Groups	0.945	4	0.236	2.673	0.038	Reject Ho Significant
	Within Groups	6.804	77	0.088			
	Total	7.749	81				
Highest Educational Attainment	Between Groups	0.509	3	0.170	1.826	0.149	Accept Ho Not Significant
	Within Groups	7.240	78	0.093			
	Total	7.749	81				
Position	Between Groups	0.504	4	0.126	1.339	0.263	Accept Ho Not Significant
	Within Groups	7.245	77	0.094			
	Total	7.749	81				
Years in Service	Between Groups	0.380	4	0.095	0.994	0.416	Accept Ho Not Significant
	Within Groups	7.368	77	0.096			
	Total	7.749	81				

There was a significant difference on the strategies in the implementation of e-learning modality as to organizational support strategy among senior high school teachers when grouped according to civil status (Sig. = 0.038). The computed significance value (Sig.) was less than (<) 0.05 alpha level of significance, therefore null hypothesis is rejected.

Furthermore, the computed significance value (Sig.) for sex (Sig. = 0.967), age (Sig. = 0.118), highest educational attainment (Sig. = 0.149), position (Sig. = 0.263) and years in service (Sig. = 0.416) were greater than (>) 0.05 alpha level of significance. The results indicate that there was no significant difference on the strategies in the implementation of e-learning modality as to organizational support strategy among senior high school teachers when grouped according to sex, age, highest educational attainment, position and years in service.

According to Bates & Jenkins (2017) that technology creates an avenue for socio-economic changes. It is a force that leads to destruction in human existence mainly in the educational sector where teachers move from a stage of providing basic teaching aids to an environment where teaching is interactive. Although most HEIs in Nigeria has embarked on several programs that promote the adoption and use of Information Technology (IT) for both online and classroom teaching the IT-related innovations such as e-service have transformed the HEIs completely from the traditional approach of teaching and learning to more contemporary approach which provides a pool of technology-enabled platforms that provide alternative and innovative learning methodologies compared to the conventional learning methods. However, the organizational support strategy of e-learning is affected by civil status of teachers.

6. Test of Difference on the Strategies in the Implementation of E- Learning Modality among Senior High School teachers

Table 15 shows the analysis of variance on the strategies in the implementation of e-learning modality among Senior High School teachers.

The computed F value 0.09 is less than (<) F-critical value 3.90 using 0.05 alpha level of significance, therefore the null hypothesis is accepted. The result indicates that there was no significant difference on the strategies as to technological strategy and organizational support strategy in the implementation of e-learning modality among senior high school teachers.

Table 15. Analysis of Variance on the Strategies in the Implementation of E- Learning Modality among Senior High School teachers

Groups	Count	Sum	Average	Variance
Technological Strategy	82	284.25	3.47	0.07
Organizational Support Strategy	82	285.4	3.48	0.10

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.054878	2	0.03	0.44	0.64	3.03
Within Groups	15.08558	243	0.06			
Total	15.14046	245				

Decision: Accept Ho (Not Significant)

The computed F value 0.44 is less than (<) F-critical value 3.03 using 0.05 alpha level of significance, therefore the null hypothesis is accepted. The result indicates that there was no significant difference on the challenges as to technological challenge, organizational issues and support and domestic challenge in the implementation of e-learning modality among senior high school teachers.

The data further reveals that the respondents have equal perspective on the challenges in the implementation of e-learning modality. Challenges are drives to improve delivery of learning modality among educational institutions (Goldberg, 2020).

8. Test of Relationship on the Challenges and Strategies in the Implementation of E- Learning Modality among Senior High School teachers

The Pearson Product Moment Coefficient of Correlation to determine relationship on the challenges and strategies in the implementation of e-learning modality among Senior High School teachers is presented in Table 17.

Table 17. *Pearson Product Moment Coefficient of Correlation to determine Relationship on the Challenges and Strategies in the Implementation of E-Learning Modality among Senior High School teachers*

Sources of Correlations		Challenges	Strategies	Decision /Interpretation
Challenges	Pearson Correlation	1	0.364**	Low Positive Relationship Reject Ho
	Sig. (2-tailed)		0.001	
	N	82	82	
Strategies	Pearson Correlation	0.364**	1	
	Sig. (2-tailed)	0.001		
	N	82	82	

** Correlation is significant at the 0.01 level (2-tailed).

The computed Pearson r value of 0.364 denotes low positive correlation on the challenges and strategies in the implementation of e-learning modality among senior high school teachers. The computed P-value 0.001 is less than ($<$) 0.01 level of significance, therefore the null hypothesis is rejected. The result signifies that there was significant relationship on the challenges and strategies in the implementation of e-learning modality among senior high school teachers.

This further implies that as the level of strategies increases, the challenges in the implementation of e-learning modality also increases.

Scott (2014) stated that as new option or strategy arises, the challenge to cope up on the new option also arises. Thus, change is inevitable so as with strategies along with challenges in order to deal with the new strategy.

Conclusion

Based on the summary of the findings, the researcher concluded that: (1) Majority of the senior high school teacher-respondents are female, in their early adulthood stage, married, with units in MA/MS, Teacher I and with adequate years in service. (2) The senior high school teachers strongly agreed on the challenges as to Technological, Organizational and Domestic challenges in the implementation of e-learning modality. (3) The senior high school teachers perceived the strategies as to Technological and Organizational Support Strategies in the implementation of e-learning modality to be "Always Used". (4) There was a significant difference on the challenges in the implementation of e-learning modality as to technological challenge among senior high school teachers when grouped according to sex, civil status and years in service and significant as to domestic challenge when grouped according to civil status. (5) There was a significant difference on the strategies in the implementation of e-learning modality as to technological strategy among senior high school teachers when grouped according to age, highest educational attainment, position and years in service; and significant as to organizational support strategy when grouped according to civil status. (6) There was no significant difference on the strategies in the implementation of e-learning modality among senior high school teachers. (7) There was no significant difference on the challenges in the implementation of e-learning modality among senior high school teachers. (8) There was significant relationship on the challenges and strategies in the implementation of e-learning modality among senior high school teachers.

Based on the summary of findings and the conclusions arrived at, the researcher offered the following recommendations: (1) DepEd may consider addressing the challenge in the implementation of e-learning modality among senior high schools by making the gadgets such as smart phones, desktop computers and tablets readily available. (2) Strengthen support and massive implementation of the learning continuity plan. (3) DepEd may consider providing wider space conducive on teaching online. (4) Improvement in the level of e-learning modality implementation may be achieved by utilizing different learning platform that is easy to use, utilizing power bank for charging the gadgets to continue use in case of power interruption, and providing policies to strictly abide schedules on e-learning. (5) Teachers may also be provided greater opportunities for learning experiences to improve on foundational knowledge, instructional planning, instructional methods and strategies, assessment and evaluation, and management for implementing e-learning modality. (6) A similar study with a larger group of respondents from different localities may be conducted to validate and improve the generalizability of the findings.

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