STUDENTS' PERCEPTIONS ON THE ADOPTION OF ONLINE COMMUNICATION CHANNELS WITHIN A SOUTH AFRICAN HIGHER LEARNING INSTITUTION

by

MARY MMULE MARAKALALA

(Student number: 42981964)

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DECLARATION

Name: Mary Mmule Marakalala

Student number: 42981964

Degree: Master of Arts (Communication Science).

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I further declare that I submitted the dissertation to originality checking software and that it falls within the accepted requirements for originality.

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ABSTRACT

This study sought to establish students' perceptions regarding the adoption of online communication channels for virtual learning at the University of Johannesburg. The study also explored the efficacy of online communication channels used for teaching and learning, as virtual learning was thrust upon the education sector owing to the Covid-19 pandemic. Online learning still encounters challenges within the South African context. The study used a quantitative method. The target population was 80 students at the University of Johannesburg in the School of Communication. The participants were selected through simple random sampling. Data was gathered using a web-based questionnaire and analysed with descriptive statistics using SPSS and MS Excel. The results show that online communication channels were improving teaching and learning. In addition, the study found that loadshedding was not affecting virtual learning. The study concludes that virtual learning is an effective method for delivering teaching and learning.

KEY TERMS: Adoption of online communication channels; Covid-19 pandemic; Online communication effectiveness; South African students' perceptions; Online communication channels; Online learning; Higher education; Tertiary institutions; University of Johannesburg students' experiences; Third-year university students; Students views.

DEDICATION

I dedicate my dissertation work to my beloved family, whose unwavering support and encouragement made this accomplishment possible. A special gratitude to my loving mom, Dorothy Tselanyane, whose words of encouragement pushed me to work harder. I also dedicate this study to my spouse and partner, whose patience sustained me during the long hours of writing and researching, and to my daughter Lerato, whose contribution with a stable internet connection during power cuts made my research easy. This dissertation is also in loving memory of my grandmother Tabea, whose love, wisdom, and perseverance inspire me to pursue my academic dreams.

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LIST OF ABBREVIATIONS

COVID-19	Coronavirus Pandemic
ICT	Information and Communication Technology
IRC	Internet Relay Chat
MS Excel	Micro Soft Excel
SAPS	South African Police Service
SANDF	South African National Defence Force
SARS	Severe Acute Respiratory Syndrome
SPSS	Statistical Package of Social Sciences
UJ	University of Johannesburg
UK	United Kingdom
UNDP	United Nations Development Programme

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CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION TO THE STUDY

In the dynamic landscape of higher education, the shift to virtual learning, catalysed by the COVID-19 pandemic, has brought numerous challenges and opportunities. This study focuses on the examination of the students' experiences and perceptions concerning the adoption of the online communication channels used in virtual learning within South African universities, with a specific focus on the School of Communications Department at the University of Johannesburg (UJ). The University of Johannesburg, like many institutions across the country, encountered substantial obstacles during the abrupt transition to virtual learning (Krull & De Klerk, 2021). Challenges reported at UJ included the need for alternative online platforms for student engagement, innovative online assessment strategies, and students' struggles with device accessibility and connectivity issues (UJ, 2020).

Online learning calls for different aptitudes and skills from traditional learning, including new communication styles and better-honed time management techniques (Sellnow & Kaufmann, 2017). Sellnow and Kaufmann (2017) further stressed that students differ in both the expectations and the levels of preparedness they bring to the online classroom. To stop the coronavirus pandemic (COVID-19) from spreading, lockdown procedures were put in place in the higher institutions of learning across the globe. During COVID-19 pandemic, several Universities in South Africa had to make the switch from face-to-face lectures to online learning. As a result of this choice, digital tools are now required to drive online learning.

Within the higher education institutions, various online learning tools have been employed, ranging from online lessons and dashboards to virtual invigilators (Alawamleh, Al-Twait & Al-Saht, 2020). In this transformed learning environment, the dynamics of message transmission

and access have undergone significant changes, creating a continuous communication paradigm (Almahasees, Mohsen & Amin, 2021). However, the sudden transition caught many lecturers and students unprepared, leading to documented instances of communication breakdowns and performance decline in the early stages of online learning (Gumede & Badriparsad, 2021).

Communication, a cornerstone of the learning process, takes on distinct forms in face-to-face and online learning settings. Although traditional classrooms benefit from shared physical spaces that foster peer and lecturer engagement, online learning relies heavily on technological tools such as email, social media, and web conferencing for interaction beyond the virtual classroom (Frisby *et al*. 2016).

On the other hand, educators who exclusively teach online employ various technologies such as email, message boards, and chat tools to foster contact and participation (Gutierrez-Santiuste *et al*. 2016). The choice between synchronous and asynchronous classes introduces time and space as critical variables that influence the communication strategies and tools students, and educators employ (Gutierrez-Santiuste *et al*. 2016).

The confluence of a changing learning environment and the global pandemic has accelerated the demand and use of online learning at basic and advanced levels (Ali, 2020). According to Hedding *et al.* (2020), significant global events frequently serve as an inflection point for rapid innovation by necessitating adaptive responses to emerging challenges, as evidenced by the rise of e-commerce following the SARS disease epidemic. It is still unclear whether this will apply to online education after Covid-19, but it is one of the few industries where investment has not diminished (Ali, 2020). This Covid-19 pandemic has demonstrated the value of knowledge sharing by prompting collaborative efforts across industries, organisations, and society to address challenges and collectively develop solutions. Therefore, teaching academics

must thoroughly investigate the possibilities of online learning technology, and whether it can be used in this situation (Ali, 2020).

Popescu, Buluc, and Crăciun (2014) assert that online learning is a very effective method for delivering instruction and learning virtually, with the ability to provide students with more benefits for enhancing their learning than traditional classroom instruction. The use of hypertext and hypermedia mechanisms, including synchronous communication methods such as Internet Relay Chat and asynchronous communication methods including e-mails as well as online discussion forums, is essential for online learning to be successful (Popescu *et al.* 2014). Individuals can participate in open, autonomous learning sessions using this method at their own pace without following a timetable or attending specific programmes.

1.2 BACKGROUND TO THE STUDY

Since the first confirmed cases of the virus in Wuhan, China, in early 2020, the Covid-19 pandemic has everywhere devastated economies, lives, value networks, and what has been referred to as "normal life" (Fortunato, 2020). A complete nationwide lockdown was declared by President Ramaphosa as an additional measure to avert the virus's spread in South Africa on March 23, 2020. The lockdown officially commenced at midnight on March 26, 2020. This then means that strict restrictions and measures were put in place, including limitations on movement, closure of businesses, and other stringent regulations, to curb the transmission of the virus within the country (United Nations Development Programme (UNDP), 2020). With the enforcement of lockdown measures by the South African law enforcement agencies, which mainly included the South African Police Service (SAPS) and South African National Defense Force (SANDF), all economic activities grounded to a halt (inclusive of all land, sea, and air border closures), except for services that were classified as ‘essential’.

The lockdown rules had a direct impact on the higher education sector, along with several other economic sectors. As a result, more classes, exams, and other learning activities had to be conducted virtually. The changing learning environment and the Covid-19 pandemic accelerated the demand and use of virtual learning both at basic and advanced levels (Ali, 2020).

Empirical studies such as Cranfield *et al.* (2021), Gumede, and Badriparsad (2021), and Nyawo (2021) found impacts that the pandemic has had on learning, the effects of virtual learning on academic performance, as well as on communication effectiveness between students and educators. However, despite the large number of recent studies of online learning since the pandemic that have been conducted on the experiences (Gumede & Badriparsad, 2021), perceptions (Cranfield *et al.* 2021), performance (Nyawo, 2021), and challenges (Chisadza *et al.* 2021), there remains a gap in the exploration of the impact of online classes on communication effectiveness in South African higher institutions of learning. Therefore, this study aims to address this gap by specifically examining how students' perceptions, experiences, and performance are influenced by the online learning environment, shedding light on the communication channels used for virtual learning within the context of South African higher education.

Studies on the experiences, performance, and challenges of online learning provide a proper context to the problem at hand, though - since their investigations are often somewhat to the communication difficulties of virtual learning. These studies, while not exclusively centered on communication, often explore aspects related to challenges in effective communication within the virtual learning environment. Most studies that focused more on communication breakdown due to online learning were conducted in countries such as New York, Turkey, and Eastern Mediterranean before the pandemic, exploring how learning online could lead to a

breakdown in communication (Berge, 2013; Dabaj & Isman, 2004; Dabaj & Yetkin, 2011; Muilenburga & Berge, 2005). These studies have not focussed on how a sudden involuntary shift to virtual learning forced by the pandemic could affect communication breakdown among students and educators who were used to interacting in person. Instead, they focus on online communication in distance learning institutions where both educators and students are already prepared to teach and learn online from the beginning.

However, the South African situation shows that during COVID-19 universities were, and appear to be still, underprepared for virtual learning. During the early days of the lockdown and switch to online learning, there was widespread confusion on how lessons could be conducted; lecturers were under-prepared to effectively deliver material, while most students had no data to connect, had no stable internet coverage, or had no laptops to use (Mpungose, 2020; Krull & De Klerk, 2021).

The few studies that focused on communication breakdown during online learning post-Covid19 were conducted outside of South Africa. Alawamleh *et al.* (2020), for instance, found that most students complained of communication breakdown during virtual learning in the wake of the pandemic, and others reported feelings of isolation and difficulty in concentrating. On the other hand, Zarzycka, Krasodomska, Mazurczak-Mąka, and Turek-Radwan (2021) found that increased use of Facebook and other social media platforms during virtual learning improved communication and collaboration among students during distance learning courses. Meanwhile, Ali (2020) recognises that while virtual learning has provided challenges for students and educators alike, the current trend in education shows that there is no going back on virtual learning. As a result, Ali (2020) posits that for better success in virtual learning, resources, the readiness of staff, confidence, student accessibility, and student motivation must be enhanced. In virtual learning circumstances, the focus must be on improving communication

effectiveness by reducing factors that worsen communication breakdown (Khateeb, Shdaifat & Shdaifa, 2021). Considering the existing studies highlighting communication breakdowns during online learning post-Covid19, particularly outside of South Africa, this study aims to address the specific challenges faced by South African higher institutions of learning in the virtual learning landscape.

1.3 MOTIVATION FOR THE STUDY

This study is motivated by the disruptions that emanate from the Covid-19 pandemic that saw several organisations across the globe, including tertiary institutions, forced to adopt online technologies to ensure academic continuity. Tertiary institutions were forced to adopt digital tools to enhance teaching and learning. Online communication tools had to be adopted to continue and improve teaching and learning. Therefore, this study sought to examine students' experiences and perceptions following the adoption of online communication channels to enhance teaching and learning (Gutierrez-Santiuste *et al*. 2016). (Gutierrez-Santiuste *et al*. 2016).

In addition, this study is driven by the recognition that the abrupt transition to online modalities brought forth unique challenges and opportunities in the landscape of teaching and learning. With the overarching goal of understanding the implications of these changes, the research examines the experiences and perceptions of students following the adoption of online communication channels. By scrutinising how these digital tools have been incorporated to facilitate and augment the teaching and learning experience, the study aims to provide insights into the landscape of higher education institutions in the face of unprecedented global disruptions.

1.4 RESEARCH PROBLEM

This study seeks to ascertain and establish students' perceptions and experiences regarding adopting the various online communication channels for their virtual learning in South African universities, focusing on the University of Johannesburg (UJ). The study also explores the efficacy of online communication channels used for learning in South African universities, since virtual learning was not planned but thrust upon the education sectors owing to the pandemic. As a result, online learning still encounters challenges within the South African context, such as resources, infrastructure, connectivity, and power outages. Expanding and determining an understanding of students' perceptions and experiences with online learning and their readiness to engage with peers and instructors can provide valuable information to course developers and educators as they create opportunities for students and as they manage interactions with and among students. This is especially important in addressing how online courses can provide learning experiences comparable to face-to-face learning experiences that students have always been accustomed to.

The Covid-19 outbreak caused extraordinary problems in South African higher education, exposing a serious issue of under preparedness for a rapid switch to virtual learning. As higher learning institutions faced with the nationwide lockdown and subsequent shift to online learning, lecturers found themselves unprepared to deal with the complexities of online teaching, and students encountered substantial impediments such as limited access to crucial resources and technological tools. During the early phases of the Covid-19 pandemic, the sudden shift to online learning resulted in widespread communication breakdowns. Despite several studies investigating online learning outside Africa to address communication breakdowns in online learning, there is still a gap in understanding students' perceptions of the

adoption of online communication channels within South African higher learning (Gutierrez-Santiuste *et al*. 2016).

1.5 AIM OF THE STUDY

The study sought to establish students' experiences and perceptions of adapting to the online communication channels used in virtual learning within a South African higher learning institution.

1.6 THE OBJECTIVES OF THE STUDY

To realise the abovementioned aim, the study addressed the following objectives:

- To examine students' experiences regarding the adoption of online communication channels used in virtual learning.
- To determine students' perceptions of the sudden adaptation to the online communication channels used in virtual learning.
- To examine the efficacy of online communication channels used in virtual learning and their impact on students' academic performances.
- To identify possible shortcomings associated with online learning and the communication platforms adopted.

1.7 RESEARCH QUESTIONS

The research questions of this study are as follows:

- What are students' experiences regarding the adoption of online communication channels used in virtual learning?

- What are students' perceptions of the sudden adaptation to the online communication channels used in virtual learning?
- What is the efficacy of online communication channels used in virtual learning and their impact on students' academic performances?
- What are the shortcomings associated with online learning and the communication platforms adopted?

1.8 SIGNIFICANCE OF THE STUDY

The study sought to establish students' experiences and perceptions following the adoption of online communication channels used in virtual learning by the university, and this was in the wake of the Covid-19 pandemic. Therefore, this study will be of value to tertiary institutions as they continue to adopt technology to enhance teaching and learning. In addition, this study will benefit policy makers and experts who are tasked with crafting policies about the role of virtual platforms for enhancing communication and improving teaching and learning in higher education.

Therefore, this study can inform policymakers and experts by providing empirical insights into students' experiences and perceptions following the adoption of online communication channels in higher education. Understanding the challenges and opportunities faced by students in virtual learning environments is essential for crafting policies that address specific needs and enhance the overall quality of education. Additionally, the study offers practical considerations for optimising virtual platforms to improve communication and teaching methods, supporting policymakers in formulating informed and effective strategies for the evolving landscape of higher education.

1.9 DEFINITION OF TERMS

Perceptions: This is the capacity to perceive things through one's senses, such as sight, sound, or awareness (Mather, 2006). Therefore, perception pertains to how things are viewed, comprehended, or interpreted (Mather, 2006).

Adaptation: According to Hutcheon (2006) adaptation refers to the action or process of adapting or being adapted. In this study, adaptation means the adoption of online communication platforms to enhance teaching and learning.

Online communication channel: This refers to a software solution that facilitates external and internal messaging (Karis, Wildman, & Mané, 2016). Online communication channel uses several channels such as mobile phones, video conferencing, and team messaging (Karis, Wildman, & Mané, 2016).

Virtual learning: Virtual learning is a setting wherein students learn using a digital-based curriculum delivered online by lecturers using video or audio (Aldhafeeri & Alotaibi, 2023). Both an asynchronous (self-paced) and synchronous (real-time) setting are possible for this type of instruction (Aldhafeeri & Alotaibi, 2023).

1.10 RESEARCH OUTLINE

Chapter 1: Chapter one preamble the research phenomenon under study. Introduction and background to the study are provided, thus setting the scene for the study. Problem statement, research questions (RQs), research objectives (ROs), the motivation of the study, definition of terms and the significance of the study are presented in this chapter.

Chapter 2: This chapter discusses a variety of studies on the use of online communication tools to support teaching and learning. The literature on online communication tools to support

teaching and learning is presented in chapter two. This was done through contextualisation of the study within the discipline of online communication tools to support teaching and learning. It is from this context that the theoretical position of the study was provided.

Chapter 3: Chapter three of the study covered the research methodology used to carry out the study.

Chapter 4: Chapter four presents the research results and analysis. The discussion of the results takes place through integration of literature findings.

Chapter 5: Chapter five provides concluding remarks for the study. Drawing from the study's limitations, the recommendations for future research are provided in this chapter through methodology, theory, and practical perspectives.

1.11 SUMMARY

This chapter provided an overview of the study by outlining its context, research topic, objectives, and key research questions. The value of virtual communication channels in increasing teaching and learning, taken from several previous studies, is reviewed in the next chapter. Additionally, the theoretical framework that was chosen to direct the investigation is discussed in the following chapter.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

The previous chapter has laid the groundwork for this research by providing a comprehensive overview of the study, encompassing the introduction of the problem statement, the description of research objectives, and the formulation of research questions. Chapter two review several studies on how virtual learning has affected students' perspectives and experiences with using online communication channels. As chapter two has now been introduced, the remainder of the chapter is structured as follows: Section 2.2 discussed the digital divide to deal with social and digital inequalities. Section 2.3 presents a discussion on online communication channels. Section 2.4 provides a discussion behind the rationale for virtual learning. Section 2.5 provides the discussion of the communication models for virtual learning. Section 2.6 explore the impact of virtual learning on students' academic performance. Section 2.7 provides a detailed analysis of communication and interaction in the online environment. Section 2.8 discusses the student preparedness for online communication and interaction. Section 2.9 discusses the communication barriers in virtual learning environments. Section 2.10 identified and discussed the theoretical framework employed in this study. Finally, Section 2.11 provides a chapter summary.

2.2 DIGITAL DIVIDE TO DEAL WITH SOCIAL AND DIGITAL INEQUALITIES IN SOUTH AFRICA

Online learning has been extensively studied, particularly in online learning contexts (Du Preez & Le Grange, 2020). Beyond these contexts, attention has also been directed towards blended learning and the supplementary use of online learning management platforms (Du Preez & Le Grange, 2020). Therefore, the COVID-19 pandemic catalysed an unexpected shift to online learning for lecturers familiar with campus contact teaching, highlighting the urgency and

importance of understanding the dynamics of online learning, the digital divide, and remote education (Hodges, Moore, Lockee, Trust & Bond, 2020).

According to Asmelash (2019), the concept of the 'digital divide' denotes disparities in access to and usage of information and communication technology among diverse socioeconomic, demographic, and geopolitical groups. Steele (2019) underlines the presence of digital divide between urban and rural communities, socioeconomic groups, less economically developed and more economically developed countries, as well as between educated and uneducated populations. Steele's study (2019) focused on the digital divide in the general context, ignoring the virtual learning context. Therefore, this study is unique because it contributes to the body of knowledge through its element of virtual learning. The digital divide manifests itself in various forms, including the gender divide, social divide, universal access divide, age-related divide, and race-related divide (Steele, 2019).

In higher education, the digital divide is aggravated by factors such as limited internet access, lack of data devices, insufficient technological know-how, and variations in teaching styles and levels of engagement (Steele, 2019). Steele (2019) excluded on-line communication channels in their factors; therefore, this study seeks to close that gap by looking at on-line communication channels as the other factor of virtual learning in higher institution of learning.

2.3 ONLINE COMMUNICATION CHANNELS IN SOUTH AFRICAN UNIVERSITIES

Embarking on an exploration of online communication channels, it is imperative to recognise communication channel’s pivotal role in shaping modern interactions. In the context of South African universities, the exploration of online communication channels is of greater importance as these institutions navigate the complexities of digital connectivity. Online communication channels serve as means of communication within the broader framework of virtual learning

and teaching (Karis, Wildman & Mané, 2016). Virtual learning relies on online communication channels. According to Aldhafeeri & Alotaibi, 2023 virtual learning encompasses a more comprehensive strategy that includes curriculum design, assessment methods, and the overall educational experience in a digital environment.

Scholars such as Paige, Krieger, Stellefson (2017), Tosatto, Cox, Nguyen (2022), Bowden, Mirzaei (2021) and Höhne (2023) provide a framework to understand the pivotal role of online communication channels. The scholars reviewed in the exploration of online communication channels, such as Paige, Krieger, Stellefson (2017), Tosatto, Cox, Nguyen (2022), Bowden, Mirzaei (2021), and Höhne (2023), have contributed significantly to the understanding of these channels in various contexts. However, it is essential to note that their studies primarily focus on online communication channels more broadly and may not specifically address South African higher education institutions. Therefore, this study is needed to provide a comprehensive understanding of the challenges, dynamics, and effectiveness of online communication channels within the context of South African universities and higher education.

According to Kessler, Loewen, Trego, (2021) and Liu, Yang, (2016), the distinction between synchronous and asynchronous internet communication during the COVID-19 pandemic became relevant, where the use of synchronous methods such as video conferencing, Microsoft Teams, and chat significantly impacted the efficacy communication. Kessler, Loewen, and Trego (2021), as well as Liu and Yang (2016), specifically examined the effectiveness of online communication, with their studies conducted outside of Africa. In contrast, this study is unique as it centers its investigation on online communication within the context of virtual learning, specifically within South African higher education institutions.

Furthermore, the transformative potential of the Internet as a hub for information dissemination and global connectivity became crucial in the context of South African higher education, where

virtual learning became integral to overcoming the challenges of Covid-19. Moreover, email, known for its professional nature, is of relevance for academic communication within South African universities. According to Negro *et al*. (2020), Nardo (2020), Atwater *et al*. (2017), and Auxier and Anderson (2021), the surge in popularity of video conferencing during the Covid-19 pandemic further highlights the importance of communication channels in maintaining virtual learning during times of restricted physical interactions. This study shares similarities with studies conducted such as those of Negro *et al*. (2020), Nardo (2020), Atwater *et al*. (2017), and Auxier and Anderson (2021) in that all of them incorporate aspects of virtual learning. However, this study distinguishes itself by contributing to the existing body of literature specifically within the South African context, offering insights and perspectives unique to the higher education landscape in South Africa.

In the South African higher education landscape, Microsoft Teams and Video Conferencing played an essential role in fostering connections between students and lecturers for academic continuity. According to Appel *et al*. (2020), Aichner *et al*. (2021), Cinelli *et al*. (2020), Evans, Bratton, McKee (2021), and Anderson, Jiang (2018), Microsoft Teams and video conferencing enable the sharing of updates, academic content, and redefine the way lecturers and students within higher institutions of learning stay connected. Online learning, exemplified by platforms like Reddit, offers South African university students and lecturer spaces for discussion, questions, and the exchange of opinions on a variety of academic topics. Recognising the diverse landscape of on-line communication channels is integral to comprehending the multifaceted nature of virtual interactions within the unique context of South African universities, where these channels serve as lifelines for academic engagement and collaboration.

Students' expectations and readiness for virtual classrooms vary, necessitating distinct skills like adapted communication and refined time management (Sellnow and Kaufmann, 2017). The global response to the COVID-19 pandemic resulted in lockdowns, compelling universities, including the University of Johannesburg (UJ), to shift from face-to-face to online learning. This transition, driven by the pandemic, prompted an examination of students' perceptions and experiences with online communication channels in South African universities, specifically focusing on the School of Communications Department at UJ (Krull and De Klerk, 2021). Challenges, such as the need for alternative online platforms, diverse assessment methodologies, and issues related to device and connectivity access, were observed during this abrupt shift (UJ, 2020). Therefore, this study contributes to addressing a literature gap by employing a rigorous and comprehensive research design.

Higher education institutions utilise various online communication channels, including virtual lessons, online dashboards, and virtual invigilators (Alawamleh, Al-Twait & Al-Saht, 2020). The dynamics of communication in virtual learning have transformed, enabling constant interaction through digital channels (Almahasees, Mohsen & Amin, 2021). Nevertheless, the lack of preparedness among educators and students for the abrupt transition to online learning in South African higher education led to communication breakdowns and performance declines (Gumede & Badriparsad, 2021). Since the first confirmed cases of COVID-19 in Wuhan in 2020, the pandemic has disrupted various aspects of life, triggering a nationwide lockdown in South Africa in March 2020 (Fortunato, 2020). Enforced by the South African Police Service (SAPS) and South African National Defense Force (SANDF), the lockdown significantly impacted economic activities, fostering a surge in virtual learning (United Nations Development Programme (UNDP), 2020). Cranfield *et al*. (2021), Gumede, and Badriparsad (2021), and Nyawo (2021) explored the pandemic's effects on learning, the impact of virtual learning on academic performance, and the effectiveness of communication between students

and educators. This study is unique because it seeks to close the gap in the literature by addressing the limited exploration of the challenges faced by students and lectures during the sudden shift to online learning in South African higher education.

However, despite the large number of recent studies that have been conducted on the experiences (Gumede & Badriparsad, 2021), perceptions (Cranfield *et al.* 2021), performance (Nyawo, 2021), and challenges (Chisadza *et al.* 2021) of online learning since the pandemic, hardly any studies considered the impact of online classes on communication effectiveness in South African tertiary institutions. Studies on the experiences, performance, and challenges of online learning provide a proper context to the problem at hand, though, since their investigations are often somewhat related to the communication difficulties of virtual learning.

Most studies that focused more on communication breakdown due to online learning were conducted before the pandemic, exploring how learning online could lead to a breakdown in communication (Berge, 2013; Dabaj & Isman, 2004; Dabaj & Yetkin, 2011; Muilenburga & Berge, 2005). While these study findings are still valid, they do not cover how a sudden involuntary shift to distance learning forced by the pandemic could affect communication breakdown among students and educators who were used to interacting in person. Instead, they cover online communication in distance learning institutions where both educators and students are prepared to teach and learn online from the beginning. However, the South African situation shows that universities were, and appear to be still, underprepared for virtual learning. There was a lot of misunderstanding about how classes could be performed in the initial stages of the lockdown, and the changeover to online education; professors were ill-prepared to teach material efficiently, and most students lacked data to connect, reliable internet access, or laptops to use (Mpungose, 2020; Krull and De Klerk, 2021). This study is unique from the above reviewed studies because it aims to fill the literature gap by providing a comprehensive

examination of the unique challenges and experiences within the School of Communications Department at the University of Johannesburg.

Few studies that focused on communication breakdown during online learning post-Covid-19 were conducted outside of South Africa. Alawamleh *et al.* (2020), for instance, found that most students complained of communication breakdown during virtual learning in the wake of the pandemic, and others reported feelings of isolation and difficulty in concentrating. On the other hand, Zarzycka, Krasodomska, Mazurczak-Mąka, and Turek-Radwan (2021) found that increased use of Facebook and other social media platforms during virtual learning improved communication and collaboration among students during distance learning courses. Meanwhile, Ali (2020) recognises that while virtual learning has provided challenges for students and educators alike, the current trend in education shows that there is no going back on virtual learning. As a result, Ali (2020) posits that for better success in virtual learning, resources, the readiness of staff, confidence, student accessibility, and student motivation must be enhanced. In virtual learning circumstances, the focus must be improving communication effectiveness by reducing factors that worsen communication breakdown (Khateeb, Shdaifat, and Shdaifa, 2021). It is evident from the above reviewed literatures that there is the need for this study to fill communication breakdown gap by providing a focused analysis of communication breakdowns and experiences in the South African context.

In both traditional classroom settings and virtual educational environments, communication is essential to the learning process. Teachers gain from having students in the same area at the same time in classroom settings since this creates a wealth of chances and options for peer and instructor engagement. In addition, technology (including social media, email, and web conferencing) can be used by teachers and students to promote connection and communication beyond the classroom (Frisby *et al.* 2016). To encourage connection and involvement, virtual

lecturers, on one hand, mainly depend on technology (such as email, discussion boards, and chat tools) (Gutierrez-Santiuste *et al.* 2016). While synchronous classes are an option, they are not usually offered. Time and space are, therefore, two key variables among online and in person instruction, which may have a bearing on the general communication strategies and tools that teachers and students employ in these settings. However, a gap in the literature is evident concerning a comprehensive exploration of the impact of time and space as critical variables on communication strategies and tools in online learning. Existing studies, represented by Frisby *et al*. (2016) and Gutierrez-Santiuste *et al*. (2016), touch on technology's role but do not extensively investigate into how the constraints of time and space uniquely influence communication dynamics in the educational context. Therefore, this study seeks to address that gap by including an element of effective communication channels in higher institutions of learning.

2.4 THE RATIONALE FOR VIRTUAL LEARNING WITHIN SOUTH AFRICAN UNIVERSITIES

The educational landscape, coupled with the impact of the Covid-19 pandemic, has spurred a heightened demand for virtual learning across educational levels (Ali, 2020). Hedding *et al*. (2020) highlight that significant global event often catalyse rapid innovation, akin to the surge in e-commerce witnessed after the SARS epidemic. Despite the uncertainty surrounding the post-Covid-19 era, online learning remains a resilient and actively invested sector, distinct from other industries experiencing reduced investment (Ali, 2020). Therefore, this highlights that there is a need for this study because it provides a comprehensive exploration of the potential applications of online learning technology, particularly in the context of knowledge sharing in higher institutions of learning in South Africa.

Popescu, Buluc, and Crăciun (2014) assert that virtual learning is a very effective method for delivering instruction and learning through the internet, with the ability to provide students with more benefits for enhancing their learning than traditional classroom instruction. The use of hypertext and hypermedia systems, including synchronous communication tools, such as Internet Relay Chat, and asynchronous communication tools, including emails and online discussion, is essential for online education to be effective (Popescu *et al*. 2014). With this approach, people can engage in open, autonomous learning sessions at their own speed without adhering to a schedule or attending programs.

While Popescu, Buluc, and Crăciun (2014) emphasise the effectiveness of virtual learning through internet-based instruction, this study focuses specifically on students' perceptions and experiences with online communication channels within a South African higher learning institution. Unlike Popescu *et al*. (2014), who broadly discuss the benefits of virtual learning, our research delves into the nuanced challenges and opportunities presented by the sudden shift to online communication channels in the context of the Covid-19 pandemic. By concentrating on a specific regional setting and exploring the intricacies of communication tools, our study offers a unique perspective that complements and extends the broader insights provided by Popescu *et al*. (2014).

2.5 COMMUNICATION MODELS FOR VIRTUAL LEARNING

This section introduces detailed exploration of communication models specifically tailored for the domain of virtual learning, crucial to understanding the dynamics shaping online learning. Despite the enduring nature of the communication concept, the rapidly evolving social and technological landscape, particularly the integration of digital technologies or tools, has redefined communication in the context of virtual learning (Noskova and Kulikova, 2019). This section aims to critically assess how traditional communication models align with the

intricacies of digital and online learning environments, with a particular focus on lecturers' engagement with students in this technologically mediated educational space. According to Andert and Alexakis (2015) adapting communication strategies becomes imperative to effectively impart ideas, concepts, and theories to students navigating the complexities of a globalised educational landscape.

While Noskova and Kulikova (2019) acknowledge the evolving nature of communication in virtual learning, this study offers a distinctive contribution by focusing specifically on the perceptions and experiences of students with online communication channels within a South African higher learning institution. Unlike Noskova and Kulikova (2019), who provide a general exploration of communication models in the digital landscape, our research improves on the distinctions of lecturers' engagement with students, considering the socio-cultural context and challenges associated with the abrupt transition to online learning during the Covid-19 pandemic. Additionally, this study goes beyond that of Andert and Alexakis (2015) by not only recognising the imperative adaptation of communication strategies but exploring deeper into the practical experiences and perceptions of students in a specific regional setting, offering context-specific insights that contribute to the broader understanding of effective communication in virtual learning environments.

According to Popescu, Buluc, and Crăciun (2014), current studies must explore into the impact of communication models on individuals' perspectives, abilities, and behaviours within the context of online learning, highlighting the role of digital technologies in this transformation. Noskova and Kulikova (2019) highlight the shift in communication models within virtual learning environments, characterised by synchronous and asynchronous interactions operating continuously, facilitated through various Internet services, educational web platforms, and ICT tools. This complex communication model encompasses students, digital tools, educational

web platforms, information resources, and subjects, creating a non-linear system with scalable communication lines and innovative techniques for information sharing during distributed operations (Noskova and Kulikova, 2019).

Separating the details of this communication model is vital not only for understanding the dynamics of online learning but also for identifying potential sources of communication breakdown, ultimately informing recommendations to enhance students' academic performance.

2.6 THE IMPACT OF VIRTUAL LEARNING ON STUDENTS' ACADEMIC PERFORMANCE

Section 2.6 discusses the impact of virtual learning on students' academic performance.

According to Hedding, Greve, Breetzke and Nel, (2020) virtual learning has greatly expanded in the past two years due to technological trends as well as the advent of the Covid-19 pandemic. With most learning institutions having been forced to switch from face-to-face to virtual learning abruptly, some positive and negative implications have been empirically recorded (Alawamleh *et al*. 2020; Ali, 2020). While Hedding, Greve, Breetzke, and Nel (2020) highlight the significant expansion of virtual learning over the past two years, primarily driven by technological trends and the emergence of the Covid-19 pandemic, this study contributes a unique perspective by examining the distinctions of experiences and perceptions of South African students specifically within the School of Communications Department at the University of Johannesburg. Unlike Hedding *et al*. (2020), this study improves the communication channels used in virtual learning, offering a granular examination of the challenges and opportunities faced by students in a specific academic context. Additionally, this study distinguishes itself from Alawamleh *et al*. (2020) and Ali (2020) by focusing on South African higher education, providing insights into the region's unique challenges, digital

infrastructure, and students' preparedness for virtual learning, thereby offering a more localised and context-specific perspective.

Yaseen, Alsoud, Nofal, and Abdeljaber (2021) conducted a comparative analysis of students' academic performance in the UK and Jordanian universities, post-virtual learning. Their research revealed that virtual learning presented various difficulties for both countries in terms of communication efficiency, technological aptitude, access to hardware for participation in online courses, student absenteeism, and drop-out rates. Meanwhile, both countries benefitted from virtual learning, include improved access to recorded lectures, greater access to faculties through virtual communication (e-mail), and extended office hours (Yaseen *et al*. 2021). While Yaseen, Alsoud, Nofal, and Abdeljaber (2021) conducted a valuable comparative analysis of students' academic performance in the UK and Jordanian universities post-virtual learning, this study distinguishes itself by focusing exclusively on the South African context, particularly within the School of Communications Department at the University of Johannesburg. Unlike Yaseen *et al*. (2021), who explored the experiences in the UK and Jordan, this study delves into the unique challenges and opportunities faced by South African students, providing a localised perspective on the adoption of online communication channels. By concentrating on a specific academic department and geographic region, our study offers nuanced insights that contribute to a more comprehensive understanding of the impact of virtual learning within the South African higher education landscape.

In a similar study conducted in Saudi Arabia, Suwais and Alshahrani (2018) found no significant differences in the academic performance results of students between those that received virtual classes and those that learnt using the face-to-face method. Studies based on the evaluation of performance of different groups of students (between those that took virtual classes and those that took face to face classes), however, face a limitation whereby

characteristics of students affect performance results instead of the mode of instruction. To mitigate this, especially considering the Covid-19 pandemic, Cellini (2021) argues that it is better to include the same group who have been exposed to virtual lessons during the tightest part of pandemic restrictions but are now back to attending classes in person. Alternatively, studies can also consider students who still receive both learning modes for different courses and even for the same course (Cellini, 2021).

In contrast to Suwais and Alshahrani (2018) study conducted in Saudi Arabia, which found no significant differences in academic performance between students receiving virtual classes and those in face-to-face classes, this study, focuses on the South African context. Specifically, we investigate the School of Communications Department at the University of Johannesburg, providing insights into the experiences of students within this academic department. Furthermore, this study does not solely compare different modes of instruction but explores into students' perceptions of online communication channels, offering an advanced understanding of their engagement with virtual learning in a South African higher education setting. Additionally, while Cellini (2021) suggests including students exposed to virtual lessons during the pandemic and subsequently returning to face-to-face classes, this study uniquely explores the adoption of online communication channels within a specific academic department, contributing valuable insights to the broader discourse on virtual learning in South Africa.

2.7 COMMUNICATION AND INTERACTION IN THE ONLINE ENVIRONMENT

The method we develop and deliver our online courses, as well as the opportunities for connecting with people in this environment, change as we have access to more technology, provide more online course alternatives, and include more faculties in online teaching, according to Allen and Seamen (2016). Vlachopoulos and Makri (2019) in their evaluation of

the literature on online communication and interaction in distance education emphasize that it is critical to employ effective online communication models to empower [distance education] students and avoid negative experiences. They go on to stress the significance of contact with instructors, peers, and course material to "achieve learning success" while giving a framework of best practices for each area. In fact, communication is a key component of the experience of learning online. Previous studies have shown that distance education programs are more successful when they include a variety of communication and interaction strategies (Dixson, 2010), and it highlights the crucial role instructors play in actively fostering interaction to foster a sense of community and a positive learning environment (Bernard *et al*. 2019; Glazer *et al.* 2013; Kaufmann *et al.* 2016).

Students in online education programs continually demonstrate an interest to interact and connect with their teacher and peers, citing how these relationships assist them to understand course material (Hew, 2016), fight feelings of learning isolation (Sit *et al.* 2015), support views on a positive climate (Kaufmann *et al.* 2016), and eliminate possible attrition from their studies (Angelino *et al.* 2017).

2.8 STUDENT PREPAREDNESS FOR ONLINE COMMUNICATION AND INTERACTION

Interactions between stakeholders in online courses who have trouble communicating in this mediated area will be hindered regardless of the availability of communication opportunities and instruments (Symeonides and Childs 2015). While there are many communication methods available in online environments, according to Bawa (2016), "their use may not be as widespread as it should be simply because it heavily depends on the learners' initiative". In situations involving communication and interaction, such as written communication on discussion boards and engagement with peers on group assignments, students in online courses

might be less likely to reach out and ask for help, which may further distance these students from developing a positive classroom environment and rapport with their peers and instructors (Kaufmann and Vallade, 2020). But why is it the case? Are there any particular communication abilities that online class participants lack that may be remedied by giving them access to technological tutorials or resources or by being made aware of the instructor's expectations? According to Houtman *et al*. (2014), communication skill education in online courses is a topic that warrants further research.

In distinguishing this study from existing research, several unique aspects emerge. While Symeonides and Childs (2015) highlight the hindrance to interactions in online courses, this study specifically explores into South African higher education, examining students' perceptions of online communication channels within a distinct academic department at the University of Johannesburg. Unlike Bawa's (2016) emphasis on learners' initiative in utilising communication methods, this study provides insights into the experiences of students within a specific institutional context, shedding light on the challenges and opportunities they face in adopting online communication channels.

Moreover, Kaufmann and Vallade (2020) focus on students' reluctance to seek help in online courses, while this study contributes by exploring the perceptions of students regarding various communication channels. Lastly, this study adds a unique perspective by addressing the call for further research on communication channel education in online courses made by Houtman *et al*. (2014), offering valuable insights into the South African higher education landscape and the adoption of online communication channels within this specific context.

The extent to which students are prepared for these interactions in the mediated classroom has not yet been adequately examined (Kaufmann and Vallade, 2021). The development and improvement of abilities particular to this type of learning environment may also be taught to

online students (Abrami *et al.* 2011). For instance, in a traditional classroom, kids are instructed from a young age to raise their hands when they have a question or comment. However, this choice or avenue of connection with an instructor is no longer available to students who enrol in an online course. What options are there for asking questions in the virtual classroom? What guidelines or expectations exist for student interaction? Students could occasionally feel unprepared for the communication procedures specific to the online classroom, as this example illustrates. Additionally, after being instructed in how to utilise technology and engage in specific behaviours, individuals must be able to put those skills into practice (Abrami *et al.* 2011). Students are more likely to have a successful and satisfying learning experience if they are equipped with the essential knowledge and abilities to enrol in an online course (Hung *et al*. 2010; Parkes *et al*. 2015).

This study contributes to the existing literature by addressing gaps identified in research conducted by Kaufmann and Vallade (2021). While Kaufmann and Vallade highlight the insufficient examination of students' preparedness for interactions in the mediated classroom, this study specifically explores the perceptions of South African students within the unique context of a higher education institution. In contrast to Abrami *et al*. (2011), who discuss the development of skills for online learning environments, this study explores into the practical experiences and challenges faced by students in utilising online communication channels.

Additionally, this study provides nuanced insights into the expectations and guidelines for student interaction in the virtual classroom, contributing to the ongoing discourse on effective communication procedures in online education. Furthermore, this study extends beyond the general considerations raised by Hung *et al*. (2010) and Parkes *et al*. (2015) by offering a context-specific exploration within the South African higher education landscape, providing a more tailored understanding of students' preparedness for online learning interactions.

2.9 COMMUNICATION BARRIERS IN VIRTUAL LEARNING ENVIRONMENTS

Several early studies on virtual learning have focused on exploring the nature of communication in virtual learning situations as opposed to face-to-face learning (Alawamleh *et al.* 2020; Berge, 2013). In such studies, it was emphasised that a critical pre-condition of implementing virtual classes understands the barriers inhibiting communication effectiveness (İşman, Dabaj, Altinay, & Altinay, 2003). Berge (2013) conceptualised that in distance learning, communication barriers can be viewed in a hierarchy form with more prevalent barriers at the bottom. From the bottom, the barriers are access, acceptance, collaboration, cultural/ social, and contextual. The barriers show that making virtual learning more widespread requires dealing with issues of access to hardware and/or software infrastructure, being accepted by both students and instructors, allowing effective collaboration, and being relevant to the cultural/ other contexts (Berge, 2013).

While early studies, exemplified by Alawamleh *et al*. (2020) and Berge (2013), have extensively probed communication in virtual learning compared to traditional face-to-face settings, this study introduces a distinctive focus on addressing the critical pre-condition of understanding communication barriers for the effective implementation of virtual learning. Building upon Berge's (2013) hierarchical conceptualisation of communication barriers in online learning, this study takes a unique approach by exploring into specific barriers, such as access, acceptance, collaboration, cultural/social, and contextual factors. In doing so, this study not only contributes to the broader discourse on communication in virtual learning but also offers an examination of these barriers, providing valuable insights for enhancing communication effectiveness in virtual learning environments. Additionally, by incorporating the insights of İşman, Dabaj, Altinay, & Altinay (2003), this study extends beyond the

theoretical framework to consider practical implications and recommendations for addressing communication barriers in the context of virtual learning.

From the studies examined, various specific difficulties and communication impediments impact virtual learning. Institutions need to devise ways to eliminate or minimise communication barriers in seeking better academic performance from virtually delivered lessons.

2.10 THEORETICAL FRAMEWORK

The study was informed by the Digital Communication Model developed by Noskova and Kulikova in 2019. In explaining how digital learning transforms the general understanding of a communication model, Noskova and Kulikova (2019) note that virtual communication involves a student-centred digital model where contactless learning requires the student to do more in evaluating the information streams and searching for the most relevant information for solving educational tasks. The resultant communication model involves synchronous and asynchronous communication that works throughout the day; with a high density of communicative acts, the student becomes more active in interactive learning. At the same time, the teacher supports and directs the student's independent activity (Noskova & Kulikova, 2019). The authors contend that students, ICT learning tools, digital platforms, information resources, subjects, etc., make up a communication model in a virtual learning environment. Such a non-linear communication architecture entails various scalable communication links supplemented by novel information exchange techniques during jointly distributed tasks.

This model is relevant to this study because it emphasises how the nature of learning differs between classroom learning and virtual learning. Digital communication model provides insights into the dynamics of digital communication channels, including the impact of various platforms and tools on students' perceptions. By applying a Digital communication model, the

current study systematically explores how students engage, interpret, and respond to online communication channels, contributing to a comprehensive understanding of their adoption within the higher learning institution. These differences imply that success in online learning requires a more engaged student who takes charge of their work, requiring only support and guidance from the instructor. As a result, it can be assumed that a passive student may find it challenging to succeed while studying online, versus a more active student; hence, a passive student will likely prefer face-to-face classes. In addition, the other implication of the model is the possibility that a shift to online lessons succeeds better when implemented incrementally to allow for both educators and students to adjust to the new way of teaching and learning. Overall, Noskova and Kulikova's model is not only relevant because it explores the possible effects of virtual learning on students' academic performance and builds a basis for understanding why some students would prefer face-to-face learning versus virtual learning.

On the other hand, this study also employed the Experiential Learning Theory (ELT). Experiential learning theory traces its origins to the influential works of Dewey, Lewin, and Piaget. Unlike cognitive and behavioural learning theories that may neglect the role of subjective experience, ELT uniquely places experience at the core of its learning process, integrating it with perception, cognition, and behavior. Research indicates that learning styles are shaped by factors such as personality type, educational specialisation, career choices, current job roles, and cultural influences (Kolb, 1984; Kolb & Kolb, 2005). In ELT, learning is defined as a dynamic process where knowledge emerges through the transformation of experience, involving the interplay of grasping and transforming experiences (Kolb, 1984). The experiential learning model unfolds as a cyclical four-stage process, encompassing experiencing, reflecting, thinking, and acting. Learners navigate between concrete experience (CE) and abstract conceptualisation (AC) in grasping experiences, and reflective observation (RO) and active experimentation (AE) in transforming experiences. Emphasising the learner's

freedom to enter the model at any stage, ELT embodies a holistic and adaptive approach to learning (Kolb, 1984). In the context of "Students' Perceptions on the Adoption of Online Communication Channels Within a South African Higher Learning Institution," ELT is relevant as it provides a framework for understanding how students engage with online communication channels through experiential learning. ELT's emphasis on the cyclical process of experiencing, reflecting, thinking, and acting aligns with the dynamic nature of online communication. By recognising that learners enter the model at various stages, ELT accommodates the diverse perceptions and experiences of students in adapting to and adopting online communication channels within the South African higher learning institution.

2.11 SUMMARY

In conclusion, the study focuses on the of online communication channels within South African higher education, particularly in the School of Communications Department at the University of Johannesburg. By addressing the challenges and experiences stemming from the sudden shift to virtual learning during the COVID-19 pandemic, the research fills a crucial gap in existing literature. The study highlights the digital divide's impact on disparities in access to technology, emphasising the need for tailored strategies to address communication breakdowns, diverse assessment methods, and issues related to device and connectivity access.

Moreover, the study contributes to the broader discourse on virtual learning by questioning traditional communication models, exploring barriers in virtual learning environments, and proposing a theoretical framework guided by the Digital Communication Model and Experiential Learning Theory. The study offers actionable insights for lectures and policymakers, advocating for an engaged student-centered approach and incremental implementation of online lessons. Overall, this study provides a comprehensive understanding of the challenges and opportunities unique to South African higher education in the context of

online communication channels, making a valuable contribution to the evolving landscape of virtual education. The research methodology used to carry out the study is discussed in the following chapter.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter two provided discussion of the theoretical and literature perspective that guides this study, using the theoretical framework as a critical lens through which to view and analyse the study. Within this chapter, we undertook an extensive exploration distinct theory, rigorously assessing their applicability and relevance in the context of the present study. Therefore, the focus of chapter three is on presenting the research philosophy, methodology and approaches the researcher followed to address the research objectives outlined in chapter 1. This chapter therefore provides an account on the methods, techniques, and procedures the researcher adopted in the selection of participants to accomplish the research objectives of this study.

Structured into ten inter-related sections, the rest of the chapter is organised as follows: The next section focuses on the discussion of the different types of research designs and the chosen design. This will be followed by research paradigm in Section 3.3. In section 3.4, research approaches and justification of the chosen one for the study are discussed. The heart of the chapter is sections 3.5 which respectively present a discussion on methodological choices made in the study. These choices include the discussion of target population, sample, and applied technique to sample the research participants. Section 3.6 discusses the pilot study. Then follows the discussion of data analysis approaches in section 3.7. Validity and reliability issues were covered in section 3.8, and these were followed by discussion of ethical issues pertaining to the study in section 3.9. The last section provides for concluding remarks for the chapter.

3.2 RESEARCH DESIGN

The study " students' perceptions on the adoption of online communication channels within a South African higher learning institution " employed descriptive research. The fundamental

principle of descriptive research is to capture a snapshot of the phenomenon under investigation. This research method serves to portray the characteristics of a group or phenomenon, offering researchers an accurate depiction to uncover new insights or characterise existing occurrences (Atmowardoyo, 2018). The descriptive model primarily addresses the 'what' aspect of the research subject rather than delving into the 'why.' Instead of focusing on the causation, descriptive research provides a comprehensive portrayal of the nature of a specific population or scenario, elucidating the 'what' without necessarily investigating into the 'why' (Edunov *at al*., 2018).

The rationale behind this choice is that this type of research design seeks to "obtain information to systematically describe a phenomenon, situation, or population". Several scholars define a research design as "the critical process that transforms an idea, interest, or question from 'just a thought' into a meaningful and purposeful investigation of a social or physical process" (Abbott & McKinney, 2013; Gatrell *et al.* 2015). Other scholars describe it as "the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby ensuring effective address of the research problem" (Bickman, Rog, & Hedrick, 2009).

In support of these views, Abbott, and McKinney (2013) observe that the research methodology "constitutes the blueprint for the collection, measurement, and analysis of data". It is important to note that "most research can be divided into three different categories: exploratory, descriptive, and causal" (Abbott & McKinney, 2013; Bickman, Rog, & Hedrick, 2009). The latter authors argue that "each of these categories serves a different end purpose and can only be applied in particular ways" (Abbott & McKinney, 2013; Bickman, Rog, & Hedrick, 2009). Likewise, Creswell (2000) notes that descriptive research design assists in terms of answering

the what, when, where, and how questions concerning the research problem being investigated, rather than the why.

3.3 RESEARCH PARADIGM

This study used a positivist paradigm. The positivist paradigm is useful to the mixed method because it is usually associated with verification and prediction assumptions as the rationale of the study. In addition, positivists identify with objectivity in their discovery, and their epistemological basis is premised on the belief that scientific knowledge is the truth. In terms of the structured sample and data, positivists usually deal with large sample sizes and tend to use highly structured data sets. Moreover, several academics have noted that a study paradigm "can either be positivist (quantitative) or phenomenological (qualitative), or a combination of the two" Saunders *et al*. (2012) being one of them. Additionally, Saunders *et al*. (2012) describe a research paradigm or philosophy as "an overarching term that refers to the development of knowledge and the nature of that knowledge". According to these viewpoints, other academics define a research paradigm as a viewpoint on the collection, analysis, and utilisation of data related to the phenomena (Bajpai, 2011).

The goal of positivism, as Keat (2013) points out, is to draw laws or generalisations like those found in the physical and natural sciences. Contrary to this, the phenomenological approach focuses on comprehending how people choose and interpret the world around them considering their individual histories, the particulars of the contexts in which they do so, and their interactions with others (Hyde, Lohan & McDonnell, 2011). It is important to note that this study used a positivist paradigm with the as a point of comparison. It is believed that this is because "quantitative research paradigms are based on the philosophy that every phenomenon in the world can only be explained by positivist paradigm" (Schwandt, 2001). The belief that there is only one truth and explanation of a phenomenon that can be arrived at through empirical

procedures and quantitative methodologies is another crucial aspect to be made notice of (Schwandt, 2001).

3.4 RESEARCH APPROACH

This study utilised quantitative research approach method. The study preferred quantitative method because it allows for the collection of numerical data, enabling statistical analysis to draw meaningful insights, identify patterns, and establish correlations within a large and diverse dataset, providing a robust foundation for evidence-based conclusions and policy recommendations.

Quantitative research is described by several academics as "the process of collecting and analysing numerical data" (Bryman, 2012; Babbie, 2010; Given, 2008). Similarly, it is described as a "research strategy that focuses on quantifying the collection and analysis of data" by other academics including Babbie (2010). Additionally, according to Bryman (2012), this type of design "is formed from a deductive approach where emphasis is placed on the testing of theory, shaped by empiricist and positivist philosophies".

3.5 RESEARCH METHODS

3.5.1 Research area

The research was carried out at the University of Johannesburg, a public institution of higher learning in Johannesburg, South Africa. The Soweto and East Rand campuses of Vista University, the Technikon Witwatersrand, and the Rand Afrikaans University were combined to become the University of Johannesburg on January 1, 2005.

3.5.2 Population and Sample

Target population, as defined by experts who have written extensively on the subject (Kotler *et al*. 1999; Zhao *et al*. 2013), is "the entire set of units for which the survey data are to be used to make inferences". The target population is also referred to by Asiamah *et al.* (2017) as the "group of individuals, objects, items, or participants with the specific characteristics of interest and relevance to which the research results are intended to apply". Additionally, many academics describe the target population as "the group of individuals that the intervention intends to conduct research in and draw conclusions from" (Kotler *et al*. 1999; Zhao *et al*. 2013). Target populations are simply "those units for which the findings of the survey are meant to generalize" (Kotler *et al*. 1999; Zhao *et al*. 2013), to put it succinctly. Students in the South African Universities were employed as the target population of this study

According to Krejcie and Morgan (1970) a sample is “the group of people who take part in the investigation”. McMillian and Schumacher (2010) pinpoint that a sample size must be considered in conducting and evaluating research. The logic of the sample size is related to the purpose, the research problem, the major data collection strategy, and the availability of information-rich cases (McMillian & Schumacher, 2010). In this study the random sample of 80 students was selected. In conducting a study on students' perceptions of the adoption of online communication channels within a South African higher learning institution, a random sampling process was employed. The first step involved defining the population of interest, encompassing students from various backgrounds. Subsequently, a comprehensive list or database of all eligible students was created, ensuring each student was uniquely identifiable. The sample size was then determined based on considerations such as precision, available resources, and overall population size. Using a randomisation technique, individuals were

selected from the population list, employing methods like random number generators, or drawing names.

Selected students were then contacted, providing clear information about the research objectives and the voluntary nature of their participation. Additionally, data collection methods, online questionnaires, were administered to gather insights into students' perceptions. Throughout this process, confidentiality and ethical considerations were maintained.

3.5.3 Sampling technique

Sampling is defined by experts in study design and methodologies as the "name or other identification of the specific process by which the entities of the sample have been selected" (Vehovar, Toepoel & Steinmetz, 2016). Delice (2010) asserts that rather than examining the entire target population, researchers typically concentrate on a subset of that community. As a result, sampling strategies must be used to decrease the volume of data that a researcher must handle by just considering data from a representative demographic group. A straightforward random sample was utilised in this study to choose participants.

3.5.4 Unit of analysis

A unit of analysis is defined by scholars like Yurdusev (1993) and Gronn (2002) as "the entity that frames what is being looked at in a study, or is the entity being studied as a whole". Students enrolled in the School of Communication at UJ served as the study's unit of analysis. The selection of students enrolled in the School of Communication at UJ as the unit of analysis was driven by the need to focus on a specific and homogeneous group relevant to the study's objectives. By narrowing the scope to this group, the researchers aimed to attain a deep understanding of the experiences and perceptions of students within the School of Communication, ensuring the study's relevance to the academic context. This deliberate choice

facilitates a more targeted investigation into the impact of online communication channels on the academic environment, providing valuable insights into a cohesive and well-defined population.

3.5.5 Data Collection Instrument

A research instrument is described by scholars like Saunders *et al.* (2011) as "a measurement tool for research which has to be reliable and valid". Other researchers define data collection as "the process of gathering and measuring information on targeted variables in an established system, which then enables one to answer relevant questions and evaluate outcomes" (Hox & Boeije, 2005; Vuong, *et al*. 2018). It is crucial to remember that an online questionnaire was used to gather data for this study. The utilisation of an online questionnaire in this study was instrumental due to several compelling reasons. Firstly, an online questionnaire allowed for efficient data collection from a geographically dispersed sample of students within the School of Communication at UJ. Given the widespread use of online communication channels, employing a digital survey method aligned with the context of the study, offering participants a familiar and convenient means of engagement. Furthermore, an online questionnaire facilitated anonymity, promoting candid responses on sensitive topics related to students' perceptions of online communication channels. The benefits of an online questionnaire include the ability to streamline data entry and analysis, reduce administrative burden, and enhance data accuracy through automated validation checks. Additionally, the digital format allows for easy dissemination, tracking of responses, and timely data collection, contributing to the overall effectiveness and efficiency of the research process.

3.6 PILOT STUDY

According to several academics, a pilot study is a "small-scale of a complete survey for a particular research instrument, such as a questionnaire or interview guide" (Thabane *et al*.

2010; Lewis *et al*. 2021). It has also been noted that "pilot studies could be conducted in qualitative, quantitative, and even mixed methods research" (Thabane *et al*. 2010; Lewis *et al*. 2021). According to some authorities, "a pilot study represents a cornerstone of a good research design, and in fact, a pilot study is an essential initial step in research, and this applies to all types of research studies" (Hazzi & Maldaon, 2015). Simon (2011) defines a pilot study as "a small-scale test of the methods and procedures to be used on a large scale" in support of these claims. So, in this investigation, five UJ students who were excluded from participation in the main study were included in the pilot study which was carried out.

3.7 DATA ANALYSIS

In analysing the quantitative data for this study, descriptive statistics were employed, guided by established principles. The data analysis process utilised statistical software tools such as SPSS (Statistical Package for the Social Sciences) and MS Excel. Data analysis is described as "the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data" (Brown & Kudyba, 2014; Pruneau, 2017). According to Shamoo and Resnik (2003), "various analytical procedures provide a way of drawing inductive inferences from data and differentiating the signal from the noise present in the data". Additionally, some academics define data analysis as "a process of inspecting, cleansing, transforming, and modelling data with the goal of discovering useful information, informing conclusions, and supporting decision-making" (Brown & Kudyba, 2014; Pruneau, 2017). Hanuman (2012) asserts that "data obtained through questionnaires, interviews, and observation or secondary sources need to be analysed for deductions to be made" in support of these ideas. As a result, data analysis is best defined as the process of turning raw data into the most valuable information possible (Brassington & Pettit, 2013).

3.8 RELIABILITY AND VALIDITY OF THE STUDY

An extensive review of the literature reveals that internal validity is defined as "the degree of confidence that the causal relationship being tested is trustworthy and not influenced by other factors or variables" (McDermott, 2011). It is also important to remember that according to McDermott (2011), external validity is the "degree to which results from a study can be applied to other situations, groups, or events". To increase the credibility of this study, the researcher made sure that reliability and validity were evaluated. Validity and reliability are two important factors for assessing the strength of any study, according to academics like Healy and Perry (2000). Like the previous point, it is significant to remember that "reliability is used to test questionnaire aspects more than once and check if the same results can be obtained" (Babbie & Mouton, 2006). The phrase "it includes the accuracy and precision of measurement, which is whether an instrument can be consistently interpreted across different situations" must be emphasized. Through the use of Cronbach's alpha, the researcher made sure that reliability was evaluated. Similar views have been expressed by other academics, who agree that "reliability and validity are concerned with measuring the consistency and accuracy of the research instrument" (Tavakol & Dennick, 2011). It is significant to remember that if the same research methodology is duplicated, the research instrument should be able to give the same results (Golafshani, 2003). It is crucial to highlight that the researcher examined the scale's reliability using internal consistency. A data collection instrument is valid when it measures what it is intended to measure, which is another crucial element to make note of (Tavakol & Dennick, 2011).

3.9 ETHICAL CONSIDERATION

Ethical clearance was obtained from the Unisa Ethics Committee and permission to conduct the study was obtained from UJ. All respondents were contacted via electronic mail, which

fully explained the purpose of the study, the principles of confidentiality of their participation, that the study was not going to harm them, and that they were participating voluntarily. Respondents were also informed that they were free to stop completing the questionnaire in case they felt uncomfortable at any research stage. The e-mail also clearly indicated that no rewards were to be accrued to the participants. Upon expressing interest in participating in the research, respondents were given consent forms to sign before participation begun. Information resulting from the study was kept confidential, with no record of identification credentials such as names, identity numbers or mobile numbers collected or completed on any form. It is also important to note that primary research studies are expected to be conducted following compliance with certain ethical considerations when engaging with study respondents. This study endeavoured to operate within generally accepted research ethical guidelines. The main aspects in considering ethical concerns are in terms of the four principles of, namely: informed consent, ensuring no harm comes to participants, ensuring confidentiality and anonymity of respondents, and ensuring permission to do the research is granted by the organisation the research shall be conducted.

3.10 SUMMARY

This chapter presented the research methodology that was adopted to conduct the study. The study adopted a quantitative research approach and gathered data through an online questionnaire. In addition, data was analysed using descriptive statistics with the help of SPSS and MS Excel. The next chapter presents the data analysis and discusses the findings of the study.

CHAPTER FOUR: DATA ANALYSIS AND DISCUSSIONS OF RESULTS

4.1 INTRODUCTION

The previous chapter focused on the adopted research philosophy, methodology and approaches to address the research objectives of the study. This was done through quantitative research technique that was employed to guide the methodological flow and the study's research design. In the current chapter, the focus is on building from the previous chapter as it presents data analysis and interpretation of the findings in relation to the main purpose of the study, which was to examine the students' perceptions on the adoption of online

communication channels within a South African higher learning institution. This purpose was informed by the problem statement as set out in chapter one. After the research problem and the research purpose, the research objectives (RO) of the study were four-folds as presented below:

- RO1: To examine students' experiences regarding the adoption of online communication channels used in virtual learning.
- RO2: To determine students' perceptions of the sudden adaptation to the online communication channels used in virtual learning.
- RO3: To examine the efficacy of online communication channels used in virtual learning and their impact on students' academic performances.
- RO4: To identify possible shortcomings associated with online learning and the communication platforms adopted

The rest of the chapter is structured as follows: The demographic profile of respondents using Likert scale is presented in section 4.2. This assists in getting a picture of demographic

distribution by gender, current studies, and age. Section 4.3 is the last one for the chapter and deals with concluding remarks.

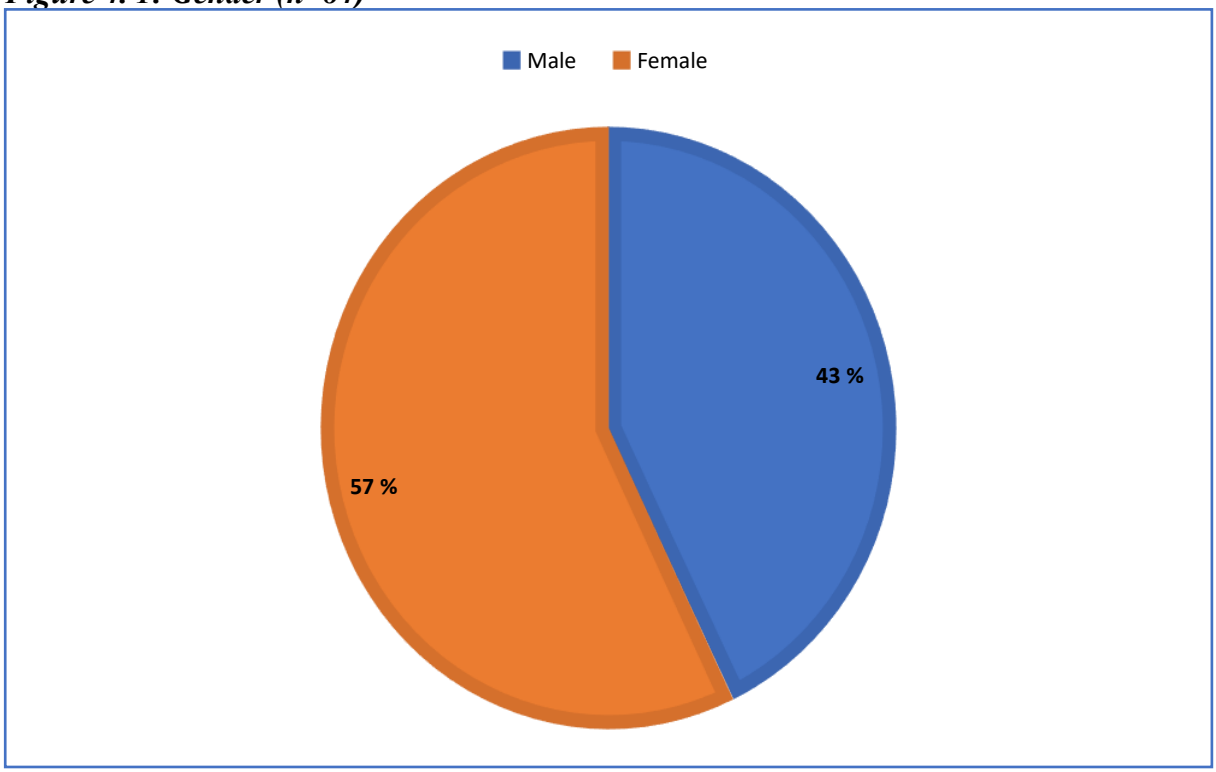
4.2 DEMOGRAPHIC PROFILE OF RESPONDENTS

This section presents the demographic profile of the respondents, namely: gender, current studies, and age.

4.2.1 Gender

Respondents were asked to indicate their gender. This was to ascertain whether gender of the respondents had any influence on their views about the adoption of online communication channels to improve teaching and learning. The results are presented in the figure below.

Figure 4. 1: Gender (n=84)



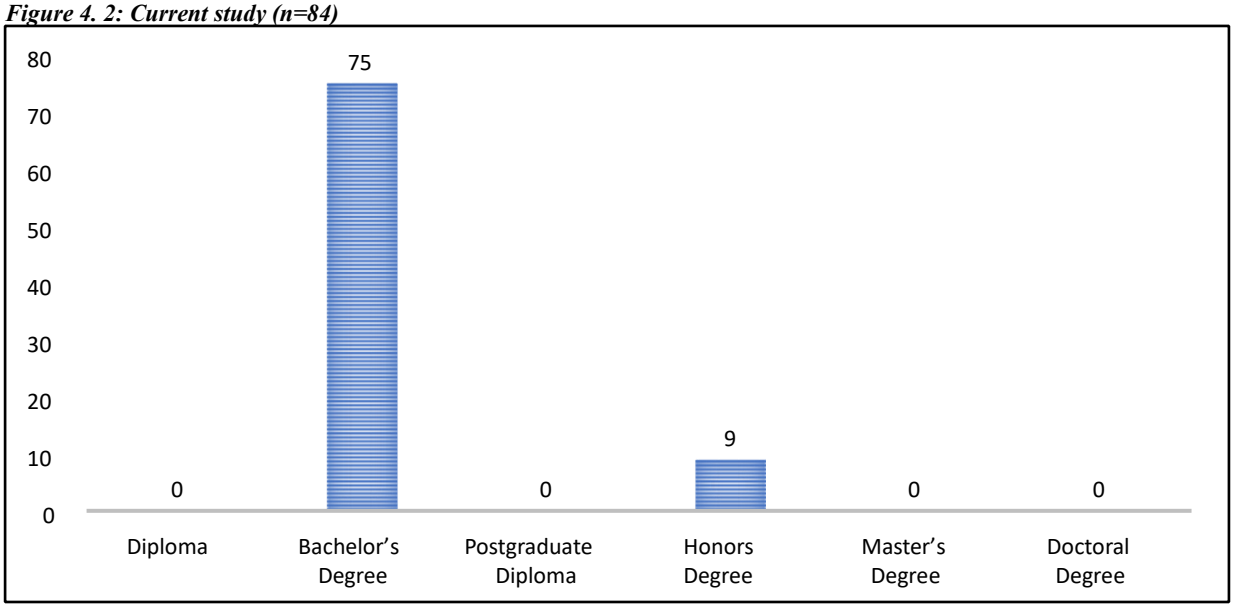
The results on the figure above show that most respondents (57%) were females, while 43% were males. The study of students' perspectives of the use of online communication channels at a South African higher learning institution adds to a better understanding of gender

representation on online learning settings. The study's findings, show a higher percentage of female respondents (57%), shed light on potential gender disparities in online communication channel using virtual learning. This understanding is useful for lecturers and higher education institutions seeking to promote inclusive and equitable participation in virtual learning settings.

4.2.2 Current study

The results are shown in the figure below. The respondents were asked to specify their current study

Figure 4. 2: Current study (n=84)

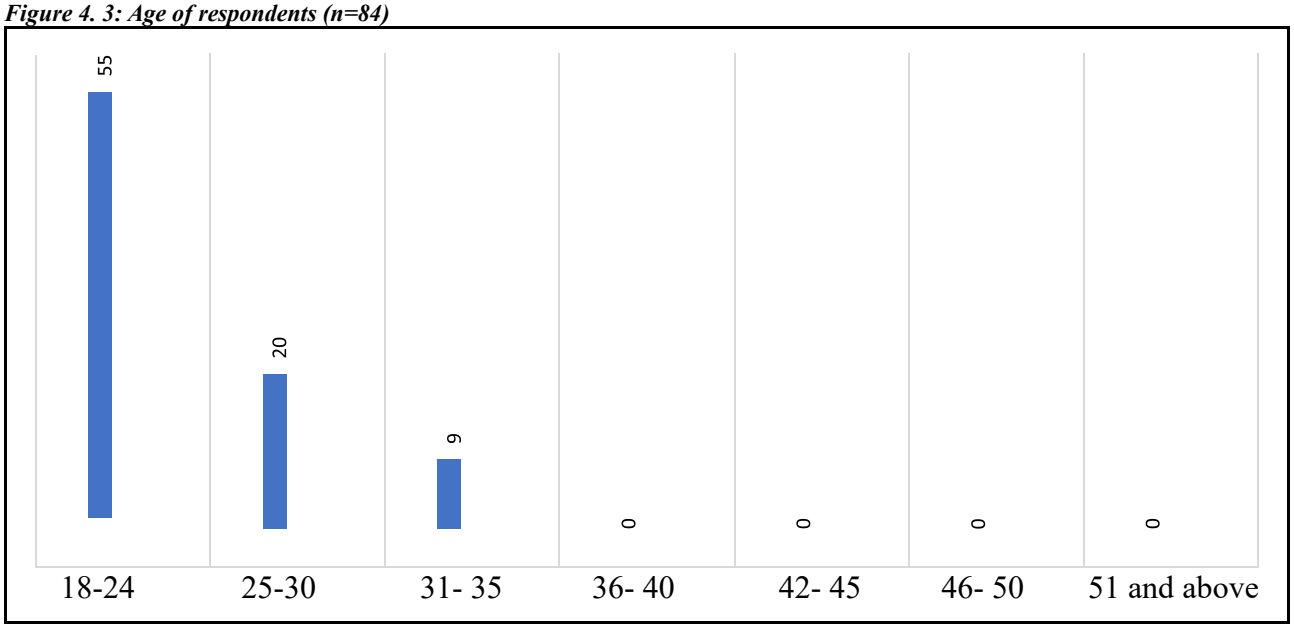


As depicted on the figure above, most respondents approximately 79% were pursuing a bachelor's degree, while approximately 10.7% were busy with their honours degree. The significant majority pursuing bachelor's degrees (79%) highlights the prevalence of undergraduates in online education contexts. The understanding of online learning is crucial for higher institutions of learning and lectures aiming to tailor virtual learning strategies and support mechanisms to meet the needs of undergraduate students, fostering a more targeted and effective virtual learning experience.

4.2.3 Age

Age-related questions were asked of respondents. In the figure below, the results are displayed.

Figure 4. 3: Age of respondents (n=84)

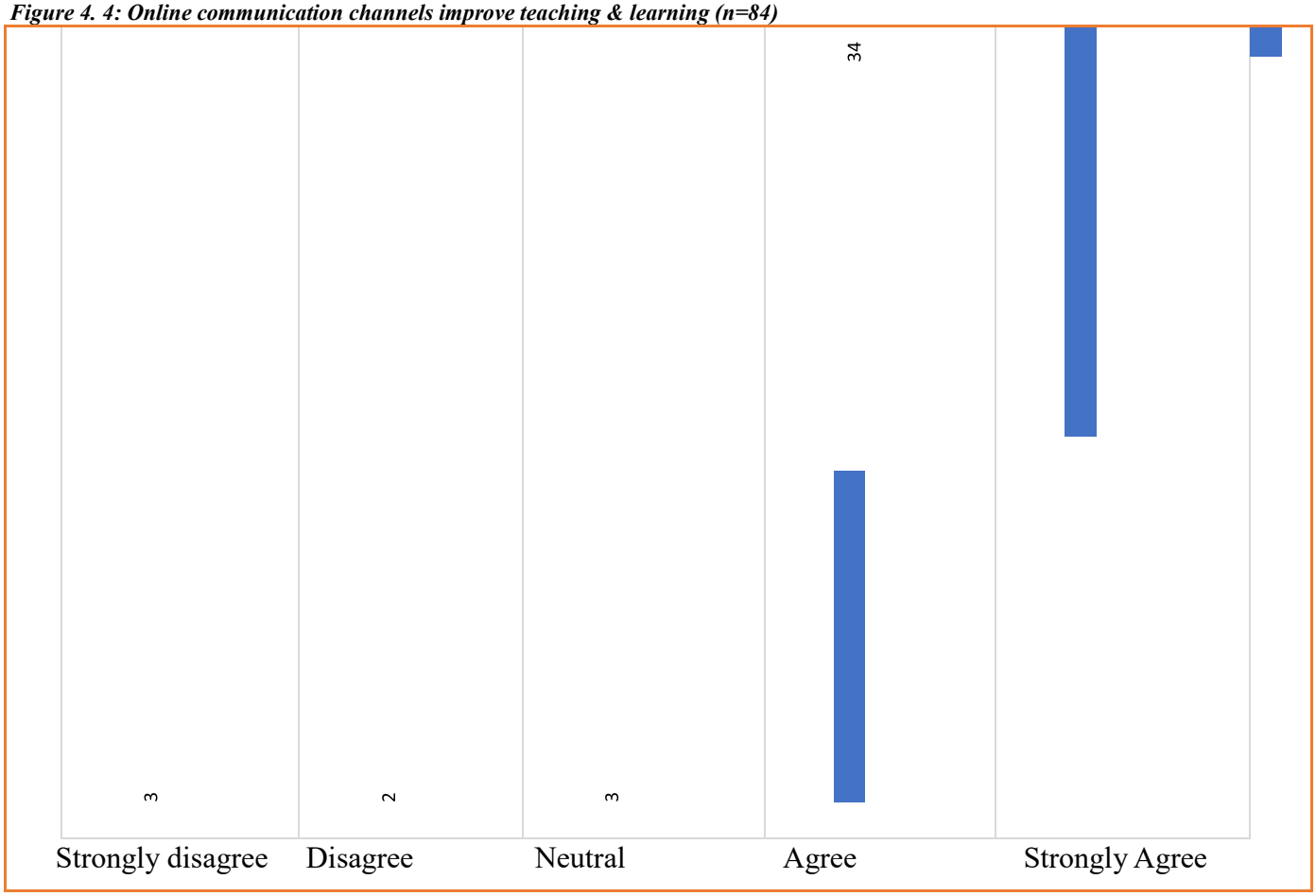


The results in the figure above show that most respondents (55; 65%) were between the ages of 18-24, followed by those who were between 25-30 years old (20; 24%), while 9(11%) were between 31-35 years old. The demographic distribution of respondents, with the majority falling within the 18-24 age range (65%), suggests a predominant representation of younger individuals in the study. This insight is significant for understanding the perspectives of the digital-native generation in South African higher learning institutions. The findings imply that interventions and communication strategies related to online learning should be tailored to resonate with the preferences and technological familiarity of the younger age groups, contributing to more effective virtual learning experiences.

4.2.4 Online communication channels improve teaching & learning

Respondents were asked to indicate whether online communication channels used in virtual learning were improving teaching and learning. A Likert scale of 'strongly disagree' through to 'strongly agree' was used to measure their responses. Results are presented in the figure below.

Figure 4. 4: Online communication channels improve teaching & learning (n=84)



The results in the figure above show that most respondents (42; 50%) strongly agreed that online communication channels used in virtual learning were improving teaching and learning, followed by those were also in the affirmative (9; 11%). In addition, the figure shows that 3(4%) of the respondents were not sure, 2(2%) disagreed, and the other strongly disagreed (3; 4%).

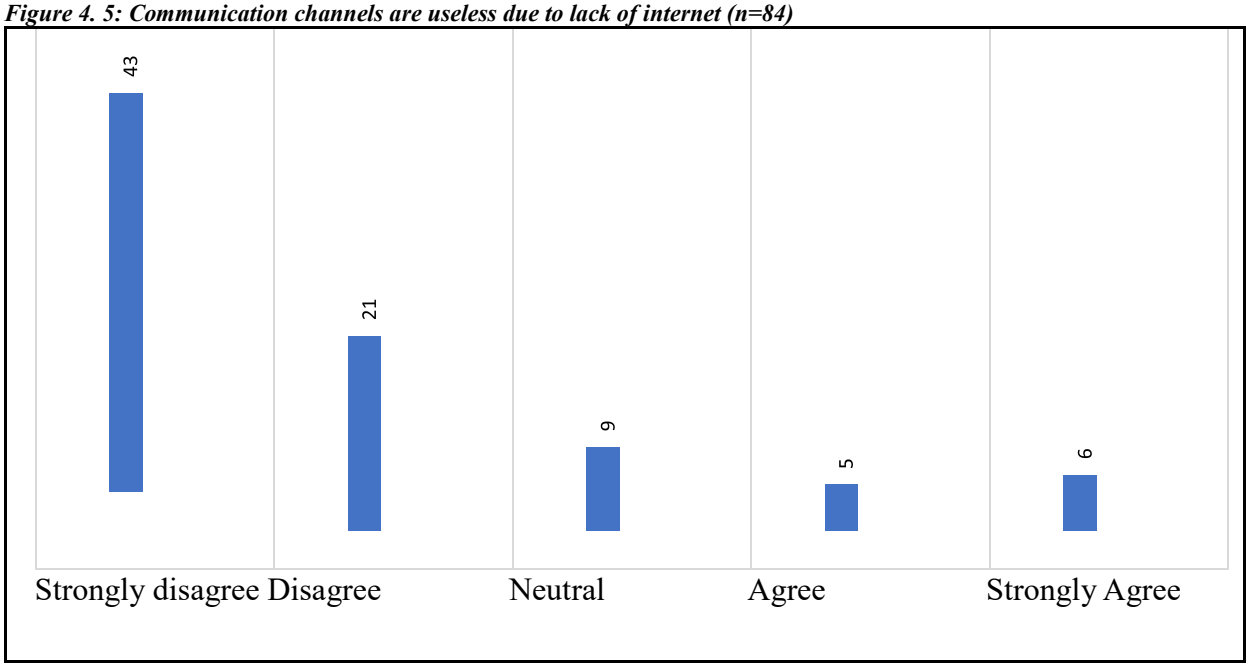
In agreement with the results above, several scholars have noted that online communication platforms are essential to improving teaching and learning (Paige, Krieger, & Stellefson, 2017; Tosatto, Cox, & Nguyen, 2022). These writers point out that online communication platforms promote interaction, teamwork, and cooperation and assist students in speaking more and expressing themselves clearly with their classmates. Additionally, it has been noted that the abilities of cooperation and teamwork are transferrable to many facets of life and will be particularly crucial in their future professional careers. According to several scholars, internet communication channels are significant in the education sector for a number of reasons, which is consistent with the views expressed above. These factors include the fact that instantaneous or timely communication is one of the main functions of online communication channels (Höhne, 2023; Johnstone & Lindh, 2021; Park, *et al*. 2022; Berger & Iyengar, 2013). Additionally, some professionals point out that online communication tools can be utilized to guarantee that all team members are informed on the same information. Mbatha (2022) makes a similar case for the use of online communication tools in higher education to boost output and promote group discussion and feedback.

The study revealed that a significant majority of respondents (61%) either strongly agreed or agreed that online communication channels enhance teaching and learning in virtual settings suggests a positive perception of the effectiveness of these platforms. This aligns with existing scholarly perspectives, including insights from Paige, Krieger, Stellefson (2017), Tosatto, Cox, Nguyen (2022), Höhne (2023), Johnstone, Lindh (2021), and others, emphasizing the role of online communication tools in promoting interaction, collaboration, and timely information sharing. The findings underscore the relevance and positive impact of online communication channels on the educational experience, emphasising their potential to enhance collaboration, productivity, and group engagement in higher education.

4.2.5 Communication channels are useless due to lack of internet

Respondents were asked to indicate whether online communication channels used in virtual learning were useless because students do not have constant internet access. A Likert scale of 'strongly disagree' through to 'strongly agree' was used to measure their responses. The results are presented in the figure below.

Figure 4. 5: Communication channels are useless due to lack of internet (n=84)



The results in the figure above show that most respondents (43; 51%) strongly disagreed that online communication channels used in virtual learning were useless because students do not have constant internet access. In addition, the results show that 21(25%) of the respondents disagreed, while 9(11%) were unsure, 5(6%) agreed, and 6(6%) strongly agreed. Any organization that has implemented technology to boost employee creativity and productivity must have access to the internet. Due to the adoption of numerous ICTs to enhance teaching and learning, the internet plays a significant role in higher education. According to several experts, not having access to the internet can have several detrimental effects, such as limiting

one's ability to pursue educational opportunities and find employment (Unicef, 2020; Tayo, *et al*. 2016; Scholz, Yalcin, & Priestley, 2017).

Considering how resources and opportunities are now available online, other scholars contend that a lack of access to broadband internet can restrict access to education and career possibilities (Khan, *et al*. 2020; Tarimo & Kavishe, 2017; Graves, *et al*. 2021; Furuholt & Saeb, 2018). It is significant to remember that millions of individuals, including students, exchange information over the internet. According to several studies (Khan, *et al*. 2020; Tarimo & Kavishe, 2017; Graves, *et al*. 2021; Furuholt & Sb, 2018), the internet has a significant impact on students' learning outcomes, including information augmentation, education-related information, addressing questions, and increasing learning outcomes.

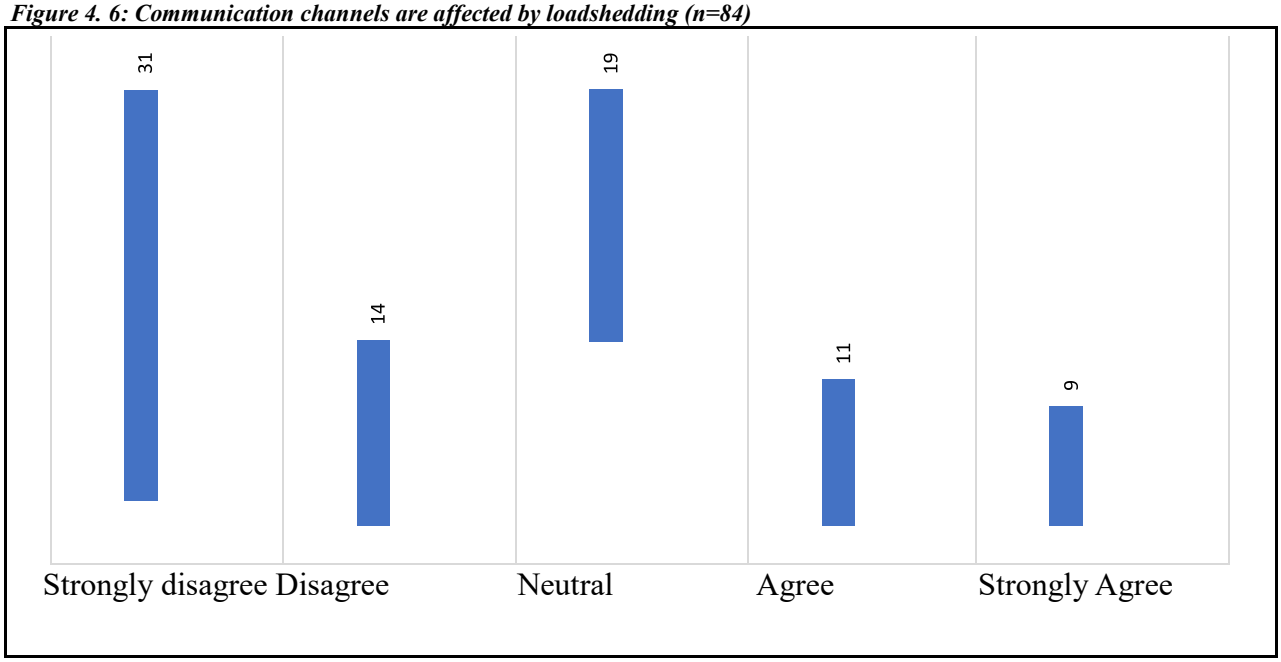
The substantial number of respondents (76%) expressing disagreement or strong disagreement with the statement that online communication channels are useless due to students' inconsistent internet access highlights a critical concern. This emphasises the recognition among participants that internet access is integral to leveraging the benefits of virtual learning and online communication channels. Aligning with scholarly viewpoints and empirical evidence, the findings underline the importance of internet access in higher education, where limitations could impede educational opportunities, career prospects, and overall learning outcomes, as indicated by studies such as those of UNICEF, 2020; Tayo *et al*. 2016; Scholz, Yalcin, & Priestley, 2017; Khan *et al*. 2020; Tarimo & Kavishe, 2017; Graves *et al*. 2021; Furuholt & Saeb, 2018).

4.2.6 Communication channels are affected by loadshedding

Respondents were asked to indicate whether online communication channels used in virtual learning were constantly affected by the loadshedding. A Likert scale of ‘strongly disagree’

through to ‘strongly agree’ was used to measure their responses. The results are presented in the figure below.

Figure 4. 6: Communication channels are affected by loadshedding (n=84)



As is depicted in the figure above, a significant number of the respondents (31; 37%) strongly disagreed that online communication channels used in virtual learning were constantly affected by the loadshedding. In addition, the figure shows that 14(17%) respondents disagreed, while 19(23%) were neutral, 11(13%) agreed, and only 9(11%) strongly agreed. Power outages continue to be a significant barrier to creativity and production in many businesses throughout the world, and the education sector is not exempt. Power outages make it harder for students to complete assignments and follow online courses, which makes learning more challenging, overall. In addition, loadshedding-related traffic problems cause students and teachers to be late for class, which further disrupts learning (Rahmawati & Sujono, 2021; Harsch, MüllerKarabil & Buchminskaia, 2021). Some scholars contend that the interruption of classes and lectures by power outages can affect the learning process. For instance, this can be

particularly detrimental to students during exam periods as it can result in the loss of important instructional time.

In addition, it has been noted that many organisations, including those in the education sector, have been negatively impacted by a lack of planning, low staff morale, an increase in theft, a loss of internet connectivity, problems with payment processing, and broken equipment (Bailey & Lee, 2020; Heng & Sol, 2021; Squires, 2015). Students, therefore, struggle to accomplish their assignments without electricity. This also translates to a death of recent knowledge. When researching what activities or resources are accessible online, teachers are unable to print out assignments or connect to the internet (Zhang, *et al*. 2019; Nkrumah Agyabeng, *et al*. 2022; Akram, 2022).

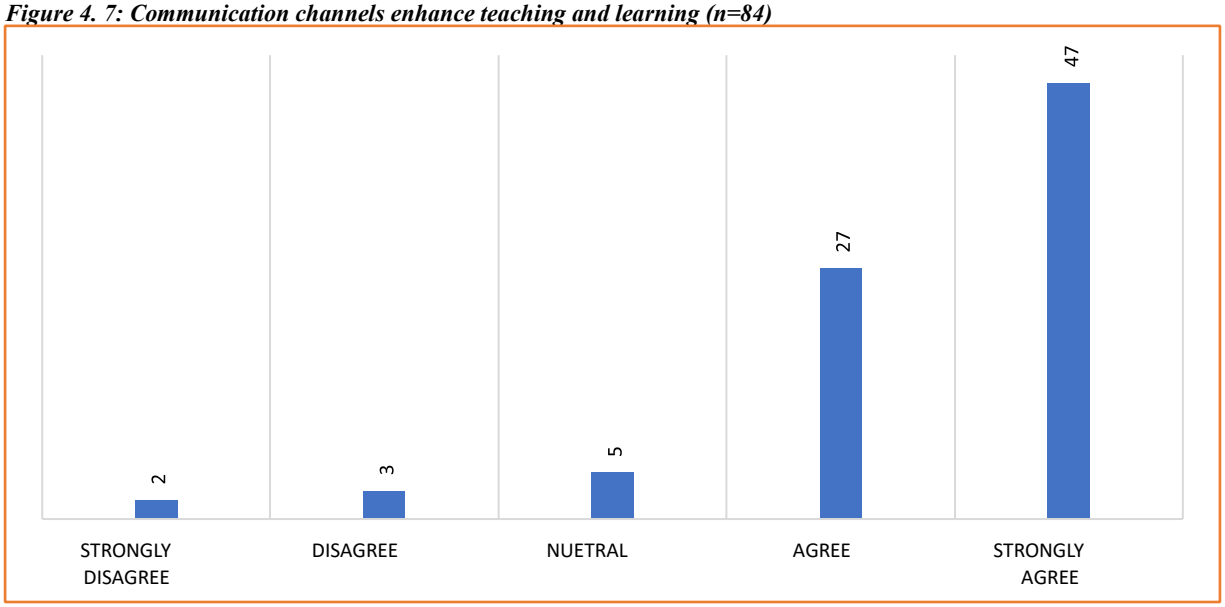
The findings indicating that a substantial number of respondents (54%) disagreed or strongly disagreed that online communication channels are constantly affected by load shedding highlight the resilience of virtual learning platforms in the face of challenges such as power outages. Despite load shedding being a significant barrier to productivity in various sectors, the study suggests that students perceive online communication channels as relatively unaffected by these disruptions. However, the identified challenges, including the impact on learning, late arrivals to class, and the broader consequences on organisations and individuals, underscore the need for comprehensive strategies to address the disruptions caused by power outages in the higher education context, as highlighted by previous studies (Rahmawati & Sujono, 2021; Harsch, Müller-Karabil & Buchminskaia, 2021; Bailey & Lee, 2020; Heng & Sol, 2021; Squires, 2015).

4.2.7 Communication channels enhance teaching and learning

Respondents were asked to indicate whether the sudden adaptation to the online communication channels used in virtual learning was an effective method for enhancing teaching and learning.

A Likert scale of 'strongly disagree' through to 'strongly agree' was used to measure their responses. The results are presented in the figure below.

Figure 4. 7: Communication channels enhance teaching and learning (n=84)



It can be seen in the figure above that most respondents (47; 56%) strongly agreed that the sudden adaptation to the online communication channels used in virtual learning was an effective method for enhancing teaching and learning. In addition, the figure demonstrates that 27(32%) of the respondents were also affirmative with the statement, 5(6%) were neutral, while 3(4%) disagreed, and only 2(2%) strongly disagreed. According to numerous scholars (Juuti *et al.* 2009; Zan, 2019; Höhne, 2023), online communication channels aid in the facilitation of the flow of information in many organisations, including the higher education sector. Furthermore, according to certain professionals, using online communication tools can help students interact with their classmates and communicate with them more successfully (Alşkan & Zmirli, 2020; Ghanbari-Baghestan, *et al*. 2016).

Teamwork and collaboration are seen to be qualities that are transferable to all facets of life and will be especially crucial in their future professional careers. According to Mehedyniuk and Yudina (2019; Khoshnodifar, *et al.* 2016), online communication channels are crucial in higher

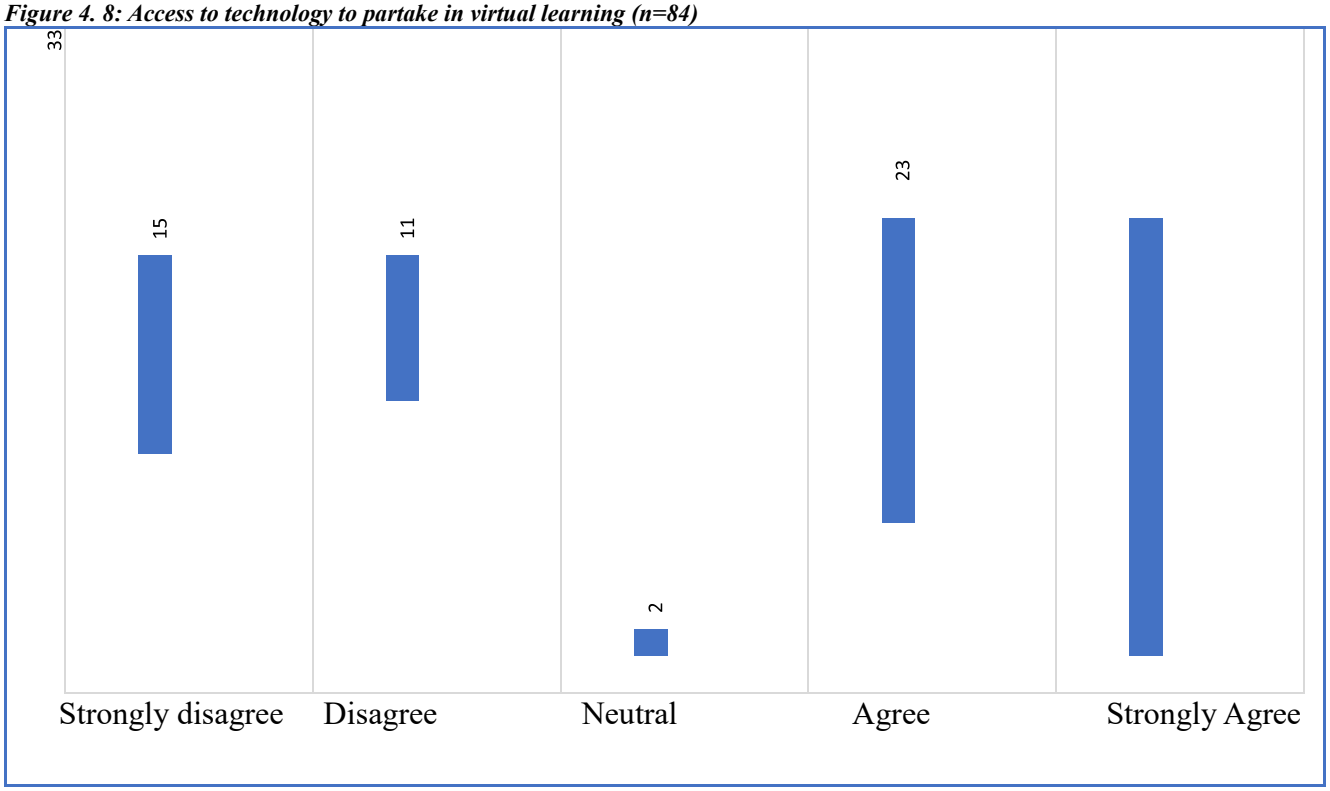
education because they can be used to deliver messages instantly or in a timely manner, guarantee that all team members are receiving the same information, and promote group discussion and feedback.

The study revealed that most respondents (88%) agreed or strongly agreed that the sudden adaptation to online communication channels effectively enhanced teaching and learning suggests a positive perception of the efficacy of virtual learning methods. This alignment with the effectiveness of online communication channels in facilitating information flow, student interaction, and successful communication resonates with existing literature emphasising the benefits of digital tools in higher education (Juuti *et al*. 2009; Zan, 2019; Alşkan & Zmirli, 2020; Mehedyniuk & Yudina, 2019; Khoshnodifar *et al*. 2016). The strong affirmation by respondents underscores the potential of online communication channels to contribute significantly to teaching and learning experiences within the higher education landscape, particularly in the context of sudden adaptations and the broader shift toward digital communication tools.

4.2.8 Access to technology to partake in virtual learning

Respondents were asked to indicate whether they had all the necessary technology to partake in virtual learning. A Likert scale of ‘strongly disagree’ through to ‘strongly agree’ was used to measure their responses. The results are presented in the figure below.

Figure 4. 8: Access to technology to partake in virtual learning (n=84)



The figure above depicts that a significant number of the respondents (33; 39%) had all the necessary technology to partake in virtual learning. Furthermore, the figure shows that 23(27%) were also in agreement with the statement. Moreover, the figure demonstrates that 15(18%) of the respondents strongly disagreed, while 11(13%) disagreed, and only 2(2%) were neutral. It is crucial to remember that understanding the educational benefit of technology depends largely on having access to relevant technologies. In accordance with the findings, several scholars contend that the use of ICTs in education is playing a critical role in delivering fresh and cutting-edge forms of support to teachers, students, and the learning process in general (Ratheeswari, 2018; Heiman, *et al*. 2017; Lembani, *et al*. 2020).

In support of these opinions, several scholars point out that it is important for everyone involved in teaching and learning to have access to technology. Effective teaching and learning may not be realised without access to technology. Students can gain collaborative skills in the classroom and use other students as resources to learn by sharing their work and ideas through interactive

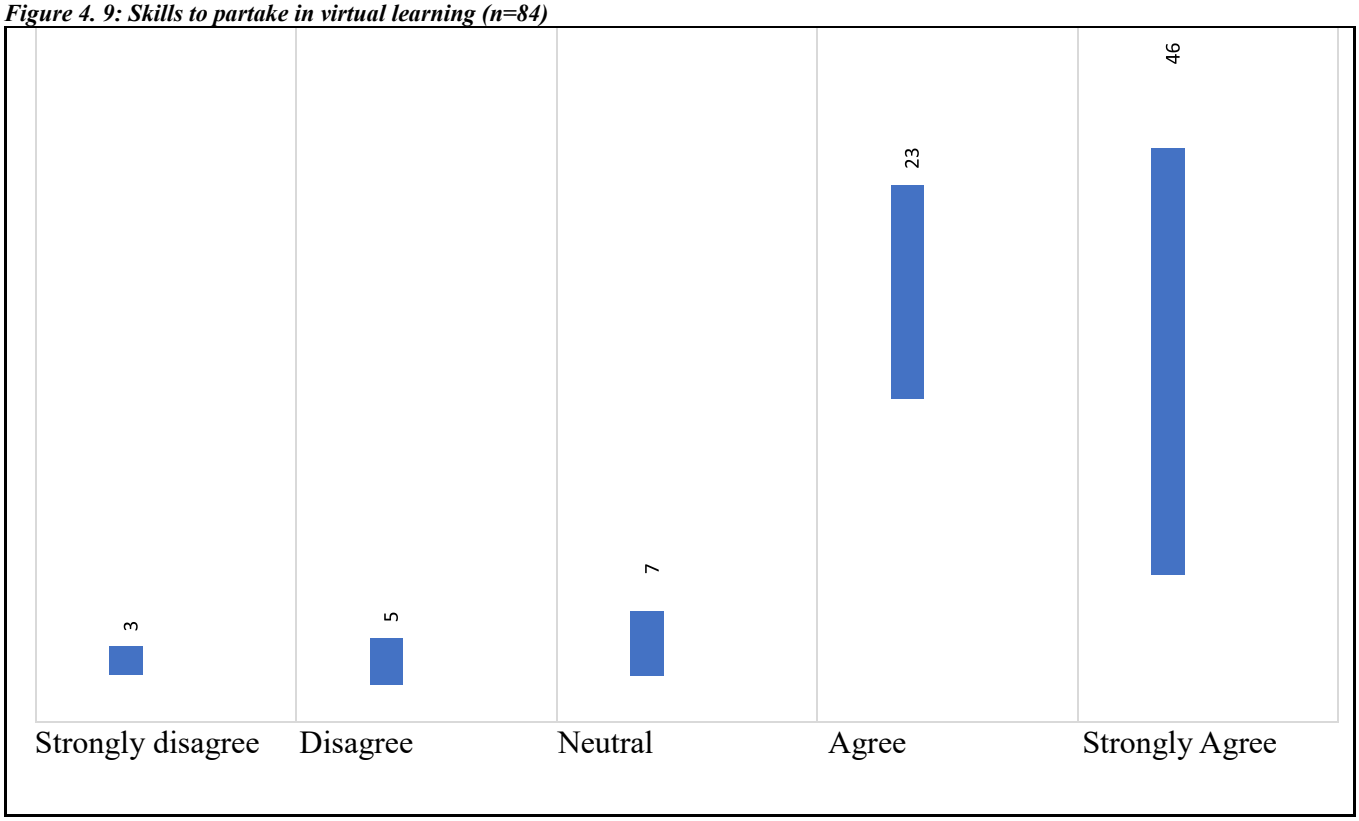
websites, learning forums, and shared documents (Erdogdu & Erdogdu, 2015; Khattak & Jan, 2015; Lim, *et al*. 2020). In higher education, having access to technology is essential since it fosters an environment that is more engaging. According to some experts such as Wastiau, *et al*. (2013); Fu (2013); Alderete (2017), technology aids academics in incorporating various learning styles, enhances collaboration, develops future leaders, and facilitates interaction with students.

This study reveals that a significant portion of respondents (66%) either had all the necessary technology or agreed to having it for virtual learning suggests a positive indication of the availability and accessibility of required technological resources. This aligns with the broader literature emphasising the importance of technology in education, particularly in fostering engagement, collaborative skills, and diverse learning styles. The study's findings underline the critical role of technology in higher education, not only as a facilitator of teaching and learning but also to enhance collaboration, engagement, and support various learning styles for a more enriched educational experience.

4.2.9 Skills to partake in virtual learning

Respondents were to indicate whether they had all the necessary skills required to partake in virtual learning. A Likert scale of ‘strongly disagree’ through to ‘strongly agree’ was used to measure their responses. The results are presented in the figure below**.**

Figure 4. 9: Skills to partake in virtual learning (n=84)



The results in the figure above show that most respondents (46; 55%) strongly agreed that they had all the necessary skills required to partake in virtual learning. In addition, the figure shows that 23(27%) agreed, 7(8%) were neutral, while 5(6%) disagreed, and only 3(4%) strongly disagreed. It is crucial that everyone engaging in virtual learning has the fundamental abilities needed to participate in virtual learning. It is impossible to overstate the importance of skills since without them, technology will remain inactive. Students require a wide range of abilities in addition to technology proficiency to successfully engage in virtual learning. Selfcontrol, self-motivation, and time management are a few of the abilities (Kretschmann, 2015; Li & Lee, 2016; Abubakar & Chollom, 2017). Many scholars list the many abilities that students need in order to participate in online learning. Communication, teamwork, time management, information literacy, creativity, and problem-solving are a few of these talents (Makhmudov,

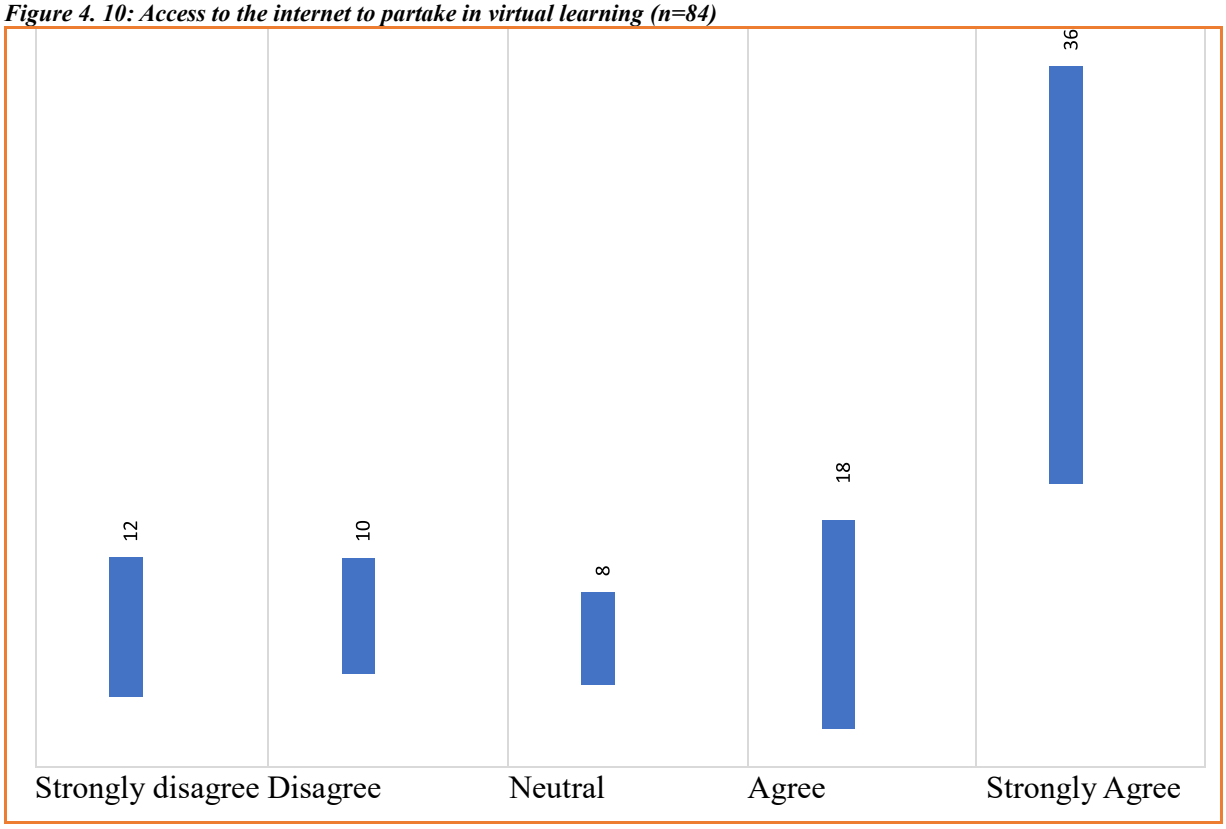
Shorakhmetov, and Murodkosimov, 2020; Tsai, Wang, and Hsu, 2019; Tafazoli, Parra, and Abril, 2017; Tsai, Liang, & Hsu, 2021).

The data indicating that most respondents (82%) either strongly agreed or agreed that they possessed the necessary skills for virtual learning reflects a positive perspective on the preparedness of students in terms of essential competencies. This aligns with existing literature emphasising the importance of a diverse skill set, including self-control, self-motivation, and time management, for successful engagement in virtual learning (Kretschmann, 2015; Li & Lee, 2016; Abubakar & Chollom, 2017). The study's findings contribute to the understanding that, beyond technological proficiency, cultivating a range of skills, such as communication, teamwork, and problem-solving, is crucial for effective participation in online education.

4.2.10 Access to the internet to partake in virtual learning

Respondents were asked to confirm whether they had constant access to the internet to ensure that they always partake in virtual learning. A Likert scale of ‘strongly disagree’ through to ‘strongly agree’ was used to measure their responses. The results are presented in the figure below.

Figure 4. 10: Access to the internet to partake in virtual learning (n=84)



It can be seen in the figure above that a significant number of the respondents (36; 43%) strongly agreed that they had constant access to the internet to ensure that they always partake in virtual learning. In addition, the figure depicts that 18(21%) of the respondents were also in the affirmative, while the minority (8; 10%) were neutral. Furthermore, the figure shows that 10(12%) of the respondents disagreed, and 12(14%) strongly disagreed. It is important to remember that taking part in virtual learning is practically impossible without internet access. Internet access must be always available for virtual learning. Some scholars have suggested that it is not simple to determine how the internet will affect schooling. Therefore, the issue of unequal access leads to the dominance of traditional training approaches.

There are a variety of ways to use the internet for education, including research, online courses, collaborative learning, virtual field trips, language learning, test preparation, time management, and organising (Malamud *et al*. 2019; Suana, 2018; Van Deursen & Helsper, 2018). Some technology experts contend that having access to the internet enables students to keep up with

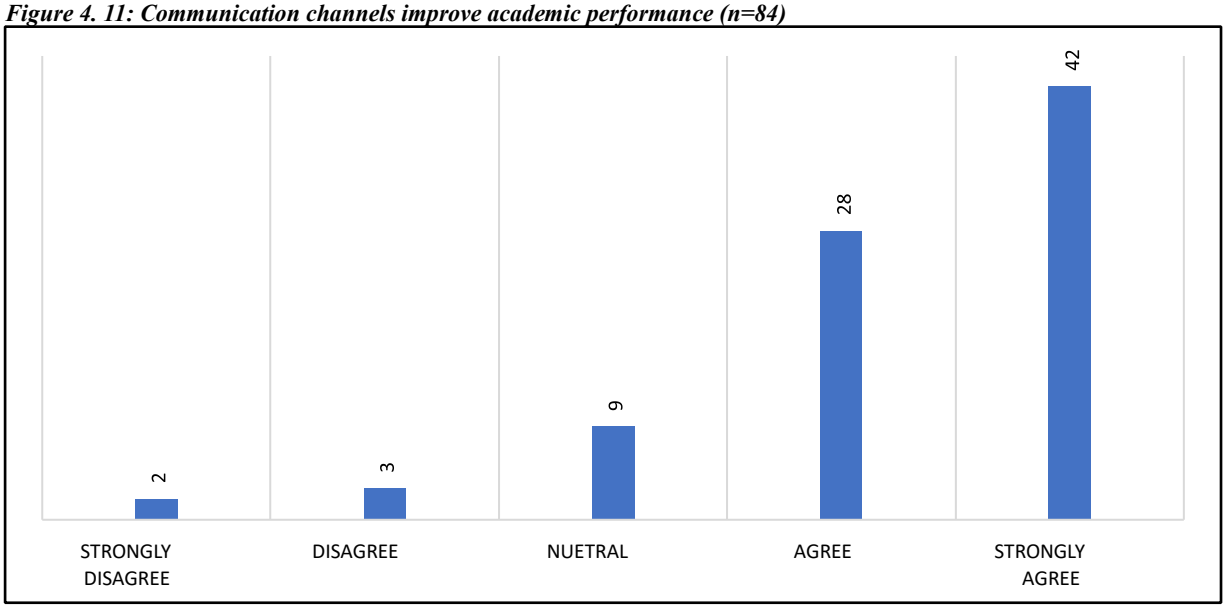
information that may not be included in textbooks or that may become stale by the time it is made available in a conventional format (Kassab, DeFranco, & Laplante, 2020; Mora-Rivera & Garca-Mora, 2021). The findings support the assertion made by several scholars that giving students access to this knowledge empowers them to take charge of their education (Henderson, 2020; Apuke & Iyendo, 2018; Nikolopoulou, 2020; Hurwitz & Schmitt, 2020).

The substantial number of respondents (64%) expressing agreement (either strongly or moderately) that they have constant access to the internet for virtual learning highlights the critical role of internet connectivity in facilitating online education. This finding resonates with existing literature emphasising the significance of reliable internet access for various educational activities, such as research, online courses, collaborative learning, and virtual field trips (Malamud *et al*. 2019; Suana, 2018; Van Deursen & Helsper, 2018). However, the study's acknowledgment of the minority (24%) expressing disagreement or uncertainty underscores the persistent issue of unequal internet access, which can impede the effectiveness of virtual learning and contribute to the perpetuation of traditional teaching approaches.

4.2.11 Communication channels improve academic performance

Respondents were asked to confirm if online communication channels were helping them to improve their academic performance. A Likert scale of ‘strongly disagree’ through to ‘strongly agree’ was used to measure their responses. The results are presented in the figure below**.**

Figure 4. 11: Communication channels improve academic performance (n=84)



The results in the figure above show that most respondents (42; 50%) strongly agreed that online communication channels were helping them to improve their academic performance. In addition, the results show that 28(33%) of the respondents were also in the affirmative. Furthermore, the results show that 9(11%) were neutral, while 3(4%) disagreed, and only 2(2%) strongly disagreed. Numerous studies that support the results above show that online communication channels do, in fact, significantly improve students' academic achievement. According to some scholars, the many kinds of communication facilitate knowledge development, transmission, and acquisition (Davis, Gough & Taylor, 2019; Höhne, 2023).

A sense of community is fostered using online communication channels, which also allows students to describe issues and come up with solutions as a class (Bailey & Lee, 2020; Manea, Macavei, & Pribeanu, 2021). The sense of belonging those results from this fosters selfefficacy and increases learner motivation. Enhanced eLearning, more student engagement, and ongoing connectivity are some of the advantages of employing online communication platforms in higher education. The cost savings compared to physical meetings, the ease of connectivity from anywhere in the world, the best use of various devices and gadgets, increased productivity

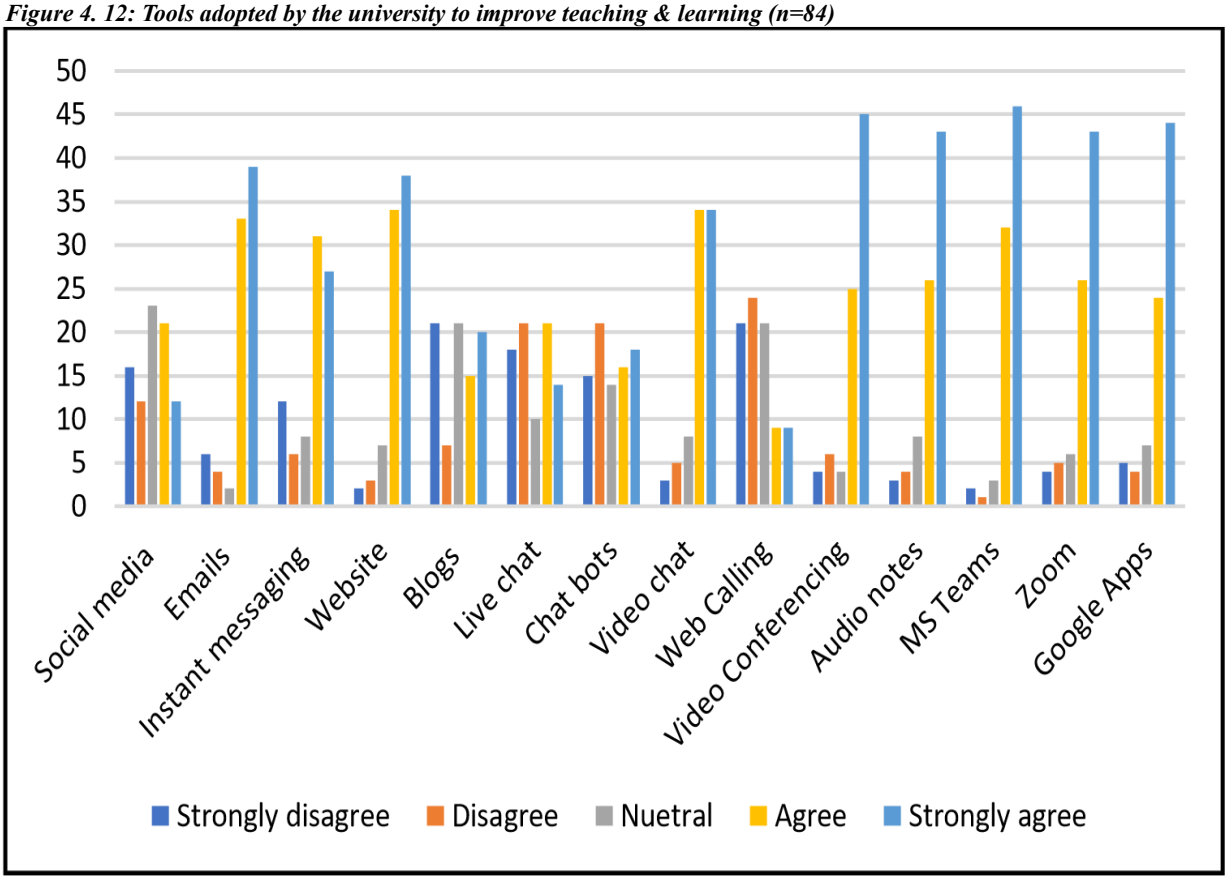
and efficiency, and long-term competitive advantage are a few of the key advantages (Stoian, *et al*. 2022; Zan, 2019; Faizi, El Afia & Chiheb, 2013).

Most respondents (83%) expressing agreement that online communication channels contribute to improving their academic performance underlines the positive impact of virtual communication on students' learning outcomes. This finding aligns with existing research emphasising the significant role of various communication channels in fostering knowledge development, transmission, and acquisition (Davis, Gough & Taylor, 2019; Höhne, 2023). Moreover, the study's recognition of the minority (15%) expressing disagreement or uncertainty highlights the need for further exploration into the factors influencing students' perceptions and experiences with online communication platforms to enhance their academic performance.

4.2.12 Tools adopted by the university to improve teaching and learning

Respondents were asked to indicate types of online communication channels adopted by their university to improve teaching and learning following the Covid-19 crisis. Using a Likert scale of ‘strongly disagree’ through to ‘strongly agree’, a list of online communication channels was provided to them to rate. The results are presented in the figure below.

Figure 4. 12: Tools adopted by the university to improve teaching & learning (n=84)



The figure above depicts that 16(19%) of the respondents strongly disagreed that social media was improving teaching and learning, 12(14%) disagreed, while 23(27%) were neutral, 21(25%) agreed, and only 12(14%) strongly agreed. In addition, the figure shows that 6(7%) of the respondents strongly disagreed that emails were improving teaching and learning, only 4(5%) disagreed, 2(2%) were neutral, 33(39%) agreed, and 39(46%) strongly agreed.

Furthermore, the figure depicts that 12(14%) of the respondents strongly disagreed that instant messaging was improving teaching and learning, 6(7%) disagreed, 8(10%) were neutral, while a significant number of them (31; 37%) agreed, and 27(32%) strongly agreed. It is further depicted in the figure above that only 2(2%) of the respondents strongly disagreed that the website was improving teaching and learning, 3(4%) disagreed, 7(8%) were neutral, while 34(40%) agreed, and 38(45%) strongly agreed.

Moreover, the figure shows that 21(25%) of the respondents strongly agreed that blogs were improving teaching and learning, 7(8%) disagreed, 21(25%) were neutral, while 15(18%) agreed, and 20(24%) strongly agreed. It can also be seen that the figure shows that 18(21%) of the respondents strongly disagreed that live chats were improving teaching and learning, 21(25%) agreed, 10(12%) were neutral, while 21(25%) agreed, and 14(17%) strongly agreed. When it comes to chat bots, the results show that 15(18%) of the respondents strongly disagreed that they were improving teaching and learning, 21(25%) disagreed, 14(17%) were neutral, while 16(19%) agreed, and 18(21%) strongly agreed. With regards to video chats, the figure shows that 3(4%) of the respondents strongly disagreed that they were improving teaching and learning, 5(6%) disagreed, 8(10%) were neutral, while 34(40%) agreed, and another 34(40%) strongly agreed.

Regarding web calling, 21(25%) of the respondents strongly disagreed that it was improving teaching and learning, 24(29%) disagreed, 21(25%) were neutral, while 9(11%) agreed, and the other 9(11%) strongly agreed. The figure above further depicts that 4(5%) of the respondents strongly disagreed that video conferencing was improving teaching and learning, 6(7%) disagreed, 4(5%) were neutral, while 25(3%) agreed, and the majority (45; 54%) strongly agreed. Regarding audio notes, 3(%) of the respondents strongly disagreed that they were improving teaching and learning, 4(5%) disagreed, 8(10%) were neutral, while 26(31%) agreed, and the majority (43; 51%) strongly agreed.

In as far as the MS Teams is concern, the study found that 2(2%) of the respondents strongly disagreed that it was improving teaching and learning, only 1(1%) disagreed, 3(4%) were unsure, while 32(38%) agreed, and the majority (46; 55%) strongly agreed. The figure demonstrates that 4(5%) of the respondents strongly disagreed that Zoom was improving teaching and learning, 5(6%) disagreed, 6(7%) were neutral, while 26(31%) agreed, and the

majority (43; 51%) strongly agreed. It can be seen in the figure above that regarding Google Applications, 5(6%) of the respondents strongly disagreed, 4(5%) disagreed, 7(8%) were neutral, while 24(29%) disagreed, and the majority (44; 52%) strongly disagreed.

It is crucial to remember that appropriate technology must be used for virtual learning to make sense. A variety of online communication tools can be used to improve teaching and learning. Mobile phones, emails, television, radio, and social media are just a few examples of these platforms. According to experts (Erjavec *et al*. 2021; Höhne, 2023; Zan, 2019), the purpose of online communication is the same as that of face-to-face contact. To establish connections, exchange information, and be heard and understood, online communication tools are used.

According to some (Fox & McEwan, 2017; Alşkan & Zmirli, 2020), the use of online platforms by lecturers to interact with their students fosters a feeling of community that makes students feel more a part of the school. The use of digital telecommunication to communicate ideas and information between instructors, students, parents, and school officials is also observed by some to constitute online communication between home and school (Palts & Kalmus, 2015;

Kim & Paek, 2019; Alakbarov, 2021). Another significant point is the widespread use of blogs, social media, chat apps, email, and other online communication tools for both business and personal purposes.

The study reveals a perspective on the diverse online communication channels adopted by the university to enhance teaching and learning, capturing variations in respondents' perceptions across platforms. Notably, while certain channels like Zoom, MS Teams, and video conferencing received overwhelming positive endorsements, others such as Google Applications faced notable scepticism. This comprehensive overview provides valuable insights into the preferences and reservations of students regarding specific online

communication tools, guiding educators and institutions in optimizing their digital strategies for effective virtual learning.

4.3 SUMMARY

The study's findings were given in this chapter. This chapter also covered the outcomes. The study examining students' perceptions of online communication channels in a South African higher learning institution provides valuable insights into various aspects of virtual learning. Findings highlight gender disparities, with a higher percentage of female respondents, and emphasise the prevalence of undergraduate students in online education contexts. The data also reveal positive perceptions of online communication channels' impact on teaching and learning, indicating their effectiveness despite challenges like inconsistent internet access. Additionally, the study underlines the importance of technology and diverse skills for successful virtual learning, while shedding light on the resilience of online platforms amid challenges such as power outages. Moreover, the research offers a detailed analysis of students' views on specific online communication tools, providing educators and institutions with valuable information for optimizing digital strategies in higher education. The results of the study are summed up, some last thoughts are offered, and some recommendations are made in the next chapter.

CHAPTER FIVE: SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 INTRODUCTION

In the previous chapter, the data analysis and interpretation of the research findings has been presented. In chapter 4, the findings were interpreted and discussed against the evidence in the literature. Chapter 3 focused on the philosophical assumptions and methodological approaches and procedures followed in this study, meanwhile both Chapters 2 presented the discussion of the review of empirical and theoretical literature. The problem statement, research objectives and research questions were presented in Chapter one. The rest of the current chapter is structured as follows: Section 5.2 presents a discussion on the summary of the results. Then Section 5.3 present the summary of research objectives. Section 5.4 outlines the limitations of the study. Section 5.5 discusses the theoretical, empirical, methodological, and practical recommendations of the study. Section 5.6 provides the theoretical contribution, empirical contribution, methodological contribution, and practical contribution. Section 5.7 provides recommendation for future studies. The last section for the chapter presents final concluding remarks.

5.2 SUMMARY OF RESULTS

Most respondents, according to the study, firmly agreed that online communication channels utilised in virtual learning were enhancing teaching and learning. Additionally, respondents were questioned about whether the lack of regular internet access for students rendered the online communication tools utilised in virtual learning worthless. Most respondents, according to the study, vehemently disputed that students' lack of continuous internet access rendered the online communication tools utilised in virtual learning ineffective.

Additionally, respondents were questioned about whether loadshedding consistently affected the online communication channels utilised in virtual learning. According to the survey, a sizable portion of respondents strongly disputed that loadshedding consistently harmed the online communication channels utilised in virtual learning. Additionally, participants were asked to rate the effectiveness of the quick transition to online communication channels employed in virtual learning as a strategy for improving teaching and learning. The study found that most participants firmly believed that a way for improving teaching and learning was sudden adaption to online communication channels utilised in virtual learning. It is also significant to remember that respondents were asked if they have access to all the technology required to participate in virtual learning. The findings indicate that a sizable proportion of respondents claimed to have all the technology required to engage in virtual learning.

Respondents were asked to check whether they possessed all the abilities essential to participate in virtual learning. The study reveals a predominant positive sentiment among respondents, with the majority (82%) strongly agreeing or agreeing that they possess the necessary skills for virtual learning. This positive perception reflects a confidence in their abilities to navigate the challenges of online education successfully. Additionally, the emphasis on consistent internet access (64% agreement) underscores the recognition among respondents that uninterrupted connectivity is vital for effective and continuous engagement in virtual learning activities, highlighting the importance of reliable internet access in facilitating online education.

According to the study, a sizable portion of the respondents firmly agreed that they needed continual internet access to always engage in virtual learning. It is also important to note that respondents were also questioned if using internet communication tools had improved their academic achievement. The findings indicate that most respondents firmly agreed that using internet communication tools had improved their academic achievement.

To improve teaching and learning in the wake of the Covid-19 crisis, respondents were also asked to identify the different online communication channels used by their university. According to the study, most respondents firmly agreed that social media, emails, instant messaging, websites, blogs, live chats, chat bots, and video chats were among the online technologies used to enhance teaching and learning. The study also found that most respondents vehemently disagreed that online conferencing enhanced teaching and learning. According to the study, most respondents firmly believed that ICT services and products like video conferencing, audio notes, Google Applications, Microsoft Teams, and Zoom were enhancing teaching and learning.

5.3 SUMMARY OF THE RESEARCH OBJECTIVES

Following the stated research objectives (RO) in chapter one, the research objectives and how they are achieved following the methodological procedure are summarised as follows:

RO1: To examine students' experiences regarding the adoption of online communication channels used in virtual learning.

RO2: To determine students' perceptions of the sudden adaptation to the online communication channels used in virtual learning.

RO3: To examine the efficacy of online communication channels used in virtual learning and their impact on students' academic performances.

RO4: To identify possible shortcomings associated with online learning and the communication platforms adopted.

5.3.1 Objective one: To examine students' experiences regarding the adoption of online communication channels used in virtual learning

The study found that 88% of respondents found online communication tools effective in teaching and learning, with 66% having necessary technology and 64% having constant internet access. However, challenges like load shedding and varying opinions on platforms were noted, emphasising the multifaceted nature of students' experiences.

5.3.2 Objective two: To determine students' perceptions of the sudden adaptation to the online communication channels used in virtual learning

The study found that 83% of students positively viewed the sudden shift to online communication channels in virtual learning, indicating its effectiveness in enhancing teaching and learning, and contributing to improved academic performance. This positive response highlights the importance of online communication tools in facilitating education.

5.3.3 Objective three: To examine the efficacy of online communication channels used in virtual learning and their impact on students' academic performances

The study found that students believe online communication channels in virtual learning significantly improve their academic performance, indicating a positive correlation between these digital tools and enhanced learning experiences and academic achievements.

5.3.4 Objective four: To identify possible shortcomings associated with online learning and the communication platforms adopted

Power outages, a common issue in some regions, can disrupt online learning and communication platforms, highlighting potential inequities in access to higher education. This, combined with the digital divide, further exacerbates existing disparities in online education, highlighting the need for improved accessibility and support for students.

5.4 LIMITATIONS OF THE STUDY

- Although the sudden adoption of online communication channels occurred across in all tertiary institution in South Africa, the researcher restricted this study to UJ in the Gauteng Province.
- The second limitation of the study emanates from the reality that only students were targeted in this study, and no lecturers participated.
- It is worth noting that there is no doubt that it would have been good to sample more institutions in the country. However, this was unachievable as the researcher did not have sufficient resources to carry out a bigger study.
- Another point worth noting is that this was a cross-sectional study, thus, its period was restricted to the Master's degree time frame.

5.5 RECOMMENDATION

Section 5.5 discusses the theoretical, empirical, methodological, and practical recommendations of the study:

5.5.1 Theoretical Recommendation

The study draws theoretical recommendations from educational theory such as the Community of Inquiry (CoI) framework. Implementing CoI principles, which emphasise cognitive, social, and teaching presence in online learning, could enhance the perceived effectiveness of online communication channels. Moreover, incorporating elements from the Technological Pedagogical Content Knowledge (TPACK) framework may guide lectures in integrating technology seamlessly with pedagogy, ensuring a more meaningful and impactful virtual learning experience for students within the South African higher education context.

5.5.2 Empirical Recommendation

This study recommends including ongoing empirical research to monitor and assess the evolving landscape of online communication tools and virtual learning experiences. This could include regular surveys or feedback mechanisms to gather real-time insights from students, allowing institutions to adapt their strategies based on empirical evidence. Continuous evaluation of the effectiveness of specific communication platforms, considering factors like internet access and power reliability, would further contribute to evidence-based decision-making and the improvement of online learning practices.

5.5.3 Methodological Recommendation

Methodological recommendations for the study involve refining the research approach by incorporating qualitative methods such as in-depth interviews or focus group discussions to gain a deeper understanding of students' experiences. Additionally, a longitudinal study design may be considered to capture changes in perceptions over time and assess the long-term impact of online communication tools on learning outcomes. The inclusion of a diverse sample, considering factors like socioeconomic background and geographic location, would enhance the study's validity and provide a more comprehensive understanding of the varied perspectives within the student population.

5.5.4 Practical Recommendation

The study recommends including the development of comprehensive training programs for both students and lectures to enhance digital literacy skills. Higher institutions of learning should invest in reliable and consistent internet infrastructure to address issues related to connectivity and power outages, ensuring a seamless online learning experience. Additionally, the integration of a diverse range of online communication tools, considering students'

preferences and experiences, can contribute to a more inclusive and engaging virtual learning environment.

5.6 CONTRIBUTION OF THE STUDY

Section 5.6 provides the theoretical contribution, empirical contribution, methodological contribution, and practical contribution. The following sections provide discussions of the above-mentioned contributions:

5.6.1 Theoretical Contribution

The study contributes theoretically by systematically exploring students' perceptions, the study may contribute to refining and expanding theoretical frameworks that address the effectiveness of online communication tools in diverse educational settings. The findings could provide insights into the evolving role of digital communication platforms in facilitating learning experiences, thereby informing theoretical models that seek to comprehend the complex dynamics between technology adoption and educational outcomes within the South African higher education context.

5.6.2 Empirical Contribution

The empirical contribution of the study lies in the rich dataset obtained from surveying students, offering a tangible understanding of their experiences with online communication tools. The study's empirical findings shed light on various aspects, including students' demographics, attitudes toward virtual learning, and perceptions of specific communication channels. This empirical evidence contributes valuable insights into the nuanced landscape of online education within the South African higher learning context, providing a foundation for evidence-based decision-making, policy formulation, and further research endeavours aimed at enhancing the effectiveness of virtual learning experiences.

5.6.3 Methodological Contribution

The methodological contribution of the study lies in its rigorous and comprehensive research design. The use of a survey instrument with a Likert scale allowed for systematic data collection, enabling the quantification of students' perceptions. The inclusion of various demographic variables and specific questions related to online communication channels provided an advanced understanding of the student population. Additionally, the study's methodological approach, which involved statistical analyses and data interpretation, enhances the reliability and validity of the findings. This robust methodology contributes to the broader academic community by offering a replicable framework for investigating students' experiences and perceptions in the context of online learning adoption.

5.6.4 Practical Contribution

The practical contribution of the study is evident in its potential to inform strategic decisions and policies for educational institutions navigating the integration of online communication channels. By uncovering students' perceptions, preferences, and challenges, the study provides actionable insights for administrators and educators. Practical recommendations derived from the findings, such as enhancing internet accessibility or refining communication platforms, offer tangible steps for institutions to improve the overall virtual learning experience. Consequently, the study's practical contribution lies in its ability to guide real-world adjustments and improvements in the implementation of online communication channels, thereby enhancing the quality and effectiveness of higher education in a digital landscape.

5.7 RECOMMENDATIONS FOR FURTHER RESEARCH

Although the sudden adoption of online communication channels occurred across tertiary institutions in South Africa, the researcher restricted this study to UJ in the Gauteng Province.

Therefore, it is recommended that future studies focus on sampling more institutions as they are all affected by the Covid-19 pandemic and had to adopt several ICTs to enhance teaching and learning. In addition, this study targeted students only, it would have been more beneficial to hear the views of academics as they also play a significant role in the virtual learning environment. Therefore, the study recommends that future studies be conducted to target academics to understand their perceptions of online learning environments.

5.8 CONCLUSION

The study sought to establish students' experiences and perceptions regarding the adoption of online communication channels used in virtual learning in the School of Communications Department at the University of Johannesburg. The study found that students' perception regarding online communication channels used in virtual learning is that they are very effective in improving teaching and learning. Respondents were also of the opinion that online communication channels used in virtual learning were not useless just because students did not have constant internet access. It is important to note that for ICTs to be effective, those who must use them need to possess relevant skills to operate them. Thus, virtual learning requires different competences compared to the classroom setting, from new communication patterns to more finely honed time management skills. Online learning demands that those partaking in the virtual learning environment possess necessary competences to use technology. Students perceived themselves as having all the necessary skills to partake in virtual learning. It is worth noting that for ICT tools and services to function, they require constant access to the internet. Students had constant access to the internet to ensure that they always partake in virtual learning. Furthermore, online communication channels are playing an important role in helping students to improve their academic performance.

Students were of the view that several online tools were used to improve teaching and learning, namely: social media, emails, instant messaging, website, blogs, live chats, chat bots, video chats, video conferencing, audio notes, Google Applications, MS Teams, and Zoom were improving teaching and learning. There is no denying that the changing learning environment and the Covid-19 pandemic have accelerated the demand and use of virtual learning at both basic and advanced levels. The study concludes that virtual learning is a very effective method for delivering teaching and learning following the Covid-19 outbreak. This is attributed to the fact that virtual learning can provide students with more benefits for enhancing their learning than traditional classroom instruction.

As indicated by several studies in the higher education sector, the coronavirus pandemic indeed disrupted teaching and learning in several tertiary institutions across the globe. This disruption forced several tertiary institutions to implement lockdown measures in the fight against the spread of the virus. Consequently, numerous institutions had to transition from face-to-face to virtual teaching and learning. Thus, digital media platforms became the compulsory driving force for virtual education. It can be concluded that as is the case with other universities across the country, the UJ experienced several significant challenges emanating from the lockdown necessitated by the Covid-19 pandemic. The challenges that impacted virtual learning at the UJ include the need for alternative online platforms for student engagement, several online authentic assessment strategies, and students' lack of access to devices and connectivity.

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APPENDIX A: QUESTIONNAIRE OF STUDY

Full name: Mary Mmule Marakalala

Student no: 42981964

Postal Address: No 10, Edwards Boulavard, Unit no 8, Theresapark

Telephone number: 0722089934

E-mail: 42981964@mylife.unisa.ac.za

DISSERTATION TITLE: STUDENTS' PERCEPTIONS ON THE ADOPTION OF ONLINE COMMUNICATION CHANNELS WITHIN A SOUTH AFRICAN HIGHER LEARNING INSTITUTION

Dear respondent,

Thank you for agreeing to take part in my study. This questionnaire is designed to collect data for my study to examine students' experiences and perceptions of adapting to the online communication channels used in virtual learning.

I intend to accumulate data based on the Informed Consent Form that you have voluntarily signed with a view to take part in this study. This questionnaire has 2 sections (A and B). In each of the sections, please select the choice of answer that best reflects your experience or view regarding the adaptation to the online communication channels used in virtual learning.

SECTION A: DEMOGRAPHIC PROFILE OF RESPONDENTS

For each question in this section, please indicate your answer by clicking inside the box corresponding to your choice of answer, a tick (✓) will automatically appear after clicking the box.

1. Gender

☐ Male

☐ Female

☐ Other……...

2. Current level of study

✓ NQF Level 6 (National Diploma)

☐ NQF Level 7 (Bachelor's Degree, BTech Degree or Advanced Diploma)

☐ NQF Level 8 (Honors Degree or Postgraduate Diploma)

☐ NQF Level 9 (Master's Degree)

☐ NQF Level 10 (Doctoral Degree)

☐ Other (please specify) …….

3. Your age

☐ 18-24

☐ 25-30

☐ 31-35

☐ 36-40

☐ 41-45

☐ 46-50

☐ 51- and above.

INSTRUCTION

In Section B below, please answer each question based on a 5-point ordinal or Likert scale in which the number 1 denotes the lowest degree of satisfaction, whereas the number 5 denotes the highest degree of satisfaction. That is,

1 = Strongly disagree

2 = Disagree

3 = Not sure (neither agree nor disagree)

4 = Agree

5 = Strongly agree

For each question in this section, please indicate your answer by clicking inside the box corresponding to your choice of answer, a tick (✓) will automatically appear after clicking the box.

SECTION B: YOUR EXPERIENCES AND PERCEPTIONS OF ADAPTING TO THE ONLINE COMMUNICATION CHANNELS USED IN VIRTUAL LEARNING

4. My experiences regarding the adoption of online communication channels used in virtual learning is that they have improved teaching and learning.

☐ 1. Strongly disagree

☐ 2. Disagree

☐ 3. Not sure

☐ 4. Agree

☐ 5. Strongly agree

5. Online communication channels used in virtual learning are useless because students don't have access to constant internet access

☐ 1. Strongly disagree

☐ 2. Disagree

☐ 3. Not sure

☐ 4.Agree

☐ 5.Strongly agree

6. Online communication channels used in virtual learning are always effected by the loadshedding.

☐ 1. Strongly disagree

☐ 2. Disagree

☐ 3. Not sure

☐ 4. Agree

☐ 5. Strongly agree

7. The sudden adaptation to the online communication channels used in virtual learning is the best way for enhancing teaching and learning.

☐ 1. Strongly disagree

☐ 2. Disagree

☐ 3. Not sure

☐ 4. Agree

☐ 5. Strongly agree

8. I have all the necessary tools to partake in virtual learning

☐ 1. Strongly disagree

☐ 2. Disagree

☐ 3. Not sure

☐ 4. Agree

☐ 5. Strongly agree

9. I have all the skills required to partake in virtual learning

☐ 1. Strongly disagree

☐ 2. Disagree

☐ 3. Not sure

☐ 4. Agree

☐ 5. Strongly agree

10. I have constant access to the internet to ensure that I always partake in virtual learning.

☐ 1. Strongly disagree

☐ 2. Disagree

☐ 3. Not sure

☐ 4. Agree

☐ 5. Strongly agree

11. Online communication channels are going to help me improve my academic performance.

☐ 1. Strongly disagree

☐ 2. Disagree

☐ 3. Not sure

☐ 4. Agree

☐ 5. Strongly agree

Please indicate online communication channels adopted by your university to improve teaching and learning following the Covid-19 crisis.

Variables	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
Social media					
Emails					
Instant messaging					
Website					
Blogs					

Live chat					
Chatbots					
Video chat					
Web calling					
Video conferencing					
Audio notes					
MS Teams					
Zoom					
Google Apps					

END OF QUESTIONNAIRE

THANK YOU FOR TAKING PART IN THE STUDY

APPENDIX B: COPY OF EDITING CERTIFICATE

Tel: +27 12 661 7248/ +27 82 084 4839

Fax: 086 764 4946

Email: info@saharapublishing.co.za

Unit 4076B Thatchfield Crescent, The Reeds, Centurion

PO Box 468, Celtis Ridge, Centurion, Pretoria 0130

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This document certifies that the dissertation listed below was edited for proper English language, grammar, punctuation, spelling, and overall style by Alison Ziki, a member of the Professional Editors' Guild of South Africa.

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Author	MARY MMULE MARAKALALA
Student number:	42981964
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STUDENTS' PERCEPTIONS ON THE ADOPTION OF ONLINE COMMUNICATION CHANNELS WITHIN A SOUTH AFRICAN HIGHER LEARNING INSTITUTION

by

MARY MMULE MARAKALALA

(Student number: 42981964)

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STUDENTS' PERCEPTIONS ON THE ADOPTION OF ONLINE COMMUNICATION CHANNELS WITHIN A SOUTH AFRICAN HIGHER LEARNING INSTITUTION

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	Submitted to The University of the South	1