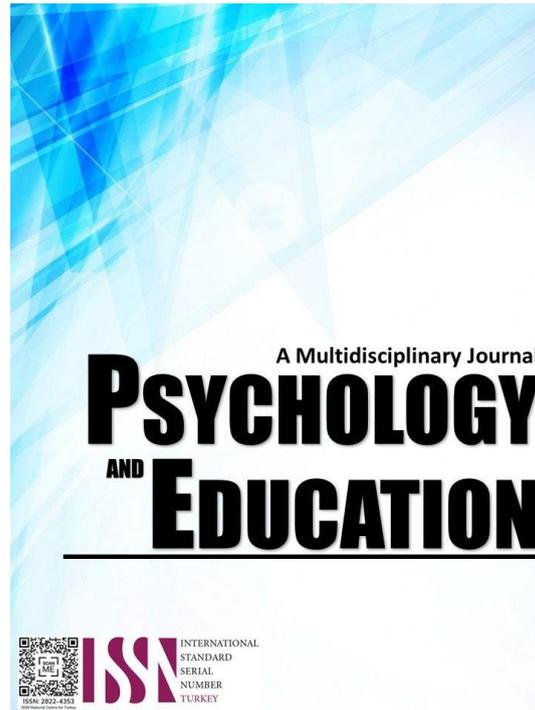


**A STUDY ON THE PERCEPTION OF THE GRADE 12
STUDENTS OF SAINT MARY'S UNIVERSITY
SENIOR HIGH SCHOOL ON EXPERIENCING
COMMUNICATION BARRIERS DURING
DISTANCE EDUCATION**



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A Study on the Perception of the Grade 12 Students of Saint Mary's University Senior High School on Experiencing Communication Barriers During Distance Education

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Abstract

Due to COVID-19, education transitioned to online mode because e-learning is the best option for continuous education. Changes in the communication space and time of communication created barriers in the communication environment. Though online learning seems like the best study method, communication barriers are inevitable as the interaction between students and teachers is a vital part of learning. Hence, this study aimed to determine the perception of the Grade 12 students of Saint Mary's University Senior High School on experiencing communication barriers during distance education. The research utilized a mixed-method design, involving both quantitative and qualitative methods. The survey questionnaire was participated in by 213 randomly selected Grade 12 students from all strands. The data were gathered and analyzed through descriptive, inferential statistics, and thematic analysis. This study found that the respondents' experiencing a slight communication barriers. The results obtained revealed that sex and general weighted average were significant indicators of the students' perception. In the thematic analysis, self-studying was the most preferred way on how they managed to learn despite experiencing communication barriers during distance education. Henceforth, the gathered body of knowledge could contribute to improving the quality of distance education for students, teachers, future generations, and the future researchers.

Keywords: *communication barriers, e-learning, distance education*

Introduction

A quick transition from a totally traditional learning environment to an emergency remote learning (ERT) is regarded as complex and potentially life-threatening (Alvarez, 2020). Prior to this unfortunate tragedy, issues of availability and affordability were indeed a national issue. As a result, learning disruptions can occur when learners are immersed in a culturally face-to-face design combined with impending concerns such as stable internet connection, high technical gadget costs, and financial limits.

With the advancement of technology, there have been various terms introduced in relation to online learning, including e-learning, online learning, distance learning, blended learning, and hybrid learning. Although these terms all refer to utilizing technology in the learning process, there are subtle differences in how students participate in it (Heng & Sol, 2021). Furthermore, the field of distance education has also undergone a significant transformation over the past decade. Distance education, characterized by structured learning while the student and teacher are separated by distance, has become one of the fastest-growing forms of education both domestically and globally. It has shifted from an entirely different type of education employing alternate delivery techniques to a critical component of mainstream education. Developments in technology such as networked

learning, connected learning environments, flexible learning, and hybrid learning systems have broadened and changed the character of traditional distant education approaches. Traditional programs are increasingly including web-based and web-enhanced courses as they attempt to conform to the trend of "anytime, anywhere" education (Nirmalani & Mcisac, 2004).

Education entirely shifted to an online mode when the COVID-19 struck havoc on the majority of the world's industries, since e-learning was the most practical method for continuous education during the pandemic (Mahyoob, 2020). COVID-19 has a huge influence on students' lives. These can include higher effort, a sudden shift to an online learning style, or increased anxiety as a result of uncertainty and the threat of pandemic. COVID-19 affects each student differently. Some students have limited internet connection, while others lack the essential IT equipment to participate in virtual classes (UNESCO, 2020).

Higher education underwent a massive transformation in the spring of 2020. All in-person courses were discontinued. Because of the COVID-19 pandemic, remote instruction is required. Instructors frequently made decisions with little to no training. According to early journalistic sources, the most commonly used reporting technique was to embed the presently accessible course in a learning management system (LMS) while having synchronous sessions; this distant

transition preserved the same teaching methods, activities, and outcomes as face-to-face learning. Many instructors also claimed that their students' conduct had been reviewed, such as by modifying test formats or lowering the number of tasks (Lederman 2020; Supiano 2020).

Qingyu et al., (2020) claims that the changes in the medium impact the way students learn. As communication is a basic human necessity for survival in today's world, it is vital to use effective communication to obtain information, communicate ideas, and prompt feelings for effective learning and understanding. Interpersonal communication is communication in oral, written, and nonverbal forms between individuals to convey their intentions and goals (Liliweri, 2017). Lecturers' and students' reciprocal relationship is established through communication and the lack of student and teacher contact can result in a communication barrier that will affect students' academic performance. As separate individuals, students and lecturers have more power than the other, causing obstacles in the communication process. As a higher party, students have barriers to conveying opinions and questions to the lecturer. Students' self-confidence which is already well-formed may disappear when they meet lecturers who do not communicate well with students. Especially during the pandemic, people only established communication through electronic devices without seeing the action, and other communication opponents' facial expressions, adding to the pressure students had to face in communicating with lecturers. Avtgis (2001) proved that educators (*teacher clarity*), together with significant learning and motivation of students, affected learners' confidence. In an online learning setting, transparency will be achieved, one of which is through open communication channels between teachers and students.

The presence of communication barriers, proven by studies, reduces the effectiveness of communication (Lunenburg, 2010; Guttman et al., 2018). Effective communication is a necessary component of education. Whether the teacher is teaching a student, a colleague, a parent, or vice versa, effective communication is essential to ensure the success of the students. In spite of the fact that the student and teacher may constantly communicate, communication does not always occur. In certain cases, insufficient time, resources, or knowledge about exchanging information may make it difficult to communicate effectively. Effective communication improves learning, develops the teacher-student relationship, and fosters a positive atmosphere in the learning

environment (Diloyan, 2017). Effective communication requires communication to eliminate communication barriers (Tojet, 2003).

Changes in the communication space and time of communication created barriers in the communication environment. Additional communication difficulties were due to shifts in understanding, expression, and levels. Communication hurdles were also caused by changes in thinking and communication media (Eisenberg, 2010). Any communication process has communication barriers. Because of the physical distance between participants, low technical skills, difficulties using media, the need for additional human involvement, time limits and restrictions, and a lack of competence in distance education make building a distance education program difficult and developing successful communication among participants. The severity of these impediments varies from institution to institution, program to program, and delivery system to delivery system (Isman et al., 2004).

Students had to adapt to their new surroundings. Course frameworks, as well as several other barriers in their daily life, results in completing their academic work more challenging. Lack of dependable Internet, a dedicated workspace, or adequate technology hampered participation in synchronous meetings, such as those held via web-conferencing software such as Zoom. (Lederman 2020; Flaherty 2020). However, communication barriers exist in distance education, such as the physical distance, the difficulties in the changes of the medium, time constraints and restrictions, foreknowledge of distance education, inability to use advanced technology, and the level of interactivity in the process (Dabaj, 2011). In addition to these communication barriers in distance education, there are particular problems and obstacles encountered by students such as "Costs and motivators, instructor feedback and communication, student support and services, alienation and isolation, lack of expertise, and training.". Students are likely to be insecure about learning, have issues with self-evaluation, and lack of support services affects their academic performance (Galusha, 1998).

Situational, intellectual, philosophical, psychological, pedagogical, technological, social, and cultural barriers might also exist for online teaching and learning (Berge, 1998). Faceless teaching, fear of computers replacing professors, the dispersal of traditional importance placed on obtaining a degree, faculty culture, and a lack of appropriate time to execute online courses are among the barriers. When the learning system is technologically advanced, there is

reluctance to change and a lack of technical assistance; hence, mistakes are common. People's aversion to or fear of the multiple changes that must occur at the individual and organizational levels, a lack of support for students' and teachers' shifting responsibilities, and other hurdles deriving from assessment challenges appear to be the most crucial barriers in Berge's survey.

Although there is some research on the communication barriers experienced by students in distance education, there is not much information available on how these students perceive these barriers and how their perceptions affect their engagement and motivation in the learning process.

Communication barriers can significantly impact the learning experience of students in distance education (Bakar et al., 2020). While some studies have identified the types of communication barriers experienced by students in distance education, there is a lack of research that investigates how students perceive these barriers and how their perceptions impact their engagement and motivation in the learning process. Understanding how students perceive communication barriers in distance education could inform the development of effective strategies to overcome these barriers and enhance the learning experience of students in distance education.

Therefore, this research gap highlights the need for studies that explore the perception of students experiencing communication barriers in distance education and their impact on the learning process. In this study, the researchers aim to contribute to Psychology and Education by determining the perception of the Grade 12 students of Saint Mary's University Senior High School on experiencing communication barriers during distance education.

Research Questions

This study aimed to determine the perception of students on experiencing communication barriers during distance education due to the pandemic. Specifically, this study sought to answer the following questions:

1. What is the perception of the student-respondents in terms of experiencing communication barriers in distance education?
2. Is there a significant difference in the perception of the student-respondents in terms of experiencing communication barriers in distance education when grouped according to their:
 - 2.1. sex;

- 2.2. strand;
 - 2.3. socio-economic status;
 - 2.4. general weighted average;
 - 2.5. types of devices used;
 - 2.6. capability of accessing the internet; and
 - 2.7. frequency of internet usage
3. How did the students manage to learn despite the communication barriers they encountered in distance education?

Literature Review

Distance Learning

Distance learning (DL) has a long history, dating back to the 1700s (Casey, 2008). It encompasses various forms of education, including e-learning, online learning, virtual learning, and blended learning. However, what sets DL apart is that it involves a separation of the teacher and student by physical distance, or in some cases, by time when the learning is done asynchronously (Bozkurt, 2019; Florida Center for Instructional Technology, 2009).

Bates (2005) wrote about the three generations of distance learning. The first generation occurs by means of providing the students with the needed materials to study independently. Though instructors mark assignments and give feedback, there is still a lack of interaction between a learner and instructors. The second generation is more advantageous for students than the first generation for it does not only include printed media but also integrates a broadcasting approach. Students will still independently learn, but they are guided by the teacher because there is communication. The third generation enables two-way communication between a teacher and student through the Internet or videoconferencing. However, there is also interaction with other students. Communication can be facilitated by students either individually or in groups.

Distance e-learning is the use of computer technology to deliver training, including technology-enhanced learning, that can be conducted online, offline, or both. The aim is to successfully develop knowledge based on learners' and students' personal experiences, practices and knowledge. Various forms of e-learning include Internet-based learning, computer-based learning, virtual classrooms, and digital collaboration. Distance learning and computer-assisted interaction are his two types of e-learning (CAI). Distance e-learning is described by Moore et al. Defined. Although CAI serves as an entry point into learning

for students geographically remote from the teacher, CAI is an interactive method in which materials are presented by computer and student progress is monitored and assessed during the process. (Al-Balas, M., Al-Balas HI, Jaber HM et al. (2020).

According to a study performed by Alara et al. (2021), e-learning has proved to be advantageous to its users in several ways. E-learning enhances contact between professors and students while also improving students' skills. It also helps in the presentation of scientific issues to learners. On the other hand, E-learning negatively influenced pupils since it fostered social isolation due to greater screen time. Furthermore, Stanici et al. (2021) found that students are extremely practical, highlighting time-saving as the most important portion of the positive components of e-learning, followed by the comfort of staying at home and the availability of the online environment. In terms of disadvantages, the students in this survey ranked the absence of interaction as the most significant negative of e-learning.

Distance Education

On the other hand, the concept of "distance education" was first introduced at the University of Tübingen in Germany. Scholars at the university coined the term "fernstudium" (which can be translated as "distance study") to delineate the application of specific methods, including the integration of technology and the division of tasks, within the realm of education. This notion laid the foundation for what we now know as distance education. In 2019, Taylor & Francis discussed the historical context of distance education, providing valuable insights into its evolution. This study aims to build upon this historical foundation and further explore the current state of distance education, particularly in light of recent events such as the COVID-19 pandemic. The purpose of this research is to gain a nuanced understanding of the challenges and opportunities associated with distance education and to contribute to the ongoing discourse in the field.

Distant Education (DE) is an alternate method of educating students, particularly in today's society. DE is spreading rapidly across all levels of schooling. It is now more commonly referred to as Open and Distance Learning, as opposed to campus-based education, which employs non-traditional techniques and delivery modalities. The Philippine education system transitioned from face-to-face to distant learning forms of learning. This requires a paradigm shift in schools to provide new platforms while maintaining the same level of skill and comprehension (Hernandez L., 2021)

Bates (2005), distance education is a method of education wherein students can study at their preferred time and place without physical interaction with a teacher. In the framework created by Dan Coldeway of Dakota's State University in South Dakota, education can be practiced in four ways by two variables, time and place in which, "Combinations of time and place result in four approaches to education: same-time, same-place education (ST-SP); different-time, same-place education (DT-SP); same-time, different-place education (ST-DP); and different-time, different-place education (DT-DP)" (Simonson et al., 2015).

In the book of Flottemesch (2000), it was stated why teacher-to-student interaction is essential. The role of interaction in distance education settings is explicitly addressed by Barker, Frisbie, and Patrick (1989): in traditional classroom settings, students in distance education settings can seek on-the-spot clarification from the instructor. Opportunities for teacher-student interaction can promote greater spontaneity for all participants in the teaching/learning process".

However, whether through distance education or otherwise, education is still reliant on two-way communication (Berge, 1999). Even while conventional learning and distance education have numerous distinctions, there are similarities as well. The interaction and engagement of students, as well as the engaging space provided by the instructor, continue to determine the quality of education (Kruh & Morphy, 1990). For decades, educational research has concentrated on the differences in student achievement - as measured by final grades - between face-to-face, blended, and online learning. The results of various analyses varied and appear to be highly dependent on the kind of analysis and the sample size of the study. A single course analysis, for instance, may give intriguing but anecdotal evidence of these variances due to a range of potential confounding circumstances. According to Urtel (2008), students do better in face-to-face instruction. Existing meta-analyses support the notion that students' academic achievement in online learning as final course grades is greater than in face-to-face courses, or that there are no significant differences between the two.

For example, Shachar and Neumann (2003) discovered that distant education surpasses face-to-face learning; Zhao et al. (2005) discovered no significant differences in student results but cautioned that a vast number of factors change from research to research. However, when the number of courses studied increases, the data show that online learning students achieve higher marks than face-to-face students, even

if the difference is little. In other words, no significant differences were found between 'purely online' and face-to-face learning.

More recently, the focus has shifted to the comparison of blended and face-to-face learning, with results supporting higher achievement in blended learning (Bernard et al., 2014; Vo et al., 2017) and a moderating effect of different variables, such as the kind of computer support used, interaction treatments or whether the courses belong to STEM or non-STEM fields higher effect is found in STEM fields.

Effects of Covid-19

The COVID-19 pandemic had a profound impact on all aspects of life throughout the world. One of the most visible consequences of the pandemic has been the temporary shutdown of educational institutions throughout the world. Many colleges and universities changed their in-person programs to an online format to ensure that students could complete their education, ushering in a new era of online learning. This new type of online learning incorporates remote delivery of lectures, classes, and other educational activities, allowing students to continue their education from the safety and convenience of their own homes (Heng & Sol, 2021). COVID-19 has a huge influence on students' lives. These can include greater effort, a sudden shift to an online learning style, or heightened anxiety as a result of uncertainty and pandemic fear. COVID-19 affects each child differently. Some students have limited internet connection, while others lack the essential IT equipment to participate in online classrooms (UNESCO, 2020).

The sudden shift to online learning due to the COVID-19 pandemic has presented numerous challenges for students, as discussed in recent research studies. Rotas and Cahapay (2020) conducted a study to investigate the difficulties faced by university students in the Philippines during this transition. They identified twelve difficulties, including unstable internet connectivity, inadequate learning resources, unclear learning contents, and mental health struggles, among others. The study highlights the importance of considering these difficulties for the continuous improvement of the education process.

Furthermore, as mentioned by Roberts and Hernandez (2019) and Vera and Bresnahan (2017), a key difficulty encountered in underdeveloped nations is a lack of reliable internet connectivity. This is owing to telecommunications firms' monopolies, restricted financial allocation in rural locations, and

topographical constraints. The COVID-19 pandemic had an influence on teaching and learning, with higher education institutions responding in three manners: retaining in-class teaching while socially distancing students, developing hybrid models, or shifting to online instruction (Hodges et al., 2020).

The COVID-19 pandemic has had a significant impact on the quality of the learning experience and students' mental health as revealed by Barrot, Llenares, and del Rosario (2021). To manage these challenges, students have employed various strategies, such as resource management, seeking help from others, improving technical skills, and controlling their learning environment. The study highlights the importance of providing students with the resources and supports they need to succeed in a remote learning environment, as well as addressing their mental health and well-being.

Finally, Daniel (2020) and Gillett-Swan (2017) stated that the change to online learning has increased students' stress, dissatisfaction, and isolation owing to a lack of peer contact. Furthermore, concerns have been voiced concerning cybersecurity, cyberbullying, online aggression and exploitation, and other psychological issues as a result of the change (Daniel & Yan, 2020). Qingyu et al. (2020) emphasize that changes in the medium of learning can have an influence on student performance, particularly if there is a lack of contact between students and teachers, which can create a communication barrier.

Communication Barriers

The process of transmitting and receiving messages via oral or nonverbal means is known as communication (Nordquist, 2019). Oral communication proficiency - speaking and listening - is a prerequisite for academic, personal, and professional success (Tazrin, 2000). The communication theory claimed that communication is thought to be a process of expression, interaction, and influence. Individuals interact with other individuals using comparable phrases to influence their cognition, emotions, and behaviors in this process (Craig, 1999).

Changes in the communication space and time of communication created barriers in the communication environment. Additional communication difficulties were due to shifts in understanding, expression, and levels. Communication hurdles were also caused by changes in thinking and communication media (Eisenberg, 2010). Any communication process had communication barriers. Because of the physical

distance between participants, poor technology skills, difficulty using media, the need for more human engagement, time constraints and restrictions, and a lack of expertise in distance education are particularly significant in distance education. These issues make building a distance education program difficult and developing successful communication among participants. The severity of these impediments varies from institution to institution, program to program, and delivery system to delivery system (Isman et al., 2004).

Students had to adapt to their new surroundings. Course frameworks, as well as several other obstacles in their daily life, making finishing their academic work more challenging. Participation in synchronous meetings, such as those held via web-conferencing software such as Zoom, was impeded by a lack of stable Internet, a designated workspace, or suitable equipment (Flaherty 2020; Lederman 2020b). However, communication barriers exist in distance education, such as physical distance, difficulties in changing mediums, time constraints and restrictions, distance education foreknowledge, inability to use advanced technology, and the level of interactivity in the process (Dabaj, 2011). Aside from these communication barriers in distance education, students face other issues and challenges such as "costs and motivators, instructor feedback and communication, student support and services, alienation and isolation, lack of expertise, and training." Students are more likely to feel uneasy about their learning, have challenges with self-evaluation, and their academic performance suffers as a result of a lack of support services (Galusha, 1998).

Distance learning requires teacher-student collaboration because teachers are no longer sources of knowledge, but rather facilitators of student learning (Galusha, 1998). However, distance education has communication barriers such as the physical distance, difficulty in changing medium, time constraints and limitations, foreknowledge of distance learning, inability to use advanced technology, and level of interactivity in the process (Dabaj, 2011). According to the article of Shore (2020), online courses can suffer from a lack of interpersonal relationships, which can reduce student motivation, reduce interaction, and reduce teachers' ability to customize course materials and presentations.

A study conducted by Nkingwa (2013) aimed to analyze the barriers to successful communication in distance communication at the Open University of Tanzania (OUT) - Tanga Regional Centre of East

Africa. Sixty-nine people took part in the research using questionnaires, focus group discussions, and semi-structured interviews. The study's data was gathered around three main themes: communication hurdles caused by OUT students, communication barriers caused by the OUT as an operating institution, and communication barriers generated by English as a teaching medium. The study areas were the Tanga Regional Centre and Korogwe Teachers' College (KTC), which are OUT Examination centers. The qualitative data obtained were analyzed using the meaning condensation approach. At the OUT-Tanga Regional Centre, incompetence in information communication technology (ICT) and the English language were the critical barriers to efficient communication in providing and delivering distance education.

According to the findings, most OUT students cannot communicate effectively in the English language, which is the medium of instruction. Moreover, according to the data, seventy-five percent (75%) of OUT students in Tanga Regional Centre were illiterate in English. Given this data, this is a barrier that the students must overcome, as language is a critical component of good communication. As a result, all OUT students with this deficiency are highly urged to study the English language well to become proficient in its use. In addition, the OUT administration has not provided reliable internet services at Tanga Regional Centre, and all of their study materials have not been digitized, which adds to one of the barriers faced by the OUT students. The study concluded that the learners' ability to interact effectively with study materials is dependent on their language proficiency. The majority of study resources are written in English. According to the findings, most OUT students are not literate in ICT caused of the lack of electrical current and internet services all over the country. As a result, they cannot access study materials on the internet or connect with their teachers. The study advised that the OUT administration should digitize all of its study materials. Finally, the Tanzanian government is highly encouraged to install electricity and internet services throughout the country and allocate sufficient finances to enable OUT to design and acquire necessary teaching and learning tools.

Berge (2001) also mentions that numerous barriers to the implementation of online education exist inside organizations or administrations. The study seeks to determine whether there are any unknown barriers to distance education other than technological and interface issues. The research study focuses on remote education designers or organizations and their

reflective actions in distance education. Muilenburg and Berge (2001) identify the fundamental components that form remote education hurdles in their exploratory factor analysis research. Among the 10 characteristics examined are administrative structure, organizational change, technical expertise, social interaction and quality, faculty compensation and time, technological threat, legal challenges, evaluation/effectiveness, access, and student support services. To generate these 10 categories, they conducted a poll of 2054 members with sixty-four distinct barrier questions and discovered that specific obstacles overlay one or more variables.

The distinct roles of personal and attitudinal barriers in predicting present use and future intents to use web-based technology, according to Pajo (2001), is a compelling finding in his study. Personal barriers, such as the belief that they lack the ability to use web-based delivery in distance education, are the most common reasons for current technology utilization. These personal barriers may make it difficult for individuals to translate their goals into actions.

In his research study on distance education students, Cucek (2001) asks Boise State University students questions to assess their satisfaction with their distance education classes, perceived access to support services, and differences in their "classroom" behaviors in distance education and traditional face-to-face classes. The responses mostly address the major challenges (barriers) to finishing their distance education courses. Almost 90% of the replies concern course-related, time-related, personal-related, administrative-related, or technical-related issues. Course-related hurdles include a lack of communication, course structure, and resource availability. Lack of time, personal commitments, and time-consuming education were all time-related impediments. Personal challenges were motivation and self-discipline. The technological flaws were obscured by a lack of skill.

Furthermore, according to Dulay and Manuel (2021), distance learning has significant obstacles, which were exacerbated during the pandemic. This study only demonstrates the significance of education in terms of not only absorbing information but also converting information into knowledge. As a result, instructors play the most important role in converting accessible knowledge into education. We may learn to comprehend challenges and occurrences in our life via education. The research also includes practical and validated approaches for filling gaps in teaching research based on research instructors' experience. These are blended learning, individual problem-

solving activities, and continuous interaction. As a result, this study can help instructors who are facing similar issues since they can apply the same methods as the responders. This might also allow the administration and department to develop a plan of action based on the measures provided by the respondents.

Finally, throughout the administrative phase, difficulties such as costs, course availability, buying course materials, and administrative assistance occur. Furthermore, analyzing students' satisfaction with the distance learning environment is critical for recognizing strengths, rating educational quality, and finding areas for improvement. Students' happiness was found to be related to their performance, motivation, retention, program completion rates, and outcomes, making it an important component of educational quality assurance (Sockalingam, 2013).

Methodology

This research employed a mixed-methodology approach, including qualitative and quantitative methods. According to Johnson et al. (2007), mixed methods research combines qualitative and quantitative research methodologies (e.g., qualitative and quantitative viewpoints, data collecting, analysis, and inference techniques) with the broad goals of breadth and depth of understanding and corroboration

The descriptive-comparative research design was employed within the quantitative approach to better distinguish the comparison and significant difference between the respondents' demographic profile variables, namely sex, strand, socioeconomic status, the GWA of students, the types of devices they used, their capability of accessing the internet, and their frequency of internet usage. The quantitative method organized the obtained data into statistics, numerical, graphical, and tabular forms, and it established a relationship between the assessed variables. The researchers gathered the data via self-administered questionnaires delivered to the randomly selected Saint Mary's University Senior High School Grade 12 students.

Apart from that, the study utilized a qualitative method as it acquired descriptions of the individual experiences of the respondents in this study. It was also used to obtain a better understanding of the underlying ideas, conclusions, and motivations that provide insight into the subject matter. The data came from theme responses from an open-ended question to

determine how the students managed to learn despite experiencing communication barriers in distance education.

Research Participants

Table 1. *Frequency count and percentage of the profile of the respondents*

<i>Variables</i>	<i>Groups</i>	<i>Frequency</i>	<i>Percentage</i>
Sex	Male	88	41.3
	Female	125	58.7
Total		213	100
Academic Strand	STEM	119	55.9
	ABM	31	14.6
	HUMMS	30	14.1
	TVL-ICT	10	4.7
	TVL-HE	8	3.8
	AD	15	7.0
Total		213	100
Parent's Monthly Income	12,082 - 24,164	106	49.8
	48,328 - 84,574	79	37.1
	144,984 - 241,640	22	10.3
	no answer	6	2.8
Total		213	100

General Weighted	90 below	61	37.6
Average	90 – 94	72	49.3
	95 – 97	26	12.2
	98+	1	0.5
	no answer	1	0.5
Total		213	100
Devices Used	Smartphone	38	17.8
	Desktop	8	3.8
	Tablet	4	1.9
	Laptop	20	9.4
	Smartphone & Laptop	82	38.5
	Smartphone & Tablet	1	.5
	Smartphone & Desktop	12	5.6
	Laptop & Tablet	1	.5
	Smartphone, Desktop & Laptop	27	12.7
	Smartphone, Desktop & Tablet	1	.5
	Smartphone, Laptop & Tablet	13	6.1
	Smartphone, Desktop, Laptop & Tablet	6	2.8
Total		213	100.0

Internet Access	Yes	199	93.4
	No	7	3.3
	no answer	7	3.3
Total		213	100.0
Internet Usage	Everyday	205	96.2
	Once a week	5	2.3
	Once a month	1	.5
	Others	2	.9
	Total		213

The participants of the study are Grade 12 students from all the strands of the Senior High School Department of Saint Mary's University. More than half of the respondents are from the Science, Technology, Engineering, and Mathematics (STEM) strand. In addition, the remaining respondents are from

non-STEM strands such as ABM, HUMSS, TVL-HE, TVL-ICT, and AD. Moreover, the majority of respondents are female, whereas, only a little more than a quarter of the female respondents are male.

Moreover, half of the respondents' parents earn between 12,084 and 24,164 per month. While one-third of the population of students' parents earn between 48,328 and 84,574 per month, and the rest of the population earns 144,984 to 241,640.

The rapid advancement of communication has impacted educational delivery and quality worldwide (Oliveira, Sousa, et al., 2011). Furthermore, the majority of the respondents have obtained a General Weighted Average (GWA) that ranges from 90-94. In addition to the findings in relation to their GWA, nearly all of the students have been literate in English for more than 11 years.

In addition, a vast majority of the respondents' most preferred and easily accessible devices for online classes are their laptops and smartphones. Additionally, most of the students also have access to the Internet and use it every day.

The respondents were confined to current Saint Mary's University grade 12 senior high school students; as a result, a survey sample size was obtained to engage in the study. There are 1,056 senior high school students at present, 513 of whom are in Grade 12, which was the population size for this study. A sample size will be determined and calculated to represent the whole population, as it would be difficult to survey the whole population of 513 grade 12 students. Slovin's formula would calculate the sample size required to attain a 95% confidence level; hence, with the usage of this formula, an approximated number of 225 students was supposedly the sample size of this study with 15 students in every 15 sections of all the grade 12 strands. However, the TVL-HE and TVL-ICT strand only comprises 8 and 10 students respectively, reducing the sample size to 213 grade 12 students instead of the original product 225.

Instrument of the Study

The primary data gathering instrument used in this research for collecting and acquiring data was a survey questionnaire. It was adapted and modified from a research study conducted by İşman and Dabaj in 2013 entitled "*Communication Barriers in Distance Education: Text-Based Internet-Enabled Online Courses.*" The researchers tailored the questionnaire to the study's objectives and intended respondents.

The questionnaire is divided into four parts. Part I consists of the respondents' demographic profile, which are their name (required to answer), sex (male or female), strand (STEM, ABM, HUMSS, TVL-HE, TVL-ICT, and AD), socioeconomic status, and their general weighted average for the past school year. The researchers will determine the respondents' socioeconomic status based on a personal finance article by Zoleta (2022) that defines the government's portrayal of social classes per monthly income for a family of 5: poor, low-income, lower-middle-income, middle-middle income, upper-middle income, upper-income, rich. The researchers included the salary bracket for low-income, middle-middle income, and upper-income. The researchers will ask various personal information questions for the data collected to be analyzed thoroughly according to the research's objectives.

The second part of the questionnaire contains categorical questions about the respondents on the availability of gadgets, their capability of accessing the internet, and their frequency of using the internet. These questions also serve as the additional independent variables of this research study.

Part III contains the Likert scale interpretation that encloses the quantitative questions that determine the perception of the student-respondents on their experienced communication barriers during distance education. Modifications were done in the adapted questionnaire by excluding questions that have negative statements. The section contains a 4-point Likert Scale ranging from 1 or strongly disagree to 4 or strongly agree.

Lastly, Part IV consists of one open-ended question that would be relevant in determining the way on how students managed to learn despite the communication barriers they encountered in distance education.

Data Gathering Procedure

A questionnaire was adapted from the study of Dabaj and İşman (2013) and it was modified to match the context of the study. The validation of the questionnaire was checked by the research adviser. Upon approval, the questionnaires were distributed to the respondents. Once the target number of respondents is reached, the data will be collected. The collected data will then be tabulated, analyzed, and interpreted. The results of the survey will be discussed in Chapter III. And in Chapter IV, the researchers came up with conclusions and recommendations.



Ethical Considerations

The researchers followed the subsequent ethical guidelines that were put into place for the research period:

1. The students' rights to dignity and well-being were upheld at all times.
2. The researchers obtained the students' consent to use their true identities in the research report, and the research data remained confidential throughout the study.

Results an Discussion

This section presents the gathered data from the 213 Grade 12 students of Saint Mary’s University Senior High School who served as this study’s respondents. It also shows the results of the statistical analysis of the obtained data using the Statistical Package for Social Science (SPSS) version 22 and the corresponding interpretation that has been arranged in accordance with the research problems.

The perception of the student-respondents on experiencing communication barriers in distance education

Table 2. *The perception of the student-respondents on experiencing communication barriers in distance education*

Items	N	Mean	SD
While I am writing messages, I believe that I can reflect on my expressions quickly.	213	3.05	.674
I believe that non-verbal communication is better than verbal communication.	213	2.26	.821
One-way communication is quicker rather than two-way communication in distance education.	213	2.40	8.61
To get an adequate understanding, I need to know the reactions and gestures of the sender.	213	3.00	.676
I prefer to study on distance education because of immediate communication and self-learning.	213	2.32	.901
I could understand the questions that our teachers send us frequently.	213	2.83	.689
I could get adequate feedback and sharing in distance education.	213	2.61	.843
In the assigned tasks, I find it easy to design homework because I can easily	213	2.74	.744

understand the task despite the different interpretations in distance education.			
I think that I can easily manage all obstacles in distance education.	213	2.41	.806
I have become more motivated in the distance education program than in the traditional way of learning.	213	2.28	.872
I feel that I can control all activities and learnings with my needs, expectations, and interests.	213	2.60	.793
I live a sense of responsibility and self-development through distance education.	213	2.71	.935
I could find time and opportunity to catch the courses about distance education.	213	2.79	1.088
Self-esteem and self-development are more easily created through distance education than intra-personal communication.	213	2.54	1.079
My grades have improved during distance education compared to face-to-face learning.	213	2.68	1.134
I can access the Internet to get resources with ease.	213	3.15	.772
I can quickly adapt to the technical sides of distance education.	213	2.89	.760
I can easily access all facilities on the LMS.	213	3.00	.830
Mostly, I face the technical application of the ESMLP with ease.	213	2.79	.914
OVERALL MEAN	213	2.68	.445

Table 2 shows the mean correspondence on the perception of the student-respondents on experiencing communication barriers in distance education. There were nineteen positive statements and four levels of agreement provided to the respondents.

Fourteen statements were classified as agree, while five statements were labeled as disagree in terms of the perception of the students in the communication barriers they experienced in distance education. Based on the data obtained, the statement that received the highest mean is “I can access the Internet to get resources with ease.” (x=3.15). On the other hand, five statements were on the disagree scale. The statement that received the lowest mean is “I believe that non-verbal communication is better than verbal communication.” (x=2.26) followed by “I have become more motivated in the distance education program than in the traditional way of learning.” (x=2.28), “I prefer to study on distance education because of immediate communication and self-learning.” (x=2.32), “One-way communication is quicker rather than two-way communication in distance education.” (x=2.40) and “I think that I can easily manage all obstacles in distance education.” (x=2.41). Nevertheless, the overall mean obtained was 2.68 which classifies as agree in the perception of the student-respondents.



The result of the qualitative description of the means obtained implies that the respondents slightly experienced communication barriers during distance education. However, there were five statements on the disagree scale, implying that the respondents moderately experienced communication barriers in terms of communicating non-verbally, being motivated in distance education than the traditional way of learning, in immediate communication and learning, in one-way communication, and in managing obstacles in distance education easily.

A study by Bitti & Garotti (2011) supports the implication that communication barriers are experienced in non-verbal communication. As it is impossible to fully utilize the potential of audio and visual channels in textual interactions on the internet, its users have developed ways to make communication more functional and successful. These strategies have resulted in an "abbreviated" language riddled with acronyms and changes, capital characters, and punctuation marks that are frequently overused. The goal of these methods is to make communication over the internet faster, more immediate, natural, spontaneous, and expressive, despite it being structurally incapable of communicating meta-communicative signals (which go beyond the literal meaning of the words owing to their textual (written) character. Emoticons are the most often used linguistic and visual approach to compensate for a lack of nonverbal communication on chat lines. However, even if emoticons are effective in informal communication, it is not as effective in collaborative purposes such as work or education. This is why another sort of technology, videoconference over the internet, was developed to permit direct engagement and dialogue between interlocutors who are not physically in the same area. Two interlocutors at two different locations may see and hear each other in real time through the internet using a computer keyboard, a video camera, and a microphone. However, the failure of this form of long-distance communication technology and strategy may be ascribed to a variety of issues, some of which are technical and psychological in nature.

Furthermore, Meşe and Sevilen (2021) concur that communication barriers are frequently motivated-driven since they believe motivation is one of the important variables influencing learners' success and performance in the language learning process. According to their findings, students feel online education has a negative influence on their motivation owing to a lack of social connection and communication, a mismatch between expectations and

information, organizational issues, and learning environment organization.

Based on the results, lack of immediate communication also results in moderately experiencing communication barriers. The study by Almanar (2020) supports this claim, wherein most student-respondents prefer face-to-face learning due to the difficulty of communicating with teachers online. In addition, the students' gadgets were not compatible with applications used during distance education, which led to direct communication in face-to-face meetings more effective than virtual communication.

One-way communication with instructors causes a high level of communication barriers as distance education or not, education is still dependent on two-way communication (Berge, 1999). Though there are many differences between traditional learning and distance education, there are still some similarities. The quality of education still depends on the interaction and participation of the students and the engaging space that the teacher will provide for them (Kruh & Morphy, 1990).

Difficulty in managing obstacles during distance education causes a high level of communication barriers. This is reinforced by the study of Abramenska (2015), in which students considered communicating with the instructor and collaborating with peers as the biggest challenge they faced in online classes. In addition, students who take online classes feel isolated in online classes, get confused during online sessions, and do not believe that queries can be answered during an online session.

The differences in the perception of the student-respondents on experiencing communication barriers in distance education according to their profile variables

Table 3. Differences in perception according to sex

Items	Sex	N	Mean	SD	Qualitative Description	df	t	p-value
Level of agreement	Male	88	2.7596	.43039	Agree	211	2.03	0.43
	Female	125	2.6345	.45034	Agree			

Table 3 shows the differences in perception of the student-respondents on experiencing communication barriers when grouped according to sex. Based on the result, there is a significant difference in the communication barriers experienced between male and female students. $t(211) = 2.03, p = 0.043$. This implies that even if both male and female students agree,



implying a low-level of communication barriers experienced between the two profiles, the female (M=2.6345, SD=0.4534) students slightly experienced a higher level of communication barriers than the male (x=2.7596, SD=0.4349) students during distance education. This may be caused by a lack of technical skills during distance education among the women as compared to men.

Yates (2001) and Price (2006)'s research supports this conclusion, as concerns about fairness in digital learning have been raised, since females appear to have unique hurdles and issues in their interactions with computers and information and communication technology in general. Males may have an advantage over females in the online classroom owing to their perceived proficiency, familiarity, and engagement with computers (Ashong and Commander, 2012).

Table 4. Differences in perception according to Strand

Items	Strand	N	Mean	SD	df	F	p-value
Level of agreement	STEM	120	2.6873	.43419	212	1.323	.256
	ABM	30	2.6044	.39382			
	HUMSS	30	2.6193	.42647			
	TVL-ICT	10	2.8737	.54935			
	TVL-HE	8	2.9605	.48123			
	AD	15	2.7088	.58299			
Total	476	2.6862	.44548				

Table 4 reveals the differences in perception of the student-respondents on experiencing communication barriers when grouped according to strand. TheANOVA table revealed that there is no significant difference in the perception of the student-respondents on experiencing communication barriers between the strands (p=.256). This denotes that the communication barriers experienced by those from the STEM strand and those from ABM, HUMSS, TCL-ICT, TCL-HE, and AD strands do not differ.

STEM students performed significantly better than students from other strands; yet, STEM students did not assess their courses as favorably as students from other strands. The conclusion was that prioritizing blended learning course redesign in STEM subjects in higher education may be useful, while further study is needed to corroborate the findings and to examine why student perceptions were relatively poor for STEM students (Owston, York, Malhotra, & Sitthiworachart, 2020).

Table 5. Differences in perception according to Socio-economic status

Items	Socio-economic Status	N	Mean	SD	df	F	p-value
Level of agreement	P12,082 - 24,164	106	2.7304	.41153	212	.865	.460
	P48,328 - 84,574	79	2.6276	.50684			
	P144,984 - 241,640	22	2.7033	.41012			
	No answer	6	2.6140	.20156			
Total	213	2.6862	.44548				

Table 5 displays the differences in perception of the student-respondents on experiencing communication barriers when grouped according to their socio-economic status. The result revealed that there is no significant difference in perception of the student-respondents on experiencing communication barriers in terms of socio-economic status (p=.460). This indicates that regardless of the student respondents' socio-economic status, their perception of the communication barriers they experience do not differ.

In a study conducted by Añover, Ng, & Pellicia (n.d.) among three hundred and ninety-nine (399) students in California State University San Marcos, It suggests that people from low-income families are prone to find it challenging to access resources online. Another study conducted by Andrew et al., (2020) in England found that children from poorer households spend less time learning at home during the lockdown due to a limitation of study places and online resources. As a result, both studies disagree with the study's findings, which linked socioeconomic status to accessibility. The study found that the lower a household's social standing, the more probable it is that its access to education will be restricted, which will impede effective communication.

Table 6. Differences in perception according to GWA

Items	GWA	N	Mean	SD	df	F	p-value
Level of agreement	90 below	80	2.6467	.42323	212	2.828	.026
	90 - 94	105	2.6792	.44447			
	95 - 97	26	2.7915	.45628			
	98 +	1	4.0000				
	No answer	1	2.5263				
Total	213	2.6862	.44548				

Table 6 shows the differences in perception of the student-respondents on experiencing communication barriers when grouped according to their GWA. As seen in the table, there was a significant difference reported in the experienced communication barriers by the student respondents when grouped according to



their General Weighted Average (M=2.6467, SD=0.42323) 90-94 (M=2.6792, SD=0.44447), 95-97 (M=2.7975), and 98 and above (M=4.0000) respectively. This implies that the higher the GWA of a student respondent is, the more likely their perception on experiencing communication barriers is higher, indicating that they slightly experienced communication barriers.

A study by Rabiah (2012) agrees with the findings, as it was concluded that a person's language reflects their level of education. A person's speech wisdom increases with their level of education. Effective interaction is frequently carried out by persons who have received a good education, as evidenced by the influence of their living environment as well as their educational or professional environment.

Table 7. Differences in perception according to types of devices used

Items	Device	N	Mean	SD	df	F	P-value
Level of agreement	Smartphone	38	2.6524	.41614	212	.612	.818
	Desktop	8	2.5855	.40126			
	Tablet	4	2.6316	.55866			
	Laptop	20	2.7974	.62933			
	Smartphone & Laptop	82	2.6515	.40140			
	Smartphone & Tablet	1	2.5263				
	Smartphone & Desktop	12	2.7018	.46066			
	Laptop & Tablet	1	2.4211				
	Smartphone, Desktop, & Laptop	27	2.7661	.51430			
	Smartphone, Desktop, & Tablet	1	2.4211				
	Smartphone, Laptop, & Tablet	13	2.8583	.25093			
	Smartphone, Desktop, Laptop, & Tablet	6	2.5263	.58229			
	Total	213	2.6862	.44548			

Table 7 reveals the differences in the perception of the student-respondents according to their types of devices used. The table shows that there was no significant difference in communication barriers experienced in terms of the student respondents' devices used, as shown by the results in the test of homogeneity of variances which revealed that $p=0.386 > 0.05$. There were no significant differences between groups as reported by the ANOVA table with a significance value of $p=0.1519 > 0.05$. These results suggest that regardless of the devices they used during distance education, the student respondents encounter

communication barriers equally.

Tsikalas et al. (2007) refuse to agree that there are no differences in perception according to the type of device students used. They argued that there is some evidence that these gadgets are also a cause of distraction, and that the outcomes vary depending on the family type. For example, the greater the family's income and cultural level, the more supporting learning is acquired from these technologies. According to Kahyaoglu Sut et al. (2016), excessive usage of mobile devices may be a type of enjoyment, and spending time on social networks can create issues in students' mental health, resulting in diminished social ties and social isolation. Dependence on mobile devices can lead to addiction, and the distance between these gadgets can generate social anxiety among students.

Table 8. Differences in perception according to capability of accessing the internet

Items	Accessibility	N	Mean	SD	df	t	P-value
Level of agreement	Yes	199	2.6916	.44499	204	.778	.437
	No	7	2.5480	.38659			

Table 8 presents the differences in perception of the student-respondents on experiencing communication barriers when grouped according to their capability of accessing the internet. The significance level (.852) is greater than 0.05 which is why equal variances are assumed. Based on the result, there is no significant difference in the communication barriers experienced by the students who are capable (M = 2.6916, SD = 0.44499) and not capable (M = 2.5480, SD = 0.38659) of accessing the internet. This implies that with internet accessibility or without, there are no differences in their perception of experiencing communication barriers.

A research done by Asio et al. (2021) disagrees with the findings, revealing that disparities in internet connectivity constitute a significant difficulty for students' online learning. Based on the findings of Siddiquah and Salim (2017) and Bisht et al. (2020), issues receiving internet signals may become a hindrance to students' learning. According to the findings of Wickramanayake and Muhammad Jika (2018)'s study, unreliable internet connections are one hurdle for students learning online. In 2018, the study of Yeboowah reveals that students' internet access have a favorable impact on their academic performance. However, various internet usage among



students had little effect on their academic performance. The study concludes that while various internet sources are available to students, not all of them have immediate access to them.

Table 9. *Difference in perception according to frequency of internet usage.*

Items	Frequency	N	Mean	SD	df	F	P-value
Level of Agreement	Everyday	205	2.6888	.44918	212	1.033	.379
	Once a week	5	2.4105	.27196			
	Once a month	1	2.9474	.48943			
	Others	2	2.9737	.03722			
	Total	213	2.6862	.44548			

Table 9 displays the differences in perception of the student-respondents on experiencing communication barriers when grouped according to their frequency of using the internet. The significance level (.192) was greater than 0.05, thus, the ANOVA table was reported, revealing a significance value of 0.379. From this, we can assume that there are no significant differences in communication barriers experienced by the student respondents when grouped according to the frequency of their Internet usage. The results imply that the students' frequency of using the internet did not affect their perception of slightly experiencing communication barriers during distance education.

According to Li et al. (2022), those who are unduly reliant on the Internet form fewer offline social networks than those who use it seldom; hence, their findings contradict the current study's findings. This might be because Internet use diminishes people's social and interpersonal abilities, resulting in fewer communications and encounters. It was also shown that social skills are often lower among teenagers with a greater frequency of Internet addiction. Interpersonal communication is hampered by a lack of social skills and social anxiety. As a result, Internet use may impair interpersonal relationships by impairing people's social abilities.

Qualitative Analysis

Table 10. *Thematic analysis on how the students managed to learn despite the communication barriers experienced in distance education.*

Statements	Frequency	Percentage
Self-study	38	17.8
Determination	35	16.4
Seeking Help	32	15.0
No Barriers Experienced	29	13.6
Time Management	25	11.7
Surfing Other Sources	22	10.3
Motivation	16	7.5
Organization	8	3.8
Resiliency	6	2.8
Expensive Tuition Fee	2	0.9
Total	213	100

Table 10 presents the results of the thematic analysis of the answers of the Grade 12 students regarding how they managed to learn despite the communication barriers they experienced in distance education. Specifically, the majority of the respondents answered Self-Study as their most preferred way on how they managed to learn despite the communication barriers they experienced. Some statements answered by the respondents were “*I manage to learn despite the communication barriers I encountered in distance education by self studying and focusing more on my goals*”, “*I have access to the internet so I can open the facilities in lms. I learned through perseverance when faced with difficulties in distance learning.*”, “*Through analyzing the instructions well, that were given by the subject teachers*”.

Not much behind the number of the majority of respondents of the aforementioned answer also preferred Determination as evident in the statements: “*I simply worked hard enough and through the use of the internet, communication was more accessible*”, “*I managed to learn despite the communication barriers I encountered in distance education by learning it all with patience.*”, “*I managed to push through regardless of communication barriers because of my ambition.*”

Seeking Help was also one of the top answers as to how the respondents managed to learn despite the communication barriers they experienced in distance education which were proven by some of the respondents' statements: “*I managed to learn despite*

the communication barriers on my academics by studying and asking my siblings to help me.”, “I manage to learn despite the communication barriers that I encountered in distance education by always being ready and having a second option. If ever I don't understand the lesson or instructions I always remind myself to ask my classmates or teachers for clarifications.”, “I tried to ask some of my friends for help whenever I experience communication barriers in distance education.”

A quarter of respondents answered Time Management, and less than a quarter answered Surfing Other Sources as their ways of learning despite the communication barriers they experienced. More than a quarter of respondents also answered that they experienced no communication barriers during the distance education. Such answers were followed by Motivation and Organization as their ways of learning. Lastly, a very low number of respondents answered Resiliency and the Expensive tuition fee as their ways of managing to learn despite the communication barriers they have experienced during distance education.

A study by Sara (2022) yields the same results as it reveals that most of the students learn despite the challenges through self-studying. Self-study is a method for keeping students engaged in what they are learning in class. Independent learners favor this style of learning because it allows them to take control of their education. They choose what material is required, locate resources to complement their learning, and complete tests at their own pace. Blending self-study with normal classroom learning methodologies helps students acquire and retain material, which improves understanding, academic achievement, and motivation.

Due to tuition costs, students now have higher expectations for their educational experience and are more likely to view themselves as consumers (Gibbs, 2004; Rolfe, 2001). The expensive tuition fee serves as their motivation to make their loss worth it and acceptable. What we learn, how we learn, and when we choose to learn may all be influenced by motivation (Schunk and Usher, 2012). According to Ryan and Deci (2000), motivated learners are more likely to engage in demanding activities, be actively engaged, appreciate and take a deep approach to learning, and demonstrate improved performance, persistence, and inventiveness.

Conclusion

Based on the results of the study, the overall perception of the Grade 12 students of Saint Mary's University Senior High School on experiencing communication barriers during distance learning was at low level. The results revealed that the student-respondents slightly experienced communication barriers in terms of their sex, academic strand, socio-economic status, general weighted average, types of devices used, internet accessibility, frequency of internet usage and period of studying English. While there was no significant difference in the experienced communication barriers in terms of academic strand, socio-economic status, types of devices used, internet accessibility, and frequency of internet usage, there was a significant difference in the perception of students in terms of the general weighted average particularly between the students whose GWA is 98 and above. This implies that student-respondents who had an average of 98 and above did not experience communication barriers while those who had an average of 90-94 and 95-97 slightly experienced communication barriers.

Moreover, the thematic analysis showed that self-studying was the most preferred way on how the students managed to learn despite the communication barriers they experienced in distance education, which were significant factors affecting students' satisfaction towards distance education according to Turan, Kucok & Karabey (2022). The students' other strategy in learning despite the communication barriers was to keep their determination and to seek help.

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