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ADDIS ABABA UNIVERSITY
GRADUATE SCHOOL OF JOURNALISM AND COMMUNICATION

New Media Practices of Learning and Teaching Process during the Covid-19
Pandemic: In the case of Addis Ababa University Students and Instructors

By AmakelechShibru

July, 2022
Addis Ababa

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Addis Ababa

DECLARATION

I, the undersigned, AmakelechShibru declare that this thesis entitled 'New Media Practices of Learning and Teaching Process during the Covid-19 Pandemic: In the case of Addis Ababa University Students and Instructors' is my original work. It has not been presented to any other university and all sources of materials used for the thesis have been duly acknowledged.

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List of Acronyms

AAU: Addis Ababa University

CD-ROM: Compact Disc Read-only Memory

CDC: Centers for Disease Control Prevention

DVD: Digital Versatile Disc

IM: Instant Messaging

PDA: Personal Data Assistants

SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2

UNESCO: United Nations Educational, Scientific and Cultural organization

UCAA: University Colleges of Addis Ababa

VR: Virtual Reality

WHO: World Health Organization

Abstract

The Covid-19 pandemic has caused a shift in education from face-to-face classes to online classes. *However, students and teachers faced many challenges in utilizing new technologies for learning and teaching. This study examined student and instructor practices regarding the use of new media during the Covid-19 pandemic, particularly Zoom, Google meet, Telegram and email. This study was conducted using mixed methods. Participants were selected systematically and purposefully from four colleges of Addis Ababa University. Data collection was performed using a questionnaire and an in-depth interview. A majority of the sampled population (58% of the population) practices Zoom, Google meet telegram, and email by asking an experienced individual for advice. Based on the current study result, it is evident that students and instructors encounter many challenges when practicing new media in learning and teaching. These challenges included low network infrastructure, low ICT skills, and Unfamiliarity with new media technology. The study findings showed that 52% of respondents strongly agree that they are not satisfied with Zoom, Google Meet, telegram email learning, and teaching.*

Keywords: Covid-19 pandemic, New Media Technology, Online Class: Learning, Teaching

Definitions of Terms

The following terms in this study are defined as follows:

Online class: An online class is a course conducted over the internet, and they are generally conducted through a learning management system. Students can view their course syllabus and academic progress, as well as communicate with fellow students and their course instructors.

New media: new media is considered to be multimedia and digital form of Communication happening via desktop, laptop computers as well as phones, tablets, and others devices.

Covid-19 Pandemic: Covid-19 Pandemic is a communicable respiratory disease caused by a new strain of Coronavirus that causes illness in humans. It is an infectious disease caused by the severe acute respiratory syndrome coronavirus 2(SARS-CoV-2).

Learning: Learning is a process that leads to change, which occurs as a result of experience and increases the potential for improved performance and future learning.

Teaching: Teaching is a set of events, outside the learners which are designed to support the internal process of learning. Teaching (Instruction) is outside the learner.

CHAPTER ONE

1. INTRODUCTION

This Chapter provides an introduction to the study by first discussing the background, and context followed by the research problem, research questions, the research objectives and, significance of the study, the scope of the study, and finally, the limitations of the study.

Parra and Granda (2010, 2021) indicate that the Covid-19 pandemic has had a significant impact on the development of many areas of society, including education. More than 1.5 billion students and young people around the world have been affected by the COVID-19 pandemic crisis. UNESCO estimates that 429 universities worldwide shut down and started offering online courses starting in 2020. COVID-19 has changed the entire nature of education. Administrators, teachers, and students struggled to understand how to achieve the overall objectives of their organizations and themselves during the global pandemic. Due to the covid-19 pandemic, schools closed in developed and developing countries, resulting in long-term negative effects on education, as well as broader economic effects (UNESCO, 2020). The Covid-19 pandemic has caused major disruptions in many areas of life across the globe. Moreover, the covid-19 pandemic has had an impact on higher education, with the lockdown imposed in most countries resulting in the immediate closure of Universities and schools and a shift towards education being delivered via distance (Sangster & Stone, 2020).

The first Covid-19 outbreak in Ethiopia was confirmed on 13 March 2020, and on 16 March 2020, the Ethiopian premier's office announced that schools, sporting events, and public meetings would be postponed for 15 days until further notice, but due to an increased outbreak, Ethiopia has declared a state of emergency in April 2020. The Centers for Disease Control and Prevention (CDC, 2020) provided strategies on unconventional teaching and learning methods to connect classwork and assignments for students. ZOOM, Google Classroom, Moodle, and Blackboard are widely used virtual classroom applications, and they play a significant role in the transition from face-to-face classes to the online system (Stone, 2020).

The study done by Noor, Isa, and Mazhar (2020) shows that in Pakistan, the change from face-to-face classroom teaching to online teaching practices has a profound effect on the

teaching norms, professional roles, and teaching strategies of teachers with the virtual model of education a largely new experience for most teachers in Pakistan. Due to their limited experience with online education and platforms, the teaching staff has encountered difficulty to adapt this new mode of teaching.

According to Belay(2020) Schools in Ethiopia closed due to covid-19 on 16 March 2020, following the declaration of the virus as a pandemic by the WHO on March 12, 2020. The core strategies of the response plan of the Ministry of education are as follows: “the strategies provide recommendations for the continuity of learning at all levels while schools are closed due to COVID-19 including the use of digital technology such as e-learning secondary education and multimedia channels for primary schools.

The instant development and growth in technology have played an important role in making distance education mostly hassle-free for both instructors and students (Murphy, 2020). New media has a significant impact, on the education sector; the education world has reached a point where different parts, people, platforms, and tools are connected for productive education. The new media Communication method is presently creating waves through the introduction of new media methods of learning. Its capability to make sure accessibility of content everywhere without restricting physical space and time has made it further advantageous in learning.

(James, 2014) explained new media is becoming a term for a variety of media practice that employs digital technologies and the computer in some way or another. New media can be mentioned as on-demand access to content anytime, wherever, and on any digital device, for example, smartphones, and computers among others. It usually mentions the variety of new media communication outlets that now pass through the current world which makes communication easier and faster (Ogidi and Utulu 2016).New media is the new means of communication and transferring Information. New media is regularly characterized as very interactive digital technology. New media is “very easily processed, stored, changed retrieved, the term new media is used all over in many different ways (Freidman, 2008).

According to Ogidi and Utulu, (2016) new media is a vast collection of technologies; the internet and the World Wide Web, Satellite Broadcasting, Digital and CGI effects, computer graphics, CDs and DVDs, Cell Phones and Personal Data Assistants (PDAs), Video games, Computer graphics and software, digital Music, on-line Comics, high clarity television,

digital Video, and Cinema. Furthermore thus, can be defined as the systems of communication in the digital world, which contain electronic distribution on CD-ROM, DVD, digital television, and most significantly, the Internet. It indicates the use of computer and controllable computers as well as, wireless handheld devices. Around, all corporations in the computer industry are concerned with new media in one way or the other, and in this case, each company in the world involves new media technology.

Noor, Isa, and Mazhar, (2020) point out in an article, that emergency online learning and teaching have been substitutes for classroom education, but have encountered several obstacles such as technical knowledge, inadequate and weak infrastructure, and issues with online connectivity. Furthermore, inequities in learning outcomes also occurred in rural areas, where reliable power supplies and internet access are scarce. According to the European Commission (2020) digital action plan, closures of schools affected more than 60% of students in some countries, and the plan also highlighted the importance of support and development programs for online teaching practices and strategies across all European member states.

Addis Ababa University identified technology-based education interventions as a way to help students through online teaching and learning applications, such as Zoom, Google Classroom, Email, Telegram, and YouTube, which are accessible through both internet-connected computers and mobile devices. COVID-19 has altered the teaching and learning practices of schools, university students, and teachers who are generally used to classroom teaching and learning. The new media practice is heavily reliant on sparse telecommunications and Internet infrastructure (Noor, Isa, and Mazhar,(2020). Ababa University students' and instructors' new media practices regarding teaching and learning during the COVID-19 crisis were examined in this study. The study examined Zoom and Google Classroom, Telegram, and Email among other new media. This study aims to assess the new media practices that have been used in learning and teaching during COvid-19 that have emerged unexpectedly. As a result of this research, students and teachers will also be able to understand the challenges and opportunities involved in teaching and learning an online class when they are required to do so. This study provides stakeholders with information that they can use to implement strategic policies to improve the teaching and learning staff's use of new media, thus benefiting stakeholder interests.

1.2 Statements of the Problems

Globally, the education system has changed since the Covid -19 pandemic. Many schools and universities remain closed (Murphy, 2020). Covid-19 has affected education all over the world; as a result, the rise of e-learning is happening in the education system (Bozkurt et al., 2020). About 429 universities throughout the world were shut down and started conducting online classes (UNESCO, 2020). During this global pandemic time administrators, teachers and students had the dilemma of how to reach the overall objectives of the organization and individuals.

As a result of the Covid-19 pandemic, educational activities have also been disrupted, and delivering learning to homes has been problematic for teachers in most under-resourced contexts where technology is not easily available and widely used (Shrestha and Haque, 2021). Ethiopia has been slow to adopt information communication technology in higher education. The majority of schools, colleges, and universities in the country do not use information communication effectively in teaching and learning (Dawitand Solomon, 2009). It is uncommon to use new media platforms in education in the country, but the Covid-19 pandemic necessitated using those platforms. Moreover, students and teachers may have had limited experience with new media before the Covid-19 pandemic. Although developed countries have a practice of using new media in education, they may still have problems with it. In (Shrestha and Haque's, 2021) research it was determined that teachers face several challenges when they have to run online classes when there is an outbreak of Covid-19, and the most prominent of these challenges was a lack of digital skills among teachers from Bangladesh and Nepal. Ethiopia has several infrastructure problems, notably; it can be difficult, especially in outlying areas, since 80% of residents live in rural areas. Access to new media may be difficult in remote areas, and 80% of university students live in rural areas without electricity, laptops, smartphones, and expensive internet (Tilahun, 2020). The fact is that despite so many studies on the Covid-19 pandemic and education disruption in the country, none of the studies are concerned with the evaluation of the use of new media in learning and teaching during a Covid-19 pandemic.

Numerous gaps have been observed in the literature on how students and teachers use new media. As a result, there is a lack of research on teachers' and students' use of new media in education, as well as on the challenges and opportunities of communicating via Zoom, Google Meet, email, and telegram during the Covid-19 pandemic outbreak.

Addis Ababa University, a pioneer and leading university in Ethiopia, closed face-to-face classes in March 2020 because of the Covid -19 pandemic. The use of new media technology among students and teachers raises many concerns in this regard. Since widespread Corona virus outbreaks in Ethiopia, the education sector has faced major challenges. Since March 13, 2020, when the first case was confirmed, schools and universities have been closed for eight months. Using the assumptions and ideas mentioned above, this study investigates the idea and practices of new media among instructors and students during a covid-19 pandemic. Further, the article explores the challenges and opportunities faced by students and teachers during the covid-19 pandemic.

1.3 Objective of the research

1.3.1 General objective

The general objective of the research is to evaluate the practices of the new media in learning and teaching during the Covid-19 Pandemic: in the case of Addis Ababa University.

1.3.2 Specific objectives

This research aims to fulfill the following specific objectives.

1. To examine the practice of new media in learning and teaching during the Covid-19 Pandemic.
2. To identify the challenges and opportunities that the students and instructors have experienced during the pandemic.
3. To evaluate the degree of satisfaction students and instructors expressed with the use of new media.

1.4 Research questions

1. What does the practice of new media in learning and teaching look like during the Covid-19 pandemic?
2. What are the challenges and opportunities that students and instructors have experienced?
3. To what extent is the satisfaction of students and instructors in using the new media in learning and teaching?

1.5 Significance of the Study

This study will contribute to the higher education sector by identifying challenges and opportunities of using new media in learning and teaching and evaluating the practices of new media technology in education.

This research could also provide a base upon which further study could be carried out in the area of new media practices. It could further encourage other similar research initiatives and contribute to handling the challenges of new media that students and instructors faced during the Covid-19 pandemic.

This study will increase educational administrators, teachers, and students' awareness of the benefits of advanced technology, such as new media platforms in academic institutions.

1.6 Scope of the Study

The scope of the study was limited to students and teachers of Addis Ababa University. Even if AAU has more than ten colleges the researcher was restricted to four colleges because due to lack of time and resources it is very difficult to address the whole population in all colleges of the university. The colleges selected for this study are, the Colleges of Business and Economics(FBC), College of Humanities, Language Studies, Journalism and Communication (CHL and SJC), College of Educational and Behavioral Studies (CEBS), and Colleges of Social Sciences (CSS).

As well, this study focuses primarily on Zoom, Google Meets, email, telegram, and YouTube, which have been considered to be the most useful new media platforms for teaching and learning during the Covid-19 pandemic.

From a time perspective, the researcher focused only on the Second Semester, which ran from April 1, 2020- to July 7, 2020. From the total population of the four colleges, the researcher took 250 students and 20 teachers as samples. The sampling methods are systematic sampling and purposive sampling.

1.7 Limitation of the Study

As stated earlier, due to a lack of time and resources, the researcher focused only on four colleges, even though Addis Ababa University has more than 10 colleges. Covering all these colleges' populations would have made it difficult to control the research scope. Limited inter-person interaction was another challenge for the research. The researcher was

challenged during data collection, due to the covid-19 pandemic as face-to-face interaction was restricted. It's difficult to contact interviewees, as many people are not willing to make interviews because of the fear of the covid-19 pandemic. Data collection was very difficult because of the Covid-19 pandemic. Since face-to-face communication was prohibited during the Covid-19 pandemic, students were reluctant to fill out a questionnaire, which is one challenge of filling out a questionnaire.

1.8 Organization of the Study

This study is organized into five chapters. Chapter one contains an introduction, background of the study, statement of the problem, objective of the study, research question, significance of the study, the scope of the study, and limitations of the study.

The second chapter deals with the review of related literature. Chapter three discusses the methodology that was used in the research. In the fourth chapter of the study data presentation and analysis are discussed. Finally, conclusions and recommendations are included in the last chapter, chapter five of the paper.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

This chapter deals with a review of related literature, concepts related to new media, the internet, covid-19, and its impact on education in brief. Primary it delivers about Covid-19 and Education in Ethiopia, Internet developments, new media, and Covid-19 Pandemic, and relatable theories to this study discussed.

2.1. Concepts of new media

There are various types of new media platforms. However, in this study, the researcher discussed Zoom, Google Meet, Telegram, and email, among various types of new media. This section defines the term new media briefly before discussing the study. The term new media can be defined differently by different researchers in their fields of study. To start with Udou and Gbemisola, (2016) new media is means of communication whereby various media platforms are accessed through the internet and used to generate content, modify content, and distribute information through the use of a digital device.

Due to advanced communication technology and globalization, the Internet has perhaps become the most prominent engine that enables people around the world to interconnect more than ever before. Since the beginning of human history, humans have continuously invented different forms of communication, from simple stone tablets, print technology, the radio, television, and now the internet. This makes communication faster, easier, and more reliable (Rosales 2006). Obinna and Alexander, (2014), in Diri (2009), noted that the new media are methods and social practices of communication, representation, and expression that have developed and adapted to the use of digital, multimedia networked computers and their ways of holding and interacting that have transformed work in other media, such as books, movies, newspapers, magazines, radio, television, and telephone. According to Mcquail (2010), the new media are desperate sets of communication technologies that share certain characteristics, apart from being new and made possible by technology, such as low cost and widespread availability as electronic communication devices.

According to Owuliri, (2019), new media is interactive media, an integrated, mutual method of communication, and up to now trying to know the new media is skewed, highly depending on computers, the internet, and different technology. Andrew, (1999) argues that the emergence of new media and digital technology signals a potentially radical shift in who is in

control of information, experience, and resources. Currently, new media particularly the internet has become part of people's daily activities, new media, and the internet offer easy and access to communication, the transfer of information around the globe. In other words, emergent information communication technologies deliver new and engaging networks of communication. The unlimited digital world has become a successful platform for social communication (Akbulut and Cuhadar, 2011).

According to Guo (2021), today new media mainly rely on digital media technology internet, mobile technologies, and other emerging technologies to provide information services to the audience. And this series of technical requirements also gave birth to new media hardware and software such as mobile TV and platform terminals and also created new media forms such as short videos, and short news.

According to Chen, (2012), new media makes it possible for a large amount of information to be retrieved, manipulated, and stored in a very limited space and converge the forms and functions of information, media electronic communication, and electronic computing. The convergence power of new media can be easily demonstrated by the emergence of the internet in terms of its powerful function embedded in computer information technologies and broadband communication networks.

New media is the new means of communication and transferring information. New media is regularly characterized as very interactive digital technology. New media is "very easily processed, stored, changed retrieved, the term new media is used all over in many different ways. Lievrouw and Livingstone (2002) focus on the message (i.e., the communication and its practices), the technology (i.e., the medium), and the social context in which it is used. These three aspects of the new media show up frequently in the literature next to other more specific technologies and practices such as collaboration, digitization, and Telecommunication (Freidman, 2008).

Manovich (2005) argues that New media as new cultural forms which are native to computers or rely on computers for distribution: Web sites, human-computer interface, virtual worlds, VR, multimedia, computer games, computer animation, digital video, special effects in cinema and net films, interactive computer installations.

2.2. Historical development of the new media

According to (Wang, 2016) the concept of new media was first proposed in 1967 by Goldmark, director of the technology research institute of the CBS television network. In a business plan, he called electronic video recording new media. Subsequently, the concept of new media gradually spread, to many people mentioned quoted. Chengyu, a professor at Tsinghua University, regards new media as a dynamic concept or a composite concept. It relies on computer information processing technology and internet technology and is the media summing up the communication function of these supporting technologies with the constant development of relevant technologies.

According to Mayer (1994), one of the most talked-about developments in media and communications studies over the past era has been the rise of the so-called new media. The “new media” is, of course, a relative one and once upon a time the printing press would have been considered a new medium; the same could have been said about radio in the 1920s and television in the 1950s. In its most recent incarnation, however, the phrase has been widely adopted to refer to a series of scientific and technological innovations, most of which achieved critical mass in the early 1970s that led to the development of a considerable number of new methods for creating, transmitting and storing information and to the large scale transformation of many of the more traditional media.

Birhane, (2017) in his MA thesis titled the new media influence on newspaper reading habit the case of Addis Ababa university Academic staff, there has been a tremendous rise in the number of internet users since 1995, the so-called “year of the internet” inexpensive personal computers. The amount of unlimited access and high-speed internet connection combined with a strong economy in the late 1990s and early 2000 powered the internet to phenomenal growth in the United States.

Among the technologies usually included under the “new media” are personal computers, videocassette recorders (VCRs), videotext and Teletext machines, cars, phones, satellites, and satellites dishes, remote control devices, videodiscs, compact discs, moderns telephone answering machines, electronic mail(email) cable TV and interactive television.

According to (Michael, 2022) the rise of the internet is at the center of an ongoing revolution in communications and networking which enables new forms of organization and greater distribution of information. Earlier to the internet physical closeness usually determined one's associates. Now people are linked across great distances and national borders, and over two

billion people worldwide now have internet access, when they organize they tend to do by affinity.

The new media developed concomitantly with web2.0 which arose after the dot-com bubble burst in the year 2000. This development enabled greater creative participation from users and facilitated the formation of online communities, and web 2.0 encompasses an array of interactive communications facilitated by a rapidly expanding set of platforms- including blogs, web forums, Facebook, Twitter, YouTube, and telegram that are linked together in innovative ways. As the result, these platforms enable so-called many-to-many communications and the sharing of user-generated content. The new medium consists primarily of the internet but also includes innovations such as smartphones and text messaging. The rise of new media ushered in a new media of communications that allowed much greater and broader participation from users. The internet offers several advantages for dissident movements, such as greater interconnectivity and the power to communicate and network with far more people and more quickly than ever before.

According to (Birhane, 2017) new media in Ethiopia is a recent phenomenon used by many people with internet access unlike in many areas of the world.

2.3. Zoom and Google Classroom

According to Pratiwi, Afandi, and Wahyuni, (2019) stated in (Nashir and Nurul, 2020) Zoom cloud meetings are a very helpful alternative application for virtual meetings to facilitate communication with many people without making physical contact and be able to support learning needs in a nowadays digital era. This application is used for video conferences instead of direct meetings in the classroom. It can be installed on devices such as computers, laptops, android, and smartphones, so the students who do not have a laptop can use their smartphones to take part in a virtual class. Zoom meetings application is very significant in communicating distantly; all lecturers' explanations can be conveyed directly without having to meet physically.

Zoom and Google meet cloud meetings help the learning process in the difficult situation of the current pandemic and can facilitate access to information and communication in the learning, and teaching process for students and teachers (Nashir and Nurul, 2020).

Google meet is a safe application because Google has indicated that they have made and functioned all of their products on a safe foundation, and because of the numerous benefits of

Google meet as a video conferencing application, many people in the business and education areas like to use this application. The Google meet application is one of the media used to carry out teaching and learning activities (Aswar, Hadi, and Dewi, (2021). Even though developed countries have a practice of using new media in their education, they may have problems. For example, the research done by (Shrestha and Haque, 2021) showed that teachers face several challenges in running online classes during the covid-19 pandemic, and the major challenge explained in the study is the lack of digital skills of the teachers of Bangladesh and Nepal.

According to (Dereso and Maheshwarwn, 2020) there are a lot of challenges in offering online education to the students and it is not easier too. The challenges are a poor internet connection, excess internet costs, and lack of technology which are serious encounters to students over and above their likely lack of alertness to follow their studies in a serious pandemic situation. Zoom is a multiplatform meeting resolution with a cloud platform for video and audio conferencing, cooperation, conversations, and webinars, can be used across computers, for example, desktops, mobile devices, and telephones (Parra &Granda, 2021).

It has had a profound effect on the world, as well as on our country, especially during the Covid-19 pandemic. Talking about students' and teachers' practices of new media in learning and teaching, of course, we need the application as a bridge between teachers and students such as Zoom, Google meets, What Sapp, Skype, and other applications that support learning. Zoom and Google meet are both very important applications on replace face to face classes with online.

The teachers and students also need to have special knowledge to use online learning support applications such as the use of teleconferences or video call applications, for example, zoom, and Google meets (Kassymova and Duisenbayewa, 2020). The applications like Zoom and Google meet offer the ability to communicate in real-time with geographically dispersed individuals via computer, tablet, and mobile device (Archibald, Ambagtsheer, and Casey, 2019).

According to (Puttinaocarar, 2021) currently, the amount of software is appropriate for online learning to communicate actual with the students. The widespread software that is widely used during the pandemic of Covid-19 is zoom meetings, Google meets, and Microsoft Teams, and each software has different advantages and disadvantages, such as the maximum number of members for each class, different purposes, and the costs. During the previous

year, from the beginning of 2020, the number of Covid-19 cases worldwide has increased dramatically and it affects the living of people who have to adjust their way of life, such as practice the social distancing, stop the unnecessary traveling, work from home, and the learning management of all levels from the primary and secondary school to the higher education that has to apply online learning as an alternative of on-site learning.

2.4. Email

According to Lievrouw and Livingstone, (2002), the US Defense Advanced Research Projects Agency's ARPANET introduced unintentionally electronic mail. This development begins in the 1960s as a way to distribute data processing facilities at universities, the military found, and others. Electronic mail is the mainly powerful internet application and it is the way by which journalists become relaxed with the online world.

Email lets you communicate with any person who has an internet attend to, it allows us to send and receive individual messages, subscribes to electronic newsletters and information updates, and participate in group discussions. An email has been integrated in day to day lives of many because of its effortlessness and rapidity. Electronic mail can be a method for making communication with journalists with experts, conducting, interviews, and networking with colleagues. Most of the researchers used electronic mail contacts to conduct surveys or focus groups and to locate information sources. The other advantage of the internet is the chance it offers people worldwide to communicate via email; the internet is home to a large society of individuals who carry out active discussions organized about topic-oriented forums disseminated by email (Feyisa, 2011).

According to Michael (2003), Sampson e-mail is computer founded application for the interchange of communications among customers, its help globally community to exchange very fast, and speedy communication, to sum up with this research idea e-mail application is very fast and quick that helps us communicate with people, the different organization quickly as much as possible. But still, it depends on internet technology, if there is no internet service, you can't send messages or exchange information with people.

2.5. Telegram

In recent years, instant messaging services have changed people's communication methods significantly. Although it is a new method of communication, smartphones and mobile broadband have inspired organizations and individuals to evaluate their communication habits (Nobari, Reshadatmand, and Neshati, 2017). Telegram is an instant messaging app for

sending text messages, photos, videos, stickers, and files of all kinds. A Telegram message can be sent or received by a user, a group, or a channel. Three types of communication are possible in telegram, including one-to-one (user-to-user communication), one-to-many (known as a channel in telegram), and many-to-many (known as a group in telegram).

It is very easy to use, fast at uploading and downloading files, and simple to connect with your fellow members. Telegram emphasizes speed and security with its easy-to-use interface and smooth uploads and downloads.

The cloud-based system provides permanent access to files that are exchanged across different channels and groups. Telegram can be used on multiple devices at once, for example on a smartphone and a laptop simultaneously (Faramarzi, Tabrizi, and Chalak, 2019). Telegram, a free online application, has everything you need: a cloud-based storage system, a place to organize online classes, robot assistants, and the capability to make one's customized robot. Due to its versatility and user-friendliness, it was particularly popular with teachers and learners of all levels. In the current study, participants explained that during a covid-19 pandemic, they used the Telegram application to send assignments, files, and videos related to the classes. Nonetheless, Telegram is also an online application, meaning that it is dependent on an Internet connection to function. According to this study participant, telegram is relatively easier to use than other new media platforms due to its ease of use.

2.6. Covid-19 and Education in Ethiopia

Nowadays the covid-19 has struck a systematically based world. The outbreak of the Coronavirus in Wuhan of China in December 2019 brings a catastrophe in many dimensions of human features, as the outbreak of the virus one-time addressed over the world. Uncommonly, this novel coronavirus highly hits the urbanized countries including America and Europe. According to Sa and Serpa, (2020), the outbreak of the Covid-19 pandemic damages the developing countries' economic, social, human, political, and education, conditions. Furthermore, the widespread of the Coronavirus throughout the world and mainly, in developed countries makes everything overturned. Currently, Covid-19 constricted more than 1.5 million people and killed more than one hundred thousand people in the world, relatively, based on the up-to-date statistics. Covid -19 has not infected only ordinary people, it doesn't differentiate prominent people.

Suddenly, the Coronavirus spread, and the world health organization acknowledged covid-19 a global pandemic, which spread to more than 150 countries, and it commanded the closure of offices, marketplaces, schools, universities, and all public areas to minimize the spread of the covid-19 pandemic (Junus, Santoso, Putra and Gandhi, 2020).

Likewise, presently developing and developed countries have common opposition to Covid-19, exponentially spreading out the virus. To prevail in this battle cooperatively, politicians, government organizations, and civil and professional associations. Globally preparing to control and reduce the overwhelming the virus has or may have brought (Tilahun, 2020). The world including our country dramatically changed the face of schools and higher education organizations. Actually, in the first two weeks of the closing, higher education teachers have had the organized to converse with their students via email. They started to email different materials assignments. To smooth the progress of learning but it was demised immediately, and the government announced as the students have to leave universities to back home.

Similarly, Ethiopia has been extraordinary health, economic and educational challenges since the onset of the Covid-19 pandemic and the closures of school and universities has put more than 30 million students and around a million tertiary students out of institutions. Apart from the variety of challenges students are faced, institutional operations have been affected both in public and private schools (Wondewosen, 2020). In the same way, instructors and students have been advised to stay at home and they were limited to getting internet access from the university due to this stay-at-home policy, and then other academic issues have been influenced. This situation in Ethiopia it's difficult for students, and teachers of higher education institutions to be competent in this vastly competitive world. To continue the learning process, the Ethiopian Ministry of Education instructed all institutions and schools to shift to fully online classes as an alternative. Unfortunately, this policy was applied without assessing teachers' and students' readiness.

Moreover, most educational institutions used social media or new media platforms such as Facebook, Telegram, What Sapp, Email, Google classroom, and Zoom in their program delivery, a few struggled to develop their learning management systems more recently. Even with such efforts, not much was known about the most disadvantaged students who are being left behind.

According to (Dereso, Srinivasan, and Maheshwarwn, 2020) there are a lot of challenges in offering online education to the students and it is not easier too. The challenges are a poor

internet connection, excess internet costs, and lack of technology which are serious encounters to students over and above their likely lack of alertness to follow their studies in a serious pandemic situation. Even though developed countries have a practice of using new media in their education, they may have problems. For example, the research done by (Shrestha and Haque, 2021) showed that teachers face several challenges in running online classes during the covid-19 pandemic, and the major challenge explained in the study is the lack of digital skills of the teachers of Bangladesh and Nepal.

Covid-19 affected not only developing countries and ordinary citizens but also developed countries, particularly those in the education sector. The recent covid-19 pandemic is having a profound impact on people's health, education, and the way they live. Furthermore, students were affected in various ways by the pandemic-psychologically, socially, economically, and in other ways, not just students but their families as well. Addis Ababa University also tried to teach online during this crisis by using new media technology, but the undergraduate program was not sustained due to a variety of factors.

2.7. Current situation of Covid-19 and education at Addis Ababa University

To prevent COVID-19's spread, many governments have restricted citizens' movement, canceled social activities, and advised people to stay home. The Covid-19 virus was discovered in December 2019 in Wuhan, China by March 2020, it became a global pandemic. The influences of the pandemic on all ranges of life health, education, economy, politics, and families have been profound. In education, there has been an enormous disruption of schools, together with teaching and learning. The outbreak of the Coronavirus disturbed higher education learning at a global level, significantly affecting higher education, challenging communities of institutions, and threatening economic security (Tilahun, 2021).

Addis Ababa University was established in 1950 as the university college of Addis Ababa (UCAA) University College of Addis Ababa University and is the oldest, the largest higher learning and research institution in Ethiopia. Currently, the university has 10 colleges, 12 institutes that run teaching, learning, and research and 6 research institutes that predominantly conduct research (AAU Senate, 2020). On the other hand, as a result of covid-19 pandemic spread Ethiopian education sector is highly affected and the world dramatically changed including Ethiopia the face of schools and higher education organizations. The closing of schools and universities has put more than 30 million students and around a million higher education students out of organizations (Wondwosen, 2021). Addis Ababa

University is the oldest multi-campus inclusive university offering undergraduate and graduate programs in Ethiopia (Dawit and Solomon, 2009). As a result of the Covid-19 epidemic, all universities around the world were shut down from face-to-face teaching and learning processes. Previously, Addis Ababa University was closed for face-to-face learning and teaching due to the COVID-19 pandemic.

Addis Ababa University is currently continuing to teach and learn by following the Ethiopian Health Ministry and World Health Organization's covid-19 prevention guidelines, such as wearing masks, washing hands, and keeping distance.

2.8. Transitioning to Online Education during the Covid-19 Pandemic in Ethiopia

Due to the Covid-19 pandemic, universities across the world have transitioned to distance education, most of which is programmed for online delivery, Understanding the influence of these creativities on student engagement, learning, and behavior (both positive and negative), will provide significant information for teaching and learning practice into the future, in particular, the influence of online education on the development of practical skills and graduate ready to practice(Kumar, Sarkar, Davis and Palermo, 2021).

The fact that (Nwokeocha, 2021) showed online learning is ineffective in Africa is also not surprising because data from several literature sources (for example, African Union Commission, 2020a, 2020b; African Union Commission and UNICEF, 2020; UNESCO, 2020a; Institutes for statistics, 2016; teacher task force 2020a, 2020b) reveals several challenges in Africa which make the use of an online approach difficult and limited ineffectiveness.

An unexpected shift to distance learning was hampered by short time and a lack of adequate resources, according to the study. Educators and learners report a lack of experience with online education. The Coronavirus crisis forced many countries to use digital pedagogical tools and virtual exchanges between students and teachers, as well as between students. This was to deliver education when schools were closed.

An almost universal response to school closures has been the creation of online learning platforms to support teachers, students, and their families. However, not all students have the same access to information and communication technologies (ICTs), which also varies greatly across countries. Most academic institutes provide virtual classes using different

applications, such as Zoom, WhatsApp, and Google Classroom. A study by Huang, Chang, and Zhang (2020) entitled *Disrupted classes, undisrupted learning during COVID-19 pandemic outbreak in China*; application of open educational practices and resources showed that online or distance education is not novel in China, but several challenges have arisen regarding this type of system in this unexpected and critical situation, specifically, lack of preparation time, teachers' and students' isolation, and the need for effective changes in pedagogical approaches.

A study conducted by Wondwosen, (2020) revealed that shifting to online delivery was challenging in Ethiopia for various reasons. Among the most prevalent problems for both public and private organizations were less access to the internet, costs, availability of computers and related technology, lack of previous preparation, limited technical know-how, and negative attitudes toward the use of ICT technology. COVID-19 has caused a rapid shift to online education around the world, including Ethiopia, and adopting such a system during the pandemic is a challenging undertaking.

2.9. New media and Education

The internet and new media technologies, as well as other media technologies, play an increasingly important role in Ethiopia, as well as around the world. As Hauer (2017) points out, we can confidently say that the internet and the nature of new media are fundamentally changing the structure of society. Through the expansion of computers and the internet, not only human communication has been transformed, but also society as a whole. The popularity of new media has changed nature and how our society and individuals do daily things. This includes shopping, recruiting staff, paying taxes, using the library, gaining academic degrees, and educating themselves.

Nowadays the education sector is becoming more competitive with new media technology, it's also permitting students to discover their interests and curiosity worldwide. The new media develops the knowledge scope of students by smoothing connections community learning and the interchange of ideas. Through new media technology knowledge sector has delivered education as a multi-dimensional learning method and increasing outreach learning giving rise to the generation of innovative and competitive students (Shilpa, 2014).

Education is an investment of time including learning at different levels from school to the university. It enables the growth of an individual with adequate knowledge, critical thinking, and environmental maturation.

According to (Friedman, 2008) “Chalkboard” is comparatively “old media” but is developing in the way of new media. Therefore many educators are already engaging such features as blogs, wikis podcasts, and streaming videos in the course materials. Web-based learning will probably not replace the traditional face-to-face way of learning; however, it will become a tool to enhance the conventional ways of learning. Presently, the new media communication system is making breakers through the introduction of the new method of learning. The world education method becoming to a level different parts, people, platforms, and devices connect for useful learning (Udoudon and Ojo, 2016).

New media technology through its step in the knowledge sector has to provide education with a multidimensional learning method and attractive outreach learning giving an increase to the generation of innovative and competitive. The new media has provided a public domain of interaction with forms of information and knowledge sharing. Today we can witness a radical shift in learning which had been confined to classrooms and libraries to the world. The education world is shifting enormously with the advent of new media technology. It is no more a learning school amongst four walls restrained just by the static curriculum defined and designed (Shilpa, 2014).

According to Kazak, Karpenko, Ushakova, and Tiazhlov, (2017), the internet provides unlimited possibilities in all spheres of life, including new communication technologies for a variety of subject matters, new technologies for working with information products, and new approaches to delivering them to target audiences, and new technology for forming public opinion and behavior models. New media information resources have arisen due to innovations in the field of social communication, based on digital and portal technologies with instant responses to users' requests

Stocchetti, (2017) New technologies, due to their properties like interactivity, stimulation, and inclusive nature (Walotek-Scianska, 2014), make it easier for teachers to engage in an open dialog with students and to restructure the teaching process to become an exercise in exploring reality together.

2.10. Internet and its service in Ethiopia

According to (Dutton, 2020) the internet is a worldwide network every combine most governments, university, and private computers and provides an infrastructure for the use of email, bulletin boards, file archives, hypertext documents, databases, and other computational resources. The Internet is a very essential part of our daily life for people around the globe

and is a network of networks that connected billions of computers and electronic devices. We can access any information, via the internet, and communicate with everyone around the globe.

Presently we use the internet in several areas of studies and development like education, business, and health and widely in media. The internet helps us to publish our research work for global customers. The new media ICT sector comprising information, and communication activities, has emerged as one of the most dynamic conglomerates of information activities among developed countries and progressively more also between developing countries (Azimeraw, 2020).

Without the internet, you would sense limits from the simple, prompt access to information that we take for granted. The internet has become such a thrilling and inevitable part of life that every educated individual should understand what it delivers and what it can do for them (Comer, 2019).

According to (Lynn and Michael, 2006) internet service happened in Ethiopia in 1993, when the UN economic commission for Africa recognized Addis Ababa accumulates, and forward email service called PADISNET, which is connected via direct calls to green net's internet gateway in London (Samuel 2001), And officially associated to the internet in January 1997, with the then Ethiopia telecommunication corporation, what we call it now telecom. Next, most initiatives have been launched in our country to make information technology support mostly developmental activities in the country but compared to the rate of developments for internet access in other countries in the world, it is difficult to state internet access and penetration in the country has developed well. Ethiopia Telecommunication Corporation is the only internet service provider in the country. Internet cafes are also most accessible in urban areas (Abdul- Aziz 2012)

Hare stated that in the ministry of education survey (2007) many universities and higher education institutions have computers, in their organization. However, the numbers of computers are few, and, the students were used by sharing, in most situations student-computer ratio of 10:1. The findings of the study show that even though the existence of computers, most institutions shortage a network infrastructure, and have restricted connectivity. Chane, (2019) stated, in his research article, In December 2019, Internet penetration in Africa there was 39.3%, and in about 17.8% of the population stated in 2019

years, according to the report this is a lesser percent related to South Africa, Nigeria and our neighbor Kenya.

An Internet existence is an essential part of human life, and it is broadly used by different universities around the world including our country's university. Students and teacher or instructors uses the internet for an academic for instance to do research, download educational materials, learn online, and for other purposes like entertainment, getting daily, news, and knowing what is going on, in the country, and the world. Now internet is the most important technological innovation all over the world, and it helps us to access different services like social media, email, and the worldwide web, through this technology. The Internet plays a very important part in today's community lives, However, in our country internet penetration rate is very low particularly in a rural area, even though not only in rural, urban, accessibility, and connectivity is poor therefore new media learning, in Ethiopia may be very difficult, with lack of ICT infrastructure, low bandwidth of the internet.

According to Solomon (2015), as cited in his research paper published on research gate, Ethiopia has a very poor internet penetration even when compared to other African countries; there are several initiatives for developing the communication infrastructure of the country

2.11. Preparation of instructors and students for practicing learning and teaching through Zoom, Google Meet, telegram, and email during the Covid-19 pandemic.

The worldwide scale of school closure during the covid-19 pandemic was unprecedented (UNESCO, 2020). Before covid-19 pandemic teachers and students had been used face-to-face ways of teaching and learning, later due to covid-19 pandemic they forced to online learning technology without any preparedness and training. According to UNESCO, 9.8 million African students are experiencing disruptions in their studies due to the closure of higher educational institutions. The rapid spread of the covid-19 pandemic forced higher education institutions to move their courses online. However, going online is not that simple on a continent where only 24% of the population has access to the internet and poor connectivity, exorbitant costs, and frequent power interruptions are serious challenges. According to (Wonduwosen, 2020) covid-29 is the crisis that affected the health, economic and social fabric of the world community to an unprecedented measure. Ethiopia has been unprecedented health, economic and educational challenges since the onset of the pandemic. The closure of schools and universities has put more than 30 million students and around a million tertiary students out of the institution. Although the decision to close schools and

universities was not easy for many educational institutions to endure the impacts of the pandemic since little preparation had been made towards this end.

Shifting to online delivery was not easy in the Ethiopian context for many reasons, poor internet access, cost, availability of computers and related technology, little previous preparation, and teachers and students' twin problems of limited technical know-how and negative attitudes towards the uses of information communication technology stood out as the most predominant problems for both public and private higher educational institutions (Wondewosen, 2020).

2.12. The use of digital technologies in higher education in Ethiopia

Nodaway's technologies are related to education in many ways as an alternative to the historical schooling of a one-way discussion as an educational producer. Currently, individuals employ digital media and the internet in naturally happening ways and education in this form is considered in the situation of social change, which in turn, is integrated with digital media. The day-to-day use of all forms of digital media is part of our lives and therefore becomes a key component of education. Today's societies are watched as digital societies, they also use digital media and have many of its elements essential in their daily lives (Chien, 2012).

Furthermore, digital technology is seen as a key driver for growth in the knowledge economy. The use of information technology and adaptability is a critical factor in generating and accessing wealth, power, and knowledge in our time, according to Castells (1999) (cited in Warschauer and Matuchiak, 2010). *Australasian Journal of Education Technology*, (2011), supports lifelong learning because it can be effectively used to overcome the barriers of the place where learning is taking place and to provide new opportunities for learning (Lai, 2008).

Chien, 2012 points out that digital citizenship and new media literacy emphasize the skills and knowledge required to be effective in the increasingly digital media environment. According to the study by (Lai, 2003), in higher education in recent decades there has been a gradual shift in the understanding of how learning should be facilitated, in favor of student-centered instruction. While it is difficult to gauge the exact level of investment in higher education in ICT and e-learning in the last three decades, there is no doubt that it has been very large. Indeed ICT has been used effectively in supporting traditional forms of teaching and administration in higher education institutions.

According to (Birhanu, 2017) ICT in Ethiopia is still in a very early stage of development. Nearly the entire rural population lacks telecommunication infrastructure. The vast majority of the population is dependent only on the conventional information delivery system, the radio or newspapers. Ethiopia, like any other knowledge economy, depends on the development of its educational sector. Higher education drives competitiveness and employment generation in Ethiopia. Though, research findings have shown that overall higher education is miserable in the county. There is a severe cultural restriction on the availability of skilled labor (Mehta&Kalra, 2006). Although using digital technology in higher education may not be common in the country, sometimes meetings are held using Zoom and Google Meet, however, the Covid-19 pandemic forced students and teachers to use these tools. Moreover, innovative use of ICT can potentially solve this problem, and the ICT policy document also states that the Ethiopian government recognized the key role that ICTs could play in transforming the educational system and making education accessible to a broader proportion of citizens. New media technology is widely used in most fields and industries; with the development of the internet around the world, almost all industries involve new media technology (Friedman, 2008).

2.13. Theoretical framework

This study aims to examine the practice of Zoom and Google Meet, Telegram, and Email among the teachers and students in teaching and learning during the Covid-19 pandemic, its opportunities, and its challenges. The uses and gratifications theory as well as the technological determinism theory were utilized for understanding the use of new media in education. Researchers examined the satisfaction of students and teachers using Zoom and Google Meetings and explored why those media are preferred to others. Uses and gratifications theory explains how using media results in satisfaction. And the second theory focuses on how technology affects people, even their culture. In this regard, it also includes the impact that new media technology will have on students and educators.

2.13.1. Technological determinism theory

This theory was propounded by Marshall (1962) and it helped to explain how innovation in modern technology helps to engineer some forms of change in society or the ordering of things. The most central assumption of this theory is that changes in communication technology inevitably produce changes in both cultural and social order. McLuhan seemed

ready to accept whatever changes were dictated by inherent communications technology and Technology inevitably causes specific changes in how people think, how society is structured, and in the forms of culture that are created (Adler, 2006). According to (McQuail, 2010) who opined that the theory measures, communication technology is fundamental to society, each technology has a bias toward particular communication forms, contents, and uses, and the sequence of invention and application of communication technology influences the direction and pace of social change. Furthermore, the basic view of this theory is that the invention of revolutionary technology can alter the way society responds to events. This theory holds that new technology can greatly affect social and cultural order in society, thereby subjecting it to different interpretations on a social and cultural level.

It is therefore more appropriate to use McLuhan's definition for the current study. Due to the Covid-19 pandemic, people have changed the way they teach and learn as well as how they live. According to the above concepts, new media technology is also used for learning and teaching, meetings within different organizations, marketing, and all activities, so it also influences how we live during this crisis time. Even though teachers and students encountered different difficulties during Covid-19 in learning and teaching through using new media, the current study shows that this helped them gain experience with Zoom and Google Meet, emails, and Telegram.

Furthermore, in 2017, Birhane carried out a study titled "New media influence on newspaper reading habit; the case of Addis Ababa University Academic Staff.". It explained the concept of technological determinism. In an assessment of the impact of the internet after two decades since its inception, Wigston (1990) states: that the emergence of new media technologies over the past two decades has transformed the media environment that most of us have been familiar with," adding: "the internet has changed how most of us work and live. Games, emailing, photography, videorecording, and now 3D are being introduced. They are also able to text, tweet, and use messaging applications such as What Sapp (Ibid, 2010).

(Hess, 2015), define it as the idea that an invention once introduced into society takes on “a life of its own” and argue that the core assumption of technological determinism is that technology forms the basis of social life and that changes in technology are the single most influential basis of change in society, Smith and Marx argue that this view circulates widely in the media and Winner notes that some scholars also embrace it(e.g., White, 1949).

The internet has transformed our lives and according to technological determinism, a social change was inevitable after the invention of the internet. Think of how we can stay in touch with millions of strangers spread out in all corners of the planet. People can use their smartphones to capture, listen to music, order food, and everything in between. Today's people's lives, to a very large extent, revolve around their smartphones and tablets connected 24 hours to the internet. Although the way we use technology may influence us, which means it may satisfy us or not it depends on how we use it. We move from one technology to another (Onyeizu et al. 2014). The scholar describes McLuhan's theory of 1963 that we learn, sense, and think the way we do because of the messages we accept through the current technology that is accessible. Abdul-Aziz (2012) cited in his AM thesis explains the relevance of technological determinism in our lives.

Technology determinism is a word used to define a set of assertions made about the relationship between what we usually call 'technology' and 'society'. Two meanings have emerged: an inner technical plan for technological artifacts and systems; and, the development of technological artifacts and methods determines profound social changes. Another claim is related to disputes over Karl Marx's theory of history. However, these two meanings are intertwined in the claim that an independent technology or both its development and use form social relations. Technological determinism is a theoretical approach that argues in favor of the idea that the use of educational technology is formed by both the user and his environment, and ultimately, by the technology itself. In the social sciences, the notion of technological determinism, the idea that technology has significant influences on our lives, the idea that the internet is modernizing the economy, and the notion of the internet modernizing society have had a long and contested history (Adler, 2006).

According to (Manovich, 2002) new media is considered a cultural matter because it uses digital computer technology for distribution and exhibition". A sense of independence is produced by the new media through the relationships that it cultivates with strangers. This is done both through the continual ability to represent a distinct individual character and through entertainment for individual consumers. In the new media, community communication is linked to the surrounding world and competes with similar media. Furthermore, these real and practical worlds overlap, further distorting their difference (Pertierra, 2012).

In Hauer (2017)'s international journal entitled "Technological Determinism and New Media," he claims society is influenced by technological developments, and its negative effects are caused by the poor use of technology by people, not by the technology itself, and also that the introduction and use of new technologies are products of social order. In the current study, a similar perspective was expressed about the challenges instructors and students have faced due to not knowing how to use new media during the Covid-19 pandemic

According to Hauer, (2017), as ICT evolves in education continually, a vast array of tools and options become available. This rapid pace is perhaps why many people see technology as something that is "given" to them but is unclear on the purpose of such technologies or how they can be used for education. Levy,(2003) argues that technology should be viewed as the product of society and culture. We cannot discuss the impact of technology on man, but it is relevant to consider its existence and use in human activities.

2.13.2. Uses and Gratifications

It is stated in Pantic's 2017 Ph.D. dissertation that new technologies have allowed for an improvement in the uses and gratifications, as they have contributed to the development of motivations for using media and have provided additional satisfaction opportunities in media selection (Ruggiero, 2000). Interactivity is the main characteristic of new media initiatives researchers to abandon the traditional use and gratifications approach that clarifies people's media use practices through their basic people needs.

Regardless of the medium, genre, communication activity, or specific content of media exposure, satisfaction is rooted in the experiences of audience members (Dobos, 1992). Uses and gratifications studies adopt an audience-centric approach to understand why people become involved in specific types of mediated communication and what gratifications they receive from it (Ruggiero, 2000).

The framework of (Ruggiero, 2000) is most relevant to this study. This idea highlights how we perceive how we use and satisfy our needs through media. Our level of satisfaction depends on how we use certain media in our daily lives. (Luo, 2002) Uses and gratifications theory developed from the functionalist view on mass media communication. It may be measured by an inductive method for developing arrangements, of different incentives and purposes of media use. According to (Ruggiero, 2000; Weiser 2001) the uses and

gratifications theory continued in research on the usefulness of the radio in the 1940s; frequently it focuses on the explanations for audience members' motivations, and connected behaviors.

Use and gratifications theory about people using media because of the create particular satisfactions from media consumption, such as newspapers, radio or television, and other current new media, based on the internet, including social media, which let the production and dissemination of information by method of virtual communities and social networking sites (Lopez, Hartmann, Apaolaza, 2019).

Use and gratifications theory based on conventional media study, how media are required and selected to provide audience basics. Related to the uses and satisfaction of audience in the how media fulfill audience needs. Now, the advent of computer-based communication has conveyed the significance of uses and gratifications. Using the widespread application of new media, for instance, computer-generated worlds and social networking sites (SNSs), significant new research on the uses and gratifications lookout is developing (Ruggiero, 2000).

The central benefit of the uses and gratification theory is that it offers an understanding of inspiration for consuming specific media content, which matches the results among the media and consumers. Kaye and Johnson (2002) mention that outcomes from the uses and gratifications of television studies have formerly been practical in internet research. A major assumption of the uses and gratifications theory is that people are vigorously worried about media usage and performance together with the communication media by constructing profile groupings of connected uses and theoretically related gratifications. In addition, current study findings indicate they encountered challenges even with selected new media platforms when learning and teaching during the outbreak of Covid-19. Participants in the study were dissatisfied with selected media platforms used for learning and teaching during the pandemic for several reasons. Ruggiero (2000) believes the way new media is used challenges companies to not satisfy their audiences more simply because their satisfaction is determined by their experience and how they use the media. This study is founded on Ruggiero's idea that how people use new media challenges them not to be more satisfied. This is a result of their experiences and ways of interacting with new media influencing their satisfaction.

As a result of the theoretical framework outlined above and chosen to guide this study, multiple lenses are available for evaluating teachers' and students' practices, identifying the

challenges and opportunities they encountered and their perceptions of using new media during the Covid-19 pandemic. Many studies have been conducted to understand the Covid-19 pandemic and its impact on education, but few studies have focused on the use of new media by teachers and students while learning and teaching during the Covid-19 pandemic. Thus, it is necessary to examine how students and teachers use new media for learning and teaching.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

This chapter presents the methodology of the research: such as data collection methods, study population, the sources of data, the sample size, sampling technique, the data collecting tools, and methods of analysis of the study discussed further.

3.2. The Research Design and Approach

The unexpected change to online learning during the covid-19 pandemic is suggested to be a social phenomenon that involves culture, technology, and human behavior, where multiple perspectives must be taken into account. Hence, the use of multiple research methods and the use of a multiplicity of techniques are essential. Furthermore, both qualitative and quantitative descriptions of the phenomenon were designed; hence, mixed methods for investigation combining quantitative and qualitative tools were implied. First, new media practice among students and teachers was assessed quantitatively using a questionnaire, and secondary teachers who teach during a covid-19 pandemic by using new media technology and ICT experts were assessed qualitatively through a series of in-depth interviews.

The current study explores the new media platforms practice among Addis Ababa University teachers and students in learning and teaching during the COVID-19 pandemic. This research used a mixed research approach in which the QUAL-qual Model was employed, this approach was used for the reason that qualitative data was used to further elaborate the quantitative one (Cress well, 2014). This explanatory sequential design was best because the initial quantitative data results are explained further with the qualitative data (Cress well, 2014). This explanatory sequential design was used with the aim that, it can provide a significant explanation of the practice of new media in teaching and learning during the Covid-19 pandemic. According to Creswell (2002), a mixed-method design involves gathering quantitative data and then gathering qualitative data to elaborate on the numerical results. The rationale for this approach is that quantitative data and results provide a general picture of the research problem; further analysis, especially through qualitative data collection is needed to refine, extend or explain the overall picture. The opinion of the sampled students was collected and analyzed through quantitative data collection. For the qualitative data collection, some selected experts and some teachers were interviewed orally.

3.2. Area of the study

This study was carried out at Addis Ababa University, which is a large and oldest university in the country and currently has ten colleges and 12 teaching and research institutes. Addis Ababa University was established in 1950 as the university college of Addis Ababa (UCAA), which is the oldest and the largest higher learning and research institution in Ethiopia. Since its inception, the university has been the leading center in teaching, research, and community service. At present, the university has 10 colleges, 12 institutes that run both teaching and research, and 6 research institutes that predominantly conduct research. Presently the university has fifteen campuses, fourteen of them are located in Addis Ababa and one is located in Bishoftu, Deberezeit about 45 kilometers away from Addis Ababa. But the existing study was focused only on the College of Addis Ababa University. Four colleges were selected through systematic random sampling from among the 12 colleges located at Addis Ababa University. To minimize barriers and at the same time ensure accurate data, it was decided to select only four colleges to participate in this study. This study selected four colleges because they are social science colleges, and they have conventionally relied on face-to-face teaching. This change to a digital (new media) teaching and learning method may have presented a challenge to the colleges. The rest of Addis Ababa's university colleges are assumed to be familiar with an e-learning learning and teaching approach (ICT expert, personal interview (1), May 23, 2020).

3.3. Target population, Sample, and sampling techniques

The target population for this study was Addis Ababa University teachers, students, and ICT experts. This is because the teachers and students have rich information about learning and teaching, and ICT experts have more knowledge on infrastructure facilities issues regarding new media practice learning and teaching that was during the Covid-19 pandemic.

Table.1. Colleges of Addis Ababa University

No	Colleges of Addis Ababa University	Colleges of Addis Ababa University
1	College of Humanities, Language Studies, Journalism and communication	6.College of Biological Engineering
2	College of Social Science	7.College of Business and Economics
3	College of Development Studies	8.College of Law and Governance Studies
4	College of Performing and Visual Arts	9.College of Education and Behavioral Studies
5	College of Natural and Computational Sciences SkunderBoghossian	10.College of Veterinary Medicine and Agriculture College of Health Science

(Researcher survey, 2022)

3.4. Sample techniques

The study targeted Addis Ababa university teachers and students, and to facilitate the strength of the study the researcher used probability sampling and later non-probability techniques to a selected sample from a targeted population, especially systematic sampling for the quantitative phase and purposive sampling for the qualitative phase was used. The systematic sampling technique is suitable to give students and teachers an equal chance of being selected from each division.

Systematic random sampling is a more commonly employed method and after numbers are allocated to everybody in the population frame the first individual is picked using a random number table or out of a hat, and then subsequent participants are selected using a fixed sampling interval (Mathers, Fox &Hunn, 2009).Purposive sampling was also used to select ICT experts.

3.5. Sample size determination

To determine the sample size, the researcher was applied a simplified formula provided by Yamane (1967), based on the above sample determination formula, 300 sample respondents selected by using systematic random sampling for the questionnaire and 23 respondents for in-depth interviews from the total or targeted population of the study.

Table. 2. Types of respondents, population size, sample size, and sample techniques

No	Types of respondents	Population size by level	Sample Size	Sample techniques
1	Teachers	250	70	Systematic
2	Students	Undergraduates from four colleges 1050	100	Systematic sampling
3	Students	Postgraduates from four colleges 612	150	Systematic sampling
4	ICT experts	ICT expert 5 New media	5	Purposive sampling

(Researcher survey, 2022)

3.6. Instruments of data collection

For this study, the main tools are questionnaires and in-depth or one-on-one interviews. Questionnaires are used for students and in-depth interviews are conducted with teachers. The reason for using a questionnaire is more economical in terms of time and money while collecting a large amount of information (Pedhazur and Schmelkin, 2013).

The researcher used the standard questionnaires of Noor, Isa, and Mazhar's (2020) Standard questionnaire was employed in this study. Questionnaires are a reliable way to obtain information from many people, and it typically contains multiple-choice questions, attitude scales, closed questions, and open-ended questions (Vianna, 2020) In-depth interviews are conducted by ICT experts and instructors to gather further qualitative data. The reason for selecting experts is that they are expected to have more knowledge and experience in a specific subject area. In the case of this study, ICT experts have more knowledge about the internet and ICT infrastructure, and new media platforms. According to (Boyce, 2006) interviews are often used to provide other data such as outcome data, offering a more complete picture of what happened in the situation and why. In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation (Boyce, 2006).

3.7. Data Sources

Data sources of the study were students and teachers and experts of Addis Ababa University. The reason for selecting students and teachers of Addis Ababa University, they are expected or assumed to use New Media in teaching and learning during the Covid-19 pandemic,

3.7.1 Primary data

It consists of the collection of original primary data collected by the researcher. For this study, primary data sources were gathered through a questionnaire and in-depth interviews.

3.7.2. Secondary data

Secondary data sources were collected for this study from books online resources, other related research material, reports, and documents.

The researcher used both primary and secondary sources. Primary data was collected through questionnaires and interviews. Secondary data was also collected from different reports, documents, and previous research on the study area.

3.8. Validity and reliability of the instruments

According to (Mohajan, 2017) Reliability and validity are required to present in the research methodology chapter in a brief nevertheless accurate way. These are suitable concepts for presenting a notable setting in research. Reliability is mentioned to the stability of findings, whereas validity is represented the truthfulness of findings (Altheide & Johnson, 1994). Validity and reliability increase transparency and decrease opportunities to insert researcher bias in qualitative research (Singh, 2014). In this study items and the items about the background information were reviewed for content and clarity by the advisor and experienced teachers to be sure of the validity, the advisor and experienced teachers of Addis Ababa University reviewed those questionnaires to make sure that the instruments comprehensively cover the items that are supposed to cover. Feedback on the instruments was also solicited from the student's researcher advisor. Finally, all accepted comments and feedback were included in the final version of the instruments. To make sure, the researcher pilot-tested the entire questionnaire, and questions designed for this study. The pilot test was conducted on seven students and 5 teachers and they were excluded from the actual sample of the study. Ensuring their confidentiality and anonymity, the researchers asked the pilot study participant to complete the questionnaires and to provide feedback thereafter.

3.9. Ethical considerations

Mantzorou and Fouka (2021) argue that informed consent is the most significant ethical consideration in conducting a study. According to Armiger, it means that a person knowingly, voluntarily and intelligently, and clearly and manifestly, gives his consent. A letter of support from the School of journalism and communication was given to the postgraduate office, undergraduate register, and each department at the four colleges. Having received an ethical approval letter from the School of Journalism and Communication researcher, the researcher presented to four colleges and explained her objectives to all participants. After agreeing with each participant, the researcher explained his purpose. Finally, the questionnaires were administered to sample students, and ICT experts were interviewed.

3.10. Data analysis method

The researcher used both qualitative and quantitative data analysis methods to analyze and interpret the data collected through interviews and questionnaires.

The data was analyzed using appropriate quantitative and qualitative research methodologies. Quantitative data were collected using a questionnaire entered into the computer via the SPSS software program. The coding and analysis of these data were carried out through this software package. Additionally, data collected through a qualitative instrument (interview) was analyzed qualitatively. The interview was conducted in the Amharic language to make the informants comfortable and explain their ideas in better ways. Then the data were transcribed and translated into English. The data obtained through a questionnaire were analyzed using a statistical package for social science (SPSS). Coding and analysis of these data were carried out through this software package, and later, data that were obtained through in-depth interviews were analyzed qualitatively. To allow participants a chance to respond freely and openly, the researcher conducted the interview in Amharic, which was then translated and transcribed into English. All relevant parts of the recorded interview data have been transcribed from an audio file to a text file.

3.11. Data collection producers

To answer the study questions raised, the researcher followed a series of data gathering procedures. The data were collected using a questionnaire and an in-depth interview. In doing so, having a letter of authorization from the School of Journalism and Communication for gathering data, a pilot study was conducted before the final administration of the questionnaires to all respondents to protect the truthfulness of the instruments with the

objectives of the assessment, whether or not the items of the instruments enable the researcher to gather relevant and valid information. After all, aspects related to the pilot test, the researcher contacted each department and four colleges for consent. Then agree with the concerned participant to introduce the research objectives and purposes. Furthermore, the final questionnaires were administered to sample students. The researcher allowed participants to give their answers to each item independently and closely assisted and supervised them to solve any confusion regarding the instrument. Finally, the questionnaires were collected back at the right time and made ready for data analysis. The interview was conducted after the participant's consent was obtained. During the interview process, the researcher attempted to make the environment suitable to reduce communication problems that confuse the interviewing process.

CHAPTER FOUR

4. ANALYSIS, DATA PRESENTATION, AND FINDINGS

4.1 Introduction

This chapter study deals with the analysis and interpretation, and results of data gathered through questionnaires and in-depth interviews with teachers and ICT experts at Addis Ababa University. A study titled "New Media practices of learning and teaching process during Covid-19 pandemic, in the case of Addis Ababa University Students and instructors" was conducted. The researcher used both quantitative and qualitative data analysis methods to analyze the data gathered from questionnaires and in-depth interviews.

The data obtained through a questionnaire were analyzed using a statistical package for social science (SPSS). Coding and analysis of these data were carried out through this software package, and later, data that were obtained through in-depth interviews were analyzed qualitatively. This chapter examines the practice of new media among students and teachers based on sample informant responses and their arguments. It also explains challenges faced by students and teachers with new media practices during the recent pandemic as well as opportunities that respondents were able to take advantage of. The questionnaire was administered to 250 students and 50 teachers. This study analyzed Zoom, Google Meet, telegram, and email among other new media types. In qualitative data analysis, 20 instructors, and five ICT experts were interviewed. The majority of interviewees used Zoom and Google Meet in the classroom during the pandemic.

4.1.1 Socio-Demography data of the studied group

In this section, the respondents' profiles in this study will be shown throughout different tables. This will include the socio-demographic profile of the respondents such as gender, age, and educational status.

Table.3. Gender of respondents

No	Gender	frequency	Percent
1	Male students	156	62.4
2	Female students	94	37.6 percent
No	Total	250	100%
3	Male Instructors	35	70%
4	Female Instructors	15	30%
	Total	50	100%

(Researcher, *Survey*, 2022)

According to the above table, 62.4 percent of respondents are male and 37.6% of respondents were female informants. Which is above fifty percent of respondents were male, and below fifty percent of respondents were female. And 35 (70%) are male and 15 (30%) are female. As shown in table 3, the majority of participants, instructors as well as students were male.

Table.4. Age of student respondents

No	Age of students respondents	Frequency	Percent
1	20-25	125	50%
2	26-35	98	39.2%
3	36-45	23	9.2%
4	46-50	4	1.6%
		Total 250	Total
		250%	100%

(Researcher, *Survey*, 2022)

The data were divided into four age groups based on cutting points that divide the whole data into four equal parts: 125(50%) of respondents were aged between 20 and 25, and 98(39.2%) were aged from 26 to 35, around 23(9.2%) informants are aged between 36-45, and 4(1.6%) are aged between 46-50.

Table.5. Age of Instructors respondents

No	The instructor's respondent's age	Frequency	percent
1	25-35	6	12%
	36-45	7	14%
	46-55	12	24%
	56-65	25	50%
		Total 40	Total 100%

(Researcher, *Survey*, 2022)

The data were divided into four age groups based on cutting points that divide the whole data into four equal parts: 6(12%) of respondents were aged between 25 and 35, and 7(14%) were aged from 36 to 45, around 12(24%) informants are aged between 46-55, and 25(50%) are

aged between 56-65. The research found that most student participants were between the ages of 20 and 25, while most instructor participants were between the ages of 56 and 65.

Table.6.Educational status of the respondents

1	Educational level	Frequency	Percent
2	Bachelor Degree	150	60%
3	Master’s degree	80	32%
4	PhD	20	8
	Total	250	100%

According to the above table, 60% of participants hold bachelor's degrees, while 32% hold master's degrees, and 8% are Ph.D. students. The above data shows that most respondents are between the ages of 56 and 65, while few women participated in this study. Table 6 shows that the majority of respondents who participated in this study were bachelor's degree students.

Table.7. Colleges where sample informants were taken.

No	Colleges	Frequency	Percent
1	Colleges Humanities, Language Studies, School of Journalism and Communication	65	26%
2	Colleges of Business and Economic	64	25.6%
3	Colleges of Social science	62	24.8%
4	Colleges Educational and Behavioral Studies	59	23.6%
		Total 250	Total 100%

(Researcher, *Survey, 2022*)

According to Table 7, 65(26%) of the respondents are from the college of humanities and language studies, 64(25.6%) are from the college of economics and business, 62(24.8%) are from the college of Social sciences, and 59(23.6%) are from the college of Educational and Behavioural Studies. As can be seen in the table above, there was almost a similar percentage of participation from four colleges.

Table.8.Academic rank of instructor respondents

No	Academic rank	Frequency	Percent
1	Professor	3	6 %
2	Associate professor	19	38%
3	Assistant professor	15	30%
4	Lecturer	13	26%
		Total	Total
		50	100%

(Researcher, *Survey, 2022*)

Based on the table above, 19(38%) respondents are Associate professors, 15(30%) are Assistant professors, and 13(26%) are lecturers. According to the table above, the majority of respondents were associate professors or assistant professors.

4.1.2. The practice of Zoom and Google meet, telegram, and email among students

Table. 9. The use of Zoom and Google meet among students

No	Statement	Frequency	Percent
1.	Did you use Zoom and Google meet, telegram, and email in learning during the Covid-19 pandemic?	Yes 250	100%
		No 0	0%
		Total 250	100%

(Researcher, *Survey, 2022*)

Table 9, shows that 250(100%) respondents used zoom and Google meet during Covid -19 pandemic for learning purposes. Due to covid-19 pandemic, common learning ways are completely changed into new media technology learning. The data shows that all respondents used Zoom and Google Meet, telegram, and email during the pandemic in learning and teaching. Currently, Information communication technologies have increased significance for education, employment, and interaction, and have become an important instrument to access information, educate persons, and conduct interactive instructional activities irrespective of time and place (Akbulut, kuzu, and Odabas, 2011).

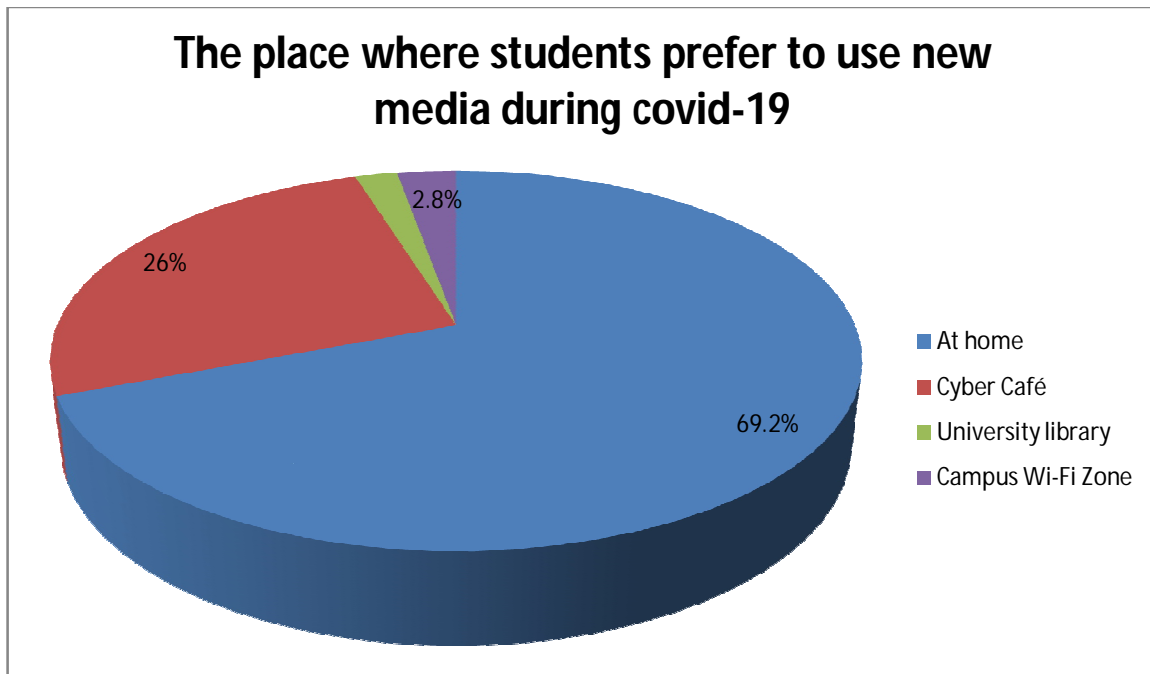
Table .10. The use of Zoom and Google meet telegram and email during the pandemic among instructors

No	Statement	Frequency	Percent
	Did you use Zoom and Google meet, telegram and email during the Covid-19 pandemic?	Yes 50	100%
		No 0	0%
		Total	Total

(Researcher, *Survey, 2022*)

As shown in above table 10, almost all respondents were using Zoom and Google meet for teaching, which is in percent 100%, of the informants were using Zoom and Google meet. According to the above table, it can be possible; to sum up, that Zoom and Google meet technology were significant during the pandemic for academic purposes for both students and instructors. Based on the above table 9 and 10 most of the students and teachers used Zoom, Google Meet, telegram, and email in learning and teaching during the Covid-19 pandemic. Due to the covid-19 pandemic education system was completely changed from face-to-face to online or new media technology learning and teaching.

Pie chart.1. The place students prefer to use is Zoom and Google meet telegram and email.



(Researcher, *Survey, 2022*)

According to the pie chart above, 7(2.8%) of respondents used Zoom and Google Meet in the campus Wi-Fi zone, 65(26%) used a cyber cafe, and 173(69.2%) at home since many people stayed at home during outbreaks of the Covid-19 pandemic, and the remaining 5(2%) used the university library. This shows most of the students used Zoom and Google meet in their homes because of the Covid-19 pandemic. Ethiopia has seen exceptional health, economic, and educational challenges meanwhile the onset of the pandemic. The closing of schools and universities has put more than 30 million students and about a million higher education students out of institutions (Wondwosen, 2012). Students in universities widely use new media tools for various academic purposes. Starting from assignments to making notes, different information to developed content, their favorite is new media, Shilpa, (2014).Interview data also indicated the same results.(ICT Expert, 2 personal interview, April 23, (2022) is the ICT infrastructure and service team leader of the network within Addis Ababa University, he said that network infrastructure may have problems in the whole country, but in the case of Addis Ababa University, there are Wi-Fi access and different free available sites during covid-19 pandemic the students and teachers were prohibited from campus because of this pandemic which is why teachers and students encountered different problems. Within campus almost 60 percent of the internet is accessible, but the problem is students and teachers were at home during the COVID-19 pandemic (ICTexpert, 4, personal interview, instructors, April 27, 2022). As a result of the Covid-19 Pandemic, most students and teachers used Zoom, Google Meet, telegram, and email at home. Study results indicated that the Covid-19 Pandemic caused many students and teachers to use Zoom, Google Meet, telegram, and email at home.

Covid -19 pandemic limits people's physical activities, such as market running, education, working, meeting, and entertaining changing from offline to virtual, consequential in the faster distribution of developing digital technologies(Vargo, Benwell, and Yan (2020).

Table .11. Device to access Zoom and Google meet, telegram, and email during the Covid-19 pandemic

No	Statements	Frequency	Valid percent
1	Personal computer	133	53.2%
2	Smart phone	59	23.6%
3	Library lab	40	16%
4	Tablet	18	7.2%
		Total 250	Total 100%

(Researcher, *Survey, 2022*)

As indicated in the above table 133 (53.2%) used a personal computer to access zoom and Google meet, 59(23.6%) used a smartphone, 40 (16%) used a library lab, and 18 (7.2%) were using a tablet to learn online, to email assignments, to download educational materials. According to above table showed that above fifty percent of respondents used device is a personal computer. Study results showed that most students and instructors accessed Zoom, Google Meet, Telegram, and email via a personal computer. Many researchers connect that computer and technology development materials involve equal standards, opportunities, and meaningful learning for students (Salih, 2004).

According to (Manovich, 2001) stated new media is always together element, from computers, and dependent on their publication on different websites, human-computer communication, depends on a mixture of different techniques, and the use of computer technology to create a stimulating environment, media convergence, computer games, moving picture, digital video, special effects in film, and interactive computer installations.

Table.12. the device respondents used during the pandemic for teaching purposes.

No	Statements	Frequency	Percent
1	Smartphone	5	10%
2	Personal computer	30	70%
3	Library lab	5	10%
4	Tablet	10	20%
		Total 50	Total 100

(Researcher, *Survey, 2022*)

As is shown clearly in the above table from the total sample population 30(70%) of instructors used personal computers, 5(10%) respondents used smartphones, 5(10%) used library labs, and 10(20%) respondents used tablets.

4.1.8. Purpose of using Zoom and Google meet, Telegram and email during the Covid-19 pandemic

Table .13. Purpose of using Zoom and Google meet

No	Statements	Frequency	Valid percent
2	To attend online class	125	50%
3	To attend meeting	15	6%
4	To access educational materials	25	10%
5	To make video conference	25	10%
6	To send assignments	35	14%
7	To share materials	25	10%

(Researcher, *Survey, 2022*)

In the above table, it is shown that as many as 125 (74%) respondents used Zoom and Google meet, to attend online classes 15(6%) used Zoom and Google meet, to attend the meeting, and 25(10%) to access educational materials and 25(10%) to video conference. 36.5% used telegram and email to send their assignments, and 25.5% used telegram and email to share or deliver materials. Most informants used Google Meet and Zoom to attend online classes, based on the above data.

Another participant used telegram and email to deliver their assignment and to share materials with their classmates. Colleges and universities, especially the ICT department, made the necessary arrangements for hands-on practice with online teaching and learning applications. (ICT, expert, 1, personal interview, instructors, April 23, 2022) is the leader of learning-teaching technologies at Addis Ababa University. In his report, he states that the Addis Ababa ICT department attempted to train teachers on online teaching techniques during this crisis. It was not helpful because this pandemic was discovered so suddenly that they did not have time to prepare teachers and students for online learning and teaching.

ICT expert, (1) believes that Coronavirus complicates all aspects of our lives, including our education system, so the first step was to move to learning and teaching online during a pandemic crisis. In the transition from face-to-face classes to online classes, students and teachers encountered different challenges (ICT expert, 4, personal interview, instructors, April 27, 2022).The majority of respondents in table 13 utilized Zoom or Google Meet to attend online classes during the Covid-19 pandemic, and email or Telegram to share educational materials.

4.1.3. The use of zoom and Google meet before the covid-19 pandemic telegram and email before Covid-19

Table.14. The use of a Zoom and Google meet telegram and email before Covid-19

No	Statements	Frequency	Percent
1	Sometimes	75	30%
2	Often	20	8%
3	Never	150	60%
4	Always	5	2%
		Total 250	Total100%

Table source (researcher, 2014)

According to the above statistics, 60% of the respondents had not used Zoom and Google Meet for learning before the Covid-19 pandemic, 30% had used Zoom and Google meet, telegram, and email occasionally, 8% had used Zoom and Google meet, telegram, and email often, and 2% of respondents had used Zoom and Google meet, telegram, and email always before the Covid-19 pandemic. The results of this study reveal that most respondents did not practice zoom and Google meetings in learning and teaching before the covid-19 pandemic. The use of Zoom and Google Meet in education is not common in our country, but perhaps government offices can use them sometimes for meetings. Additionally, academic staff may use this technology for meetings, but it is not used extensively for learning and teaching like traditional methods.

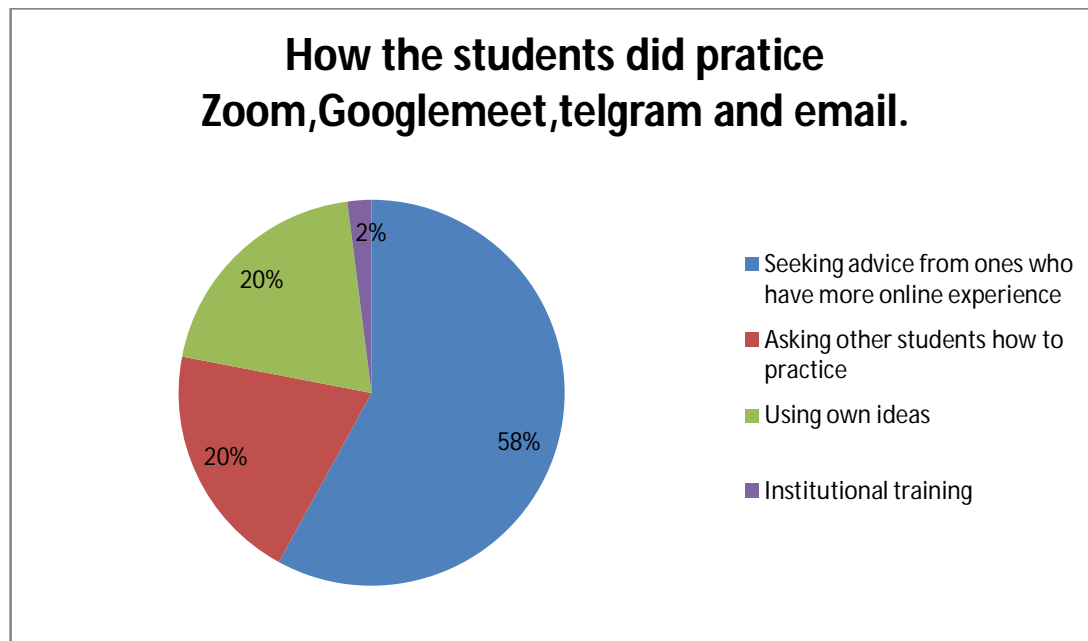
Most of the respondents stated that they had not practiced zoom and Google meet in learning and teaching before the pandemic. Because of the Covid-19 pandemic, they were forced to conduct zoom and Google meet in learning regardless of their level of preparation and practice. According to most of the respondents, because of the focus on the conventional learning and teaching process, the learning process at Zoom and Google meet was difficult, but it was important to continue education. There is no doubt that instructors feel that this kind of teaching and learning is inefficient and ineffective. Unfortunately, this occurred suddenly, and to survive or continue education, such a way of teaching and learning was necessary. Before COVID-19, graduates, IT students, and computer science students used this technology, but social science students were not familiar with Zoom, Google, Telegram, and email technology. However, it was not without flaws, and there were challenges regarding online classes. There is a fear of technology and a lack of awareness of learning and teaching online or technology among students and teachers (ICT experts, 1, personal

interview, April 25, 2022). (ICT expert, 1 personal interview, April 23, 2022) points to the upcoming trend of teaching and learning through Zoom, and Google Meet. Due to this, there are various problems that students and teachers encountered. Various complaints were filed by teachers to their department or the infrastructure department, and the ICT department tried to resolve the problems instructors encountered.

The interview conducted, on the other hand, indicated all the people interviewed agreed that this new trend of teaching and learning was not appropriate for them however, due to the COVID-19 pandemic they were forced to use online learning and teaching methods. According to (ICT expert, 1 personal interview, April 23, 2022), information and communication technology should be used all-time among students and teachers, since during such kinds of crises students and teachers may not encounter different problems, and universities as a whole should use ICT wisely since ICT has become a part of our everyday lives and impacts everything we do.

4.1.4. How the students did practice using Zoom and Google meet, telegram, and email in learning?

Piechart.2. How the students did practice using Zoom and Google meet in learning



(Researcher, Survey, 2022)

Using pie chart 2, you can see that 50(20%) of respondents practice Zoom and Google Meet based on their ideas, while 145(58%) of informants practice Zoom and Google Meet by asking those with more online experience for advice. And (50) 20% of participants responded

that they practice Zoom and Google meet asking students how to practice this technology in learning and only two percent of respondents practiced through institutional training. One of the interviewees is an instructor of journalism and communication, and he taught using Zoom and Google Meet Platforms during the covid-19 pandemic. (Interview,2) states that most students had no interest in using Zoom and Google Meet for learning. It is also not his desire to use this technology in teaching during the Covid-19 pandemic. Since he was already familiar with these platforms and had used them in the past when the university started using new media platforms during the pandemic, he also had experience with Zoom and Google Meet, so he had no problem using them.

(Interviewee 2) is a special needs instructor and the director of the center for students with disabilities. The interviewee, 2, said the pandemic has prevented students and instructors from coming to campus, so she has been teaching at home using Zoom technology. During the interview, (Interviewee, 2) explained that she doesn't have any experience teaching through Zoom or Google Meet because she's accustomed to meetings. As part of her practice, she taught students via Zoom and Google Meet, as well as delivered assignments via email and telegram.

(Interviewees 3, 15, personal interview, May 18, 2021) are instructors in the Department of Psychology and shares interviewee 1, and interviewee 2, idea; During the Covid-19 pandemic, they have used this new media technology, for teaching purpose particularly Google meet platforms. At the same time, these interviewees had not practiced using Zoom and Google meet in education.

To prevent the possible difficulties of the coronavirus may have, and surely have; the Ethiopian government was taken its finest likely actions. Starting on 16 March 2020, the government has formally proclaimed the closure of schools, including higher education, the ban on mass exercise, and big meetings, so-called the people to stay at home. Most government and non-government offices were closed, transport services are interrupted, and higher education students were returned to their homes (Tilahun, 2020).

(Interviewees, 4, 17, personal, interview, May 14, 2021)) is instructors Afani Oromo department have used Zoom and Google meet technology in teaching during a covid-19 pandemic, due to this pandemic face to face classes were closed, therefore, thanks to new media technology, they were teaching the students by using Google meet and zoom platforms.

Some instructors used students centered approach which helps them to manage students with

new media technology, regarding evaluation they evaluated students by giving home take exams and daily reflection, and by providing mainly assignments. They used email to deliver materials and assignments, and distribute notes. However, it can also damage the teaching and learning process because it has no control over the teachers, and also students. Interviewees 1, 2, 4, and have agreed with (interviewees 3, 20, personal, interview, May 13, 2021)) ideas; they explain that managing or controlling students with new media technology is somehow difficult. Participants indicated that the school administration had taken unprecedented steps to facilitate a smoother online teaching and learning process through teacher training, knowledge management, and student counseling. Despite this, students rarely attend classes due to various problems such as poor internet connectivity, power outages, and lack of technical knowledge.

In analyzing this section, it was revealed that to a large extent, 58% of the sampled population practice Zoom and Google meet telegram and email through seeking advice from ones who have more online experience. The interview conducted, on other hand revealed that the most of respondents indicated that they had not practiced zoom and Google meet in learning and teaching before the pandemic. Students and teachers seem to have similar practices when they used different platforms such as Google meet and zoom in learning and teaching during the Covid-19 pandemic. The findings further reveal that the students and teachers didn't have some training to overcome to cope with the challenges associated with online education practices. The findings show that most of the students practice new media by asking for help from students on what to do and how to prepare, and by using their ideas and asking for advice from those with more experience online. The result shows us the time of participants practicing Zoom and Google meet, telegram, and email by using their effort, and some of the teachers used some experiences when they were gain from different meetings made by Zoom and Google meet. In addition, some teachers receive short training sessions from the Addis Ababa University ICT department.

The practice of new media in education requires a well-planned course, adequate teacher training, sufficient institutional support, the creation of learning communities, and ensuring that students and teachers have access and control to technology, as well as connectivity to the internet. Unfortunately, what resulted from the forced closing of the institutions was not the most accurate representation of online learning and teaching. However, what happened was an emergency remote teaching and learning system, which offered a quick and temporary answer to the impossibility of continuing face-to-face learning due to a passing problem. Because of the Covid-19 pandemic, they were forced to conduct zoom and Google meet in

learning regardless of their level of preparation and practice. The study was done by showed that (Yi-wu, 2021) in response of Covid-19 pandemic, schools at all levels required an instant change towards online education which can be both an opportunity and an encounter.

4.2.5. The challenges students faced while using they used Zoom and Google meet, Telegram, and email in learning

Table.15.Challenges students faced while using Zoom and Google meet, Telegram, and email in learning

No	Statements	SD	D	SA	A
1.	Lack of technology know-how (Unfamiliarity with Zoom and Google meet)	5(2%)	15(6%)	150(60%)	80(32%)
2.	Limited resources (power and connectivity) or Electricity disruption or Poor internet connection, Shortage of facilities	25(10%)	30(12%)	135(54%)	60(24%)
3.	Accessibility problem	50(20%)	40(16%)	85(34%)	75(30%)
4.	Electricity disruption	20(8%)	25(10%)	115(46%)	90(36%)
5.	Devices to access Zoom and Google meet or Scarcity of electronic devices (e.g., laptops, smartphones)	10(4%)	20(8%)	155(62%)	65(65%)

(Researcher, *Survey*, 2022)

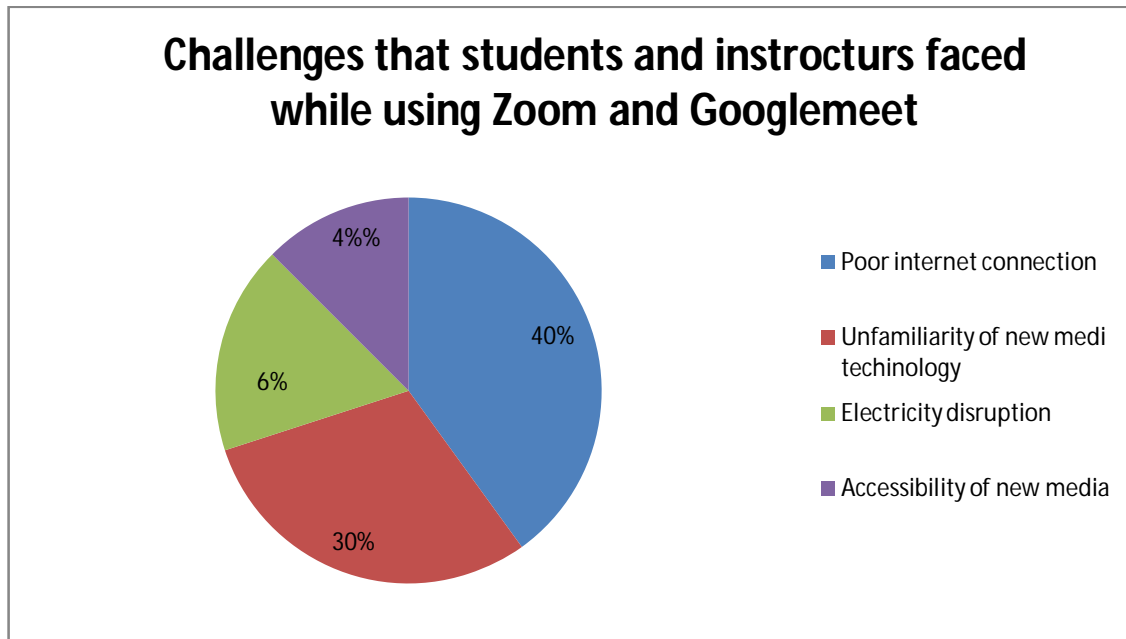
As shown in the table above, 150 (60%) of the sample respondents strongly agree with the statement that they do not know how to use zoom and Google meet in learning, and 135(54%) of respondents strongly agree with the statement they were challenged with poor internet Connection and 115(46%) of informants strongly agree with the statement electricity disruption. And from the total respondents, 75(30%) of them agreed with the statement the accessibility of Zoom and Google meet Challenged them, and 80(32%) of respondents responded to the statement Unfamiliarity of zoom and Google meet challenged them. and from the total respondents, 85(34%) strongly agree with a statement with the Accessibility problem of Zoom and Google meet challenged them while using Zoom and Google meet in learning. Another description of data shows that 15(6%) of respondents have disagreed and 5(2%) with the statement unfamiliarity with Zoom and Google meet not challenged them. This data shows us how many students encountered different challenges during the covid-19 pandemic. Many students report that they do not have access to the internet and there are power outages, but they have a device to access online courses. Question from teachers: we

don't have access to power, internet, or internet from our homes like students. Teachers' questions concern whether if we deliver materials and modules online we can lose the acceptance of students. Agreeing to work with Google made it freely accessible; there were free sites students could access during that time. However, most students and teachers are in their homes because being on campus was prohibited due to a pandemic outbreak. Particularly, the majority of students lived in rural areas, demonstrating that there are infrastructure problems in rural areas. Before outbreaks of pandemics, students and teachers are often hesitant to use technology when learning or teaching, especially in classes related to social science. Earlier in the pandemic, engineering and computer science students and teachers were familiar with similar technology.

(Instructor 7, personal interview, May 26, 2021) points out that the challenges of new media that are experienced during this pandemic are, lack of Internet connection, power outages are a major problem, and Knowledge of technology is also short-lived, which poses a challenge for us. Due to the Covid-19 pandemic, Ethiopia and the world faced health, economic, and educational challenges. The closing of universities and schools impacts many higher education students. Therefore, based on the data collected, poor internet connection and electricity disruption were the most common problems experienced by respondents (WHO, 2020).

Various pieces of research works state that the development of local content is highly impacted by the availability of Internet infrastructure and its access to citizens, Ethiopia has a very low Internet penetration rate even when compared to other African countries, and there are many initiatives for developing the communication infrastructure of the country (Solomon, 2015).

Pie chart .3. Challenges instructors faced while using Zoom and Google meet for teaching



(Researcher, *Survey*, 2022)

As the above pie chart is shown, 20(40%), of the respondents, faced the challenge of a poor internet connection, 15(30%) respondents were challenged with the unfamiliarity with new media technology, and 3(17.5) informants have challenged with electricity disruption, 5(12.5%) of informants challenged regarding with accessibility Zoom and Google meet.

During the interview process, (instructors 1, 18, and 19, personal, interview, May 15, 2021) mentioned disruption of the internet, interruption of electricity, and disconnection with students online as the main problem encountered. (Instructor, 1) did not believe that it was appropriate to use this new media technology in teaching because our culture of communication emphasizes face-to-face communication. Nowadays, however, the world competes, so we must compete and meet the world's standards. It is difficult for instructors to affirm whether students are online or not, and there may be times when students use more than one student on one computer due to laptop problems, according to (instructors 2 and 16, personal interview, Feb 2021) Zoom and Google meet Technology are so new that students may not know how to apply to learn them correctly. In addition to a sudden shift away from face-to-face learning, instructors also used online technology as an alternative way to learn and teach which caused student instructors to encounter difficulties.

Although technology has no problems with itself, in our country, it can be difficult to use technology for learning and teaching purposes; there are many things that we have to do to advance using technology. The more students in one class, the more difficult it is to control; the smaller the number of students, the easier it is to control. (Instructor 5, personal interview, May 29, 2021,)when asked about the challenges of using Zoom and Google Meet during the pandemic, says "most students don't know how to use it very well, and they struggle when they need questions, suggestions, or comments". A class of more than 20 students is difficult to control, and smaller classes provide better communication. (Instructor, 6) argues that without internet access, we cannot utilize new media, so this can become a major problem.

Since they have not used technology for educational purposes before, they have no idea how to use it effectively. Unfortunately, poor internet connections and a power outage prevented them from being able to have a good connection. Having poor internet connectivity prevents direct interaction between students and instructors. Additionally, the above points were mentioned as challenges (instructors, 12, 13, 16, personal interview, May 22, 2021). During that time, teachers, students, and their families complained about the internet, power interruptions, accessibility of online teaching, and learning new media platforms. These complaints are valid since the students and teachers were at home. They were experienced in using technology in education, so the COVID-19 pandemic was not difficult for them. The undergraduate students, in particular, were unstable because they lacked access to handheld devices to access online learning, and they also had a fear of technology. However, somehow postgraduate students assumed they knew how to use technology, but the situation worsened during the Covid-19 pandemic. The covid-19 pandemic challenges Ethiopia and the world's health, economy, and education the closing of universities and schools put many higher students out of the campus. Therefore, the data obtained from respondents suggest that poor internet connection and electricity disruption were the main problems that respondents experienced (WHO, 2020).

The findings of the study suggest that a weak internet connection, power disruptions, and lack of knowledge about how to use zoom and Google Meet, telegram, and email hindered the use of new media in learning and teaching during Covid-19. The findings show that instructors face multiple challenges when running online courses. On the other hand, the interviews conducted revealed that poor networks, limited digital skills, low attendance and motivation

of students, insufficient interaction, and power cuts are among the major challenges. Additionally, students reported that online classes were challenging due to poor, unstable internet, power outages, lack of devices to work on, unfamiliarity with the online environment, and expensive internet packages.

A factor of no smaller importance was the effect that this had on the teachers. They were forced to adopt this new model quickly, without many of them having the necessary skills for electronic teaching and utilizing technology. This becomes even worse when one considers that an online course requires six to nine months of preparation. Teachers were under pressure to get their courses ready in days or weeks during the health crisis, so many turned to trial and error [2] and others went to coworkers and social networks. It is stressful to have to adapt to a new situation, not knowing how to do it, having to abandon old practices, even those that had been successful, and the pressure to innovate against the clock (Perez, Ventura, Romeri, and Melilla'n, 2020).

The World Bank (2019) indicated in Degwale, (2020), that while grid electricity coverage in rural areas is only 12%, there are additional factors, including electric power and disruptions, which affect its effectiveness. In the case of undergraduate students, despite the Ethiopian ministry of education ministry had planned to implement distance learning online, none of the universities are effective due to the lack of internet access for the majority of students.

Moreover, a study conducted by Yi-wu(2021) revealed that the lack of learning resources caused students to suffer from learning at home, such as not having access to the internet. In the early days of the pandemic, both teachers and students were unfamiliar with systems such as Zoom and WebEx to attend classes; Skype, Hangout, and What Sapp were commonly used for communication. (Yi-wu, 2021) found that more than half of the teachers had no experience with online teaching. The Covid-19 crisis forced accounting teachers and students to change the online teaching, learning, and assessment environment without prior preparation, according to a report (Sangster, 2020). Both the instructors and students may have been affected by this challenging situation due to its speed and unclear goals; the lack of institutional support; an unfamiliarity with online learning platforms and tools; and concerns for students' well-being due to technology-related difficulties. According to BasilaiaandKvavadze, 2020; Sintema J, 2020,) stated in (Degwale, 2020) the countries that are having incomplete technologies have difficulties in schools and universities were not ready for the complete implementation of countrywide online education.

4.2.6 The opportunities of students experienced while using Zoom and Google meet, telegram, and email in learning

Table.16. the opportunities students experienced while using Zoom and Google meet, telegram, and email in learning

No	Statement	SD	D	SA	A
1	Using these platforms, we have taken the one step further with technology	30(12%)	50(20%)	95(38%)	75(30%)
2	By utilizing the new media platforms listed above, we were able to prevent the transmission of Covid-19	20(8%)	35(14%)	110(44%)	85(34%)
3	This helped us gain experience with Zoom and Google Meet, emails, and telegram	15(6%)	25(10%)	109(43.6%)	101(26%)
4	It has reduced the amount of time and resources we have spent traveling to the campus	6(2.4%)	8(3.2%)	156(62.4%)	80(32%)

(Researcher, *Survey, 2022*)

It appears that above 110(44%) respondents strongly agree that Zoom and Google meetings helped them prevent the Covid-19 pandemic and that 156(62.4%) strongly agree that it has reduced the amount of time and resources we have spent traveling to campus. About 109 respondents (43.6%) said this helped them gain experience using Zoom, Google Meet, emails, and Telegram. About 30 (12%) of respondents strongly disagree with the statement, Using these platforms; we have taken the technology one step further. Considering the table above, it is clear that most respondents believe that Zoom and Google meet helped students prevent the Covid-19 pandemic by practicing learning using Zoom and Google meet. According to (Instructor 1, 5, personal interview, May 25, 2021) Dusters and whiteboards are not required, but it requires a lot of transition before our country adapts to this system As (the instructor,4, personal interview, May 23, 2021) stated more or less it made him use technologies, for learning and teaching, helped use to go one step forward with technology, its made communication easy during Covid-19 that difficult time. As stated by (instructor 2, personal interview, may 2020) explain that about opportunities of Zoom and Google meet, we should not stop when a problem arises, and we should use it as an alternative, therefore, new media technology is a good opportunity to overcome the current problem of the Covid-19 pandemic.

Despite the difficulty in connecting with the internet, (instructors 14, 19, 11 personal interviews, May 11, 2021) said Zoom and Google meet allows students to continue their education, even though they are unable to connect to the internet, they said the new media helps them to prevent an outbreak pandemic, It allows them to take a step forward with technology, and It minimizes their time and effort to travel to campus. These points were mentioned as good opportunities. (The instructor, 4, personal interview, May 14, 2020,) also stated that he uses technology for learning and teaching, which helps us to be able to communicate better during Covid-19 that challenging time.

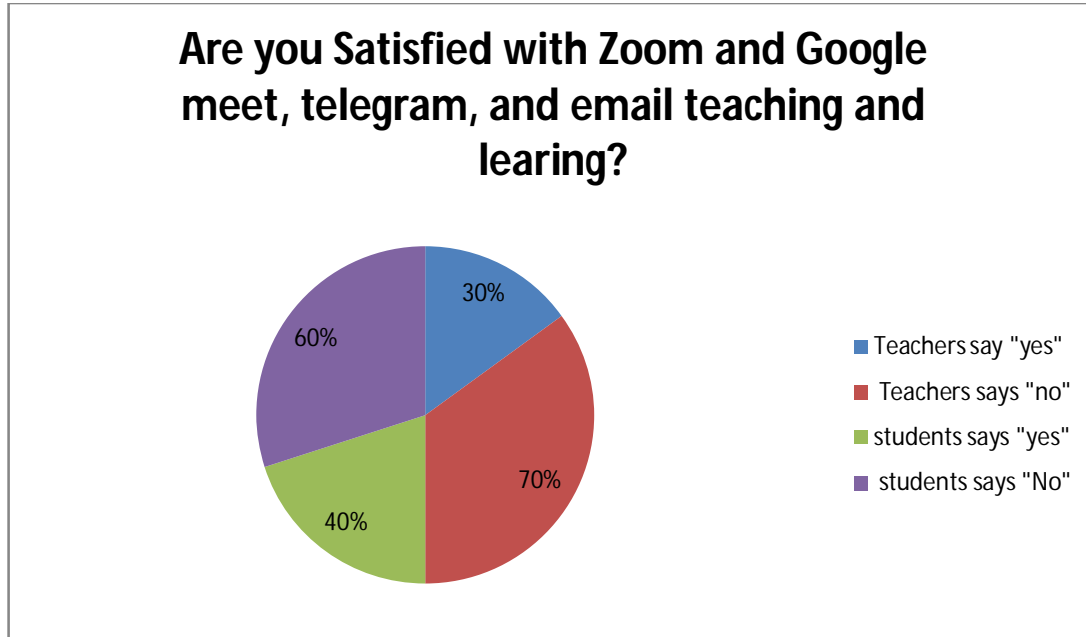
As a result, Zoom and Google Meet enabled students to continue their education even when they couldn't access the internet and prevented the Covid-19 outbreak pandemic, enabled students to take a step forward with technology, and minimized travel time and effort to campus.

They were able to continue their education through Zoom and Google Meet, despite the difficulties they encountered connecting to the internet.

According to Jaelani&Naciri, 2020,) stated (Aziman, Kassymova&Duisenbayewa, 2020) that the role of remote learning as alternative learning could not be avoided during the Covid-19 pandemic. And it was because learning could be done from long distances and the use of this system allowed learning at anytime and anywhere. However, the use of online media during the Covid-19 pandemic produced numerous responses on the influence and changes in learning methods that can affect the teaching and learning process. Research has been done (Yulia,2020) indicated by Nashir& Laili,2020) Online learning is a distance learning model which uses information technology and internet access for supporting the instructors and students during the teaching process, and nowadays zoom cloud meetings are often used for learning, holding virtual meetings through video, voice, or both of them.

4.2.7. The satisfaction of the students while using Zoom and Google meet telegram and email in learning

Piechart.4.the satisfaction of students and instructors Zoom and Google meet, telegram, and email in learning and teaching



(Researcher, *Survey*, 2022)

Due to low internet speed and power outages, students and teachers have been unable to communicate effectively. Less than 50 percent of respondents said "yes" because some students during Covid-19 time were in the cities and had better Internet access than students in the countryside. In the pie chart above, it is clear that 15 respondents (30%) say "yes," and 35 respondents (70%) say "no." The reason for saying "yes" above is that even though the internet connection and electricity interruption challenge the students, there is a significant improvement compared to three or two years ago. And the reason to say "no" is the poor internet connection and particularly electricity disruptions are yet challenged them to use the Zoom and Google meet not effectively. Research results show that students and educators were not satisfied with zoom and Google meeting learning and teaching. The findings indicate that both instructors and students further stated that they found online teaching too challenging. Furthermore, they did not feel satisfied with their classes, as they felt that they did not have control over them. Furthermore, this usually causes concern among teachers and students. They had limited opportunities for discussion in online classes and they felt like the classes were not natural.

Studies to date indicate that students and teachers are not satisfied with the emergency remote teaching and learning to deal with the COVID-19 pandemic crisis (Perez, Ventura, Romeri, and Melilla'n, 2020). Moreover, some typical problems of this type of teaching are identified, such as difficulties to motivate the students, less interaction with the teachers, deficient abilities, unsteadiness of the platforms, insufficient social contact, loss of opportunities to train technical abilities, and the difficulties of the internet connection.

The study results show that during the interviews, almost all instructors described they preferred face to classes to online classes. According to (Cheng, 2020) stated in (Degwale, 2020), online teaching cannot successfully replace face-to-face emotional communication between teachers and students and doesn't provide real-time feedback on the information.

According to (Sangster, 2020) Online learning, it has driven several questions about students' preferences for and satisfaction with different forms of learning, the impact of different delivery modes on students' engagement, alienation performance, and achievements. A study done by (Aziman, Kassymova&Duisenbayewa, 2020) suggested that the use of Google Classroom is less memorable in physical learning, but it is effective in learning through virtual classes and can be used as a learning application during the Covid-19 pandemic. And it can be concluded that students still need teachers directly in the physical learning process. In the students' case they, like teachers reported being worried about bad internet connectivity and the constraints on access to the platforms used during the emergency remote teaching. According to this research participants the students and teachers, many do not have the infrastructure inadequate connectivity in their homes and the students of the more vulnerable sectors face greater problems of access to the equipment and necessary connectivity, but also show more difficulties to handle the technology.

4.2.3. The accessibility of Zoom and Google meet Telegram and email

Table.17. Did you think zoom and Google meet are easily accessible in your area?

No	Statements	Frequency	Percent
1.	Did you think zoom and Google meet are easily accessible in your area?	Yes 70	28%
		No 180	72%
		Total 250%	Total 100%

(Researcher, *Survey, 2022*)

According to the above table, 15 of respondents or (180)72% of respondents said” no” and (70)28% of sample informants chose “yes”. The reason to say” no” is most of the students were from rural areas during the Covid-19 Pandemic and the reason to say “yes” is some

students were from urban areas. According to the informant new media accessibility is highly dependent on the internet, According to the above table, the researcher can sum up that new media is accessible everywhere but its accessibility is highly dependent on internet connection. A similar result is found in the interview that was conducted. As stated by (Instructor, 4, personal interview, May 14, 2020), "the accessibility of Zoom and Google meet technology is "no question" provided there is a good internet connection or better ICT infrastructure, we can use it anywhere, anytime. However, it is heavily based on the internet for example concerning our students, which may not cause too many problems inside the university, but it is very difficult for students outside the university.

In the opinion of (instructor, 6, personal interview, May 16, 2020), "The accessibility of Zoom and Google Meet may not be a problem for students in Addis Ababa, but it could be a problem for students in different parts of the country." The ICT infrastructure in Addis Ababa is better than in other parts of the country. It is, however, a very helpful thing to use this kind of technology to teach if we have easy access to the internet and our teachers are well-trained, well-prepared, and well-informed. The (instructors, 5, 13, personal interview, May 2021) are instructors in the geography department. They described that when using zoom and Google meet technology, does not pose a problem in itself; however, in our country, it can be challenging because we do not have good internet, electricity, and ICT infrastructure. In agreement with (Instructor, 2, personal interview, May 2021), "it is difficult to say that all students have accessed". Most students may lack the devices they need to access new media due to internet connections. As an instructor, found Zoom and Google Meet technologies to be inconvenient for our country, because our culture relies on not just spoken communication, but also face-to-face interaction; there were many difficulties as a result. Due to the absence of lights, access to students was difficult. Communication was difficult as well.

A survey conducted by the researcher shows that most respondents believe that Zoom, Google Meet, Telegram, and email can only be accessed from the internet.

4.2.4. The courses types that were covered by instructors during the Covid-19 pandemic

Table.18. Types, of course, the instructors covered by Zoom and Google meet, telegram, and email

No	Statements	Frequency	Percent
1.	Theory course	30	60%
2.	Skill courses	8	16%
3.	Skill and theory courses	12	24%
		Total	Total
		50	100%

(Researcher, *Survey, 2022*)

According to the above table, 30(60%) of respondents covered theory courses during the Covid-19 pandemic, 8 (16%) were covering skill courses, and lastly, 12(24%) covered skill and theory courses. It can be summed up most of the respondents covered theory courses, some instructors “said” that they can teach even practical courses by sharing computer screens. An interview conducted on the other hand indicated that most instructors covered theory courses during the Covid-19 pandemic. Perhaps, (Instructors 8 and 9, personal, interview, May 21, 2021) indicated that they were using Google meet and zoom technology to cover theory courses during the covid-19 pandemic, as most practical courses could not be covered via technology. Likewise, another instructor (10, 11) taught theory and skill courses. (Instructors, 12) pointed out that he covered some practical courses by sharing computer monitors and videos on the computer. Most of the respondents covered theory and theory-based courses, however, a small number of instructors "said" they could teach practical courses by sharing computer screens. Based on the results, the majority of instructors taught theory courses during the Covid-19 pandemic.

Findings and Discussion

In this study, the researcher assessed students' and teachers' practices of new media in learning and teaching during the COVID-19 pandemic and evaluated the challenges, opportunities, and satisfaction they have gained from using new media in learning and teaching. It was conducted in four colleges of Addis Ababa University, with 250 students, 70 teachers, and five ICT experts as sample participants.

In this section, the respondents' profiles in this study will be shown throughout different tables. This will include the socio-demographic profile of the respondents such as gender, age, and educational status.

- ❖ As shown in table 3, the majority of participants, instructors as well as students were male. The research found that most student participants were between the ages of 20 and 25, while most instructor participants were between the ages of 56 and 65.
- ❖ Table 6 shows that the majority of respondents who participated in this study were bachelor's degree students. According to the table above, the majority of respondents were associate professors or assistant professors.
- ❖ The data shows that all respondents used Zoom and Google Meet, telegram, and email during the pandemic in learning and teaching. This shows most of the student's used Zoom and Google meet in their homes because of the Covid-19 pandemic, due to the covid-19 pandemic. Study results showed that most students and instructors accessed Zoom, Google Meet, Telegram, and email via a personal computer.
- ❖ According to table 13. most informants used Google Meet and Zoom to attend online classes, based on the above data.

Another participant used telegram and email to deliver their assignment and to share materials with their classmates. Covid-19 has profound effects on people, not only on their health but also on how they work, learn, and live. Covid-19 creates many challenges, but probably the most important is how to adapt a school system built on physical education. All students are affected by school closures, especially the most vulnerable ones, who face even more obstacles. COVID-19 has disrupted every aspect of life, including healthcare, education, and the economy (Li et al., 2020). Globally, educational institutes were closed, and students had to remain at home.

As many schools were closed due to the Coronavirus crisis, many countries have turned to digital pedagogical tools and virtual exchanges between students and their teachers to deliver education. Unfortunately, many students may lack access to such tools and require additional attention and support. This study was primarily intended to examine the practices of the new media among students and teachers, particularly Zoom and Google Meet, email, and telegram, in learning and teaching. Most of the respondents stated that they had not practiced using Zoom, Google Meet, Telegram, and email in learning and teaching before the pandemic.

- ❖ The study findings showed that about 60% of respondents had not practiced Zoom and Google Meet in learning and teaching before the Covid-19 pandemic.

The study done by Nashir and Laili indicated that 89% of Indonesian students declared it was their first time using the zoom application in learning. And based on their or researchers' observations, the students were still confused about operating the zoom application as an online medium. This is because the students are still not familiar with using this application as an online medium.

Other studies that produced related outcomes include who claim that some challenges related to the use of new media, slow internet connection, and electricity interruption. Most of these challenges raised by various researchers are also raised in this research.

- ❖ The study findings seem to suggest respondents experienced very poor internet connection, electricity disruption, and a lack of knowledge about how to apply the Zoom and Google meet in learning and teaching.
- ❖ According to the current study, 54% of respondents strongly agreed that poor internet connection challenged them in learning during the Covid-19 pandemic.

An unstable internet connection reasons a sporadic voice when the lecture explains the material so that the points of the lesson cannot be conveyed perfectly to students. Roy, Ray, Saha, and Ghosal (2010) state in Nashir and Laili (2010) that poor internet connections are the greatest obstacle to students participating in online discussions. The findings of the current study are similar.

A study done by Solomon showed that Ethiopia has a very poor internet penetration even when compared to other African countries; there are several initiatives for developing the communication infrastructure of the country.

However, the research results indicated Zoom and Google meet allowed them to continue their education, even though it is difficult to connect with the internet, new media helps them to prevent the covid-19 outbreak pandemic, and it helped them to take them a step forward

with technology, and the time and effort to get to campus has been minimized. As (Nashir and Laili, 2020) indicated in their study the use of zoom meetings is effective in terms of time and place where learning is not bound by space and time; also it can be carried out anytime and anywhere as long as the internet access is good.

❖ Research results show that students and educators were not satisfied with zoom and Google meet learning and teaching. Both students and teachers were not interested. The study findings showed that 52% of respondents strongly agreed that they are not satisfied with Zoom and Google meet in learning and teaching.

The research done by (Elfirdoussi, Lachgar, Kabali, and Goujdam, 2020) showed that most the students are not satisfied with the distance learning provided by the professors or different instructors. Additionally, technical encounters are one of the key reasons for abandoning the transition to online education; these ranges from equipment to internet connection issues or the availability of platforms. And lack of digital skills is expressed by insecurity in the use of new technologies in such a short time.

However, the quickness with which this move to online instruction is expected to happen is unprecedented and surprising. The current study's findings revealed that limited resources (power, and connectivity), shortage of facilities, lack of technology expertise, and lack of confidence in online learning styles were hindrances to the smooth operation of online teaching and learning.

The learner's attendance is low and students are not always cooperative; even when we ask questions, they respond less. According to the interviewees, the instructors have given their full effort from the adoption of this mode of teaching until its implementation. Online teaching and learning are new for them during the crisis of the covid-19 pandemic. At the start they were not comfortable with delivering the course; it presented a jump from face –to face online delivery that was new to them. According to their hands-on practice, shared their experiences during these hands-on and learned from each other (ICTexpert,4, personal interview, instructors, April,27,2022).

Since its size was small or restricted to a specific group of people, its generalizability was limited. Considering the small sample size, generalizing these findings may be difficult. Therefore, future research must consider more populations to obtain optimal or good results.

Chapter Five

5. Conclusions and Recommendations

5.1. Conclusion

This study provides findings on how teachers and students used new media technologies in learning and teaching during the COVID-19 pandemic. The majority of teachers and students had no experience with implementing new media technology to host online classes during the Covid-19 pandemic. A majority of teachers and students struggled to use new media technologies to conduct online classes during the COVID-19 pandemic. The study combines qualitative and quantitative data from Addis Ababa University students and instructors.

This study proposes many solutions to overcome these issues. By choosing features to include in new media practice, teachers and students will be better prepared and more confident when utilizing new media in learning and teaching. Several changes occurred in the field of education following the Covid-19 outbreak. The first step toward educational reform is to change the educational process, then open up novel approaches through technological innovation. The Zoom and Google Meet platforms offered opportunities for learning and teaching during the Covid-19 pandemic.

However, based on the results of the current study, it is evident that students and teachers encounter many challenges when practicing new media in teaching and learning. There are many reasons for this, including lack of familiarity with new media technology, poor internet connections, power outages, and accessibility issues. Most respondents indicated that they had not used Zoom or Google Meet in learning or teaching before the pandemic.

As stated by (Sangster, 2021) Coronavirus crisis change comprised several difficulties in distant learning (Crawford et al, 2020) for example, among others, lack of internet access or proper equipment, lack of a noiseless space of access to computers, learning resource access subjects. Faculty favorites for old learning and inactivity with concern to alteration were among a variety of personal, social, technical, political, and economic infrastructure challenges the higher education organizations needed to face. The Covid-19 pandemic has also had a severe influence on higher education as universities closed their grounds and countries shut their borders in response to lockdown measures. Although higher education organizations were rapidly substituting page-to-page lectures with online learning, this shutting impacted learning and investigations as well as the security and permitted position of global students in their host country (Schleicher, A. 2020).

The study finding showed that about 60% of respondents had not had a practice Zoom and Google meet in learning and teaching before the Covid-19 pandemic.

According to current research, 54% of respondents strongly agreed that poor internet connection has challenged them in learning during the Covid-19 pandemic.

According to the current study, most students and teachers are not satisfied with using media in learning and teaching during the COVID-19 pandemic. Because of several problems such as difficulties to motivate the students, less interaction with the teachers, deficient teaching abilities, unsteadiness of the platforms, less social contact, loss of opportunities to train technical abilities, and the difficulties of the internet connection. The study finding showed that 52% of respondents strongly agreed that they are not satisfied with Zoom and Google meet learning and teaching

Research results show that students and educators were not satisfied with zoom and Google meet learning and teaching. Data obtained from participants show us both students and teachers were not interested, because of different problems such as very poor internet connection, electricity disruption, and a lack of knowledge about how to practice Zoom and Google Meet in learning and teaching during the outbreak of the Covid-19 pandemic.

5.2. Recommendation

Based on the findings of the research the following recommendations are forwards used effectively the new media technology in learning and teaching properly.

- ❖ Teachers should be supported to create interactive online materials, teachers should be provided with ICT skills, online courses, and skill enhancement workshops should all be in place to compensate for on-campus activities at the same time.
- ❖ The training is necessary to help students and instructors improve their practices for conducting online courses. It also helps them prepare for learning and teaching in the new media environment. The internet's accessibility has been considered by most students and teachers to be the most critical factor.
- ❖ Students should be provided with efficient and effective information technology support and troubleshooting. An investigation of the overall learning experience involved developing and maintaining healthy communication channels between higher education management, students, and teaching staff. Communication is crucial to keeping all stakeholders informed and aware of the feedback. In the study, it was suggested that this unplanned and rapid shift at the time of the pandemic resulted in poor learning.
- ❖ Instead of transferring the face-to-face materials of a course to the electronic environment, we should put significant effort into designing online courses. Interactive features and feedback during online courses should be emphasized to encourage students' attendance by using virtual chat rooms and forums. This will allow students to interact with each other and with instructors via the Internet. Learners should be informed about how to get assistance and how to file petitions regarding exams, quizzes, and assignments.
- ❖ Students enjoyed the mobility of the portal, being able to access materials using various devices and from different locations. It is crucial to emphasize the mobility feature of the university portal; designers will need to ensure mobile access to materials with various internet connectivity conditions, with an option to complement.
- ❖ Through e-monitoring, students can supplement campus support and get extra help in weak areas by providing extra resources. The study suggests that to maintain the sustainability of learning run with modern technology, it is necessary to consider the spread out of internet infrastructure. It is required to provide and expand internet coverage in rural areas by internet service providers in the country. Study shows that students should be able to develop their skills to use the latest technologies. Addis Ababa

University should provide students and teachers with training on operating the current devices they use now to access new media technology.

Research Implications

Students and instructors had low levels of know-how with new media technology even though they had some experience with the technology. It implies that previous experience makes someone capable of conducting online courses or implementing new technologies in learning and teaching. During the Covid-19 pandemic, most students and teachers did not receive training on how to host online classes or use new media technology in learning and teaching. Training and practice techniques are needed to allow them to better prepare when running online classes during such a pandemic. Teachers and students need to enhance their skills in using new technologies. The training is necessary to help students and instructors improve their practices for conducting online courses. It also helps them prepare for learning and teaching in the new media environment. The internet's accessibility has been considered by most students and teachers to be the most critical factor. This indicates a lack of ICT infrastructure and implies limited access to the Internet by students and teachers. In addition, the findings in this study should be taken into consideration by university management and governments to improve the quality and effectiveness of online learning during the Covid-19 pandemic.

Outlook for further research

The researcher believes that this research has delivered a basis for additional research in the area of new media practice in learning and teaching during the pandemic. This research, based on a QUAL-qual assessment of the students' and teachers' new media practices during the Covid-19 pandemic, makes several recommendations for future research. It suggests a broader and more diverse sample to provide a more complete picture of teachers and students at Addis Ababa University, particularly teachers and students with new media technology and new experiences. This study proposes systematic and purposeful sampling techniques to obtain a larger and more diverse sample of participants. The study also highlights students' and teachers' dissatisfaction with unstable internet access and the unfamiliarity with new media technology. As a result of the research, future studies should pay attention to infrastructure, including IT services and internet access, as well as training concerning new technologies.

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APPENDICES APPENDIX –I-

ADDIS ABABA UNIVERSITY GRADUATE SCHOOL OF JOURNALISM AND COMMUNICATION QUESTIONNAIRE FOR STUDENTS OF Addis Ababa UNIVERSITY

Dear/ Madam, Respondents

General direction: The purpose of this questionnaire is to collect data for the research project entitled “**New Media Practices of Learning and Teaching Process during the Covid-19 Pandemic: In the case of Students and Instructors**”

Your genuine and accurate responses will have a great contribution to the findings of the research. Therefore, you are kindly requested to give genuine answers to the questions below.

I would like to Thank You In Advance.

This questionnaire has two sections. The first section is about your profile and the second section is about the new media.

Instructions

1. Please respond to each question by providing a short answer and by circling the answers

(PART I) RESPONDENT PROFILE

(Please encircle the appropriate code)

1. Sex:

A. Male

B. Female

2. Educational level of the respondents?

a. Bachelor’s degree

b. Master’s degree

c. PhD

3. Age of respondents?

A. 25-35 b. 35-45 c. 45-55 d. 55-65

4. College of you studying on?

A. College of Social Science

b. Colleges of Business and Economics

c. College of Educational and behavioral studies

d. Humanities Language Studies, and School Journalism and Communication.

(PART II) RESPONDENT PRACTICE OF NEW MEDIA

Please encircle the appropriate code)

1. Did you use Zoom, Google Classroom, telegram, and Email in learning during the Covid-19 pandemic?

a. Yes b, No

2. What was your media device to access zoom, and Google meet?

a. Smartphone b, computer c, library, d, laptop e, tablet

3. What is your purpose for using Zoom and Google meet, telegram, or email?

A. to attend online classes

B. to do assignments

C. to accessing educational materials

D. to meeting

If any other reason? _____

4. Which place did you use Zoom, Google meet application in learning during Covid-19 pandemic?

a. Dormitory b. University library c. Campus Wi-Fi zone d. Cybercafé

Any other place(Please specify).

5. How did you practice Zoom, Google classroom, Email, and telegram in learning during the Covid-19 pandemic?

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6. Did you use zoom and Google meet, Telegram and Email before covid-19 pandemic in learning?

A. If yes

Why.....

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B. if no

Why.....

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7. If you choose no for the above question how did you start using Zoom and Google meet, Email, and Telegram in learning?

- A. Asking students what to prepare
- B. Institutional training
- C. Using own ideas
- D. Seeking advice from ones who have more online experience

9. How often did you use Zoom and Google meet before Covid-19?

- A. Sometimes
- B. Often
- C. Never
- D. Always

10. What are the challenges you faced during the pandemic when you learned by using Zoom and Google meet?

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11. What are the opportunities you experienced when using Zoom and Google meet in learning during covid19 pandemic?

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12. Did you think Zoom, Google classroom, Email, and telegram are easily accessible in your area?

- A. yes

Why.....?

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B.no

Why.....?

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13. Are Zoom, Google Meet, email, and telegram platforms effective for learning?

A, if Yes

Why.....?

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B, if No

why.....?

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Note: SD=strongly disagree; D=Disagree; A=Agree; SA=strongly agree).

14. Please encircle the following regarding the ‘**challenges that you face during use Zoom, Google Meet telegram and email in learning and teaching**’ on a five-point scale from strongly disagree to strongly agree:

No	Statements	SD	D	SA	A
1.	Lack of technology know-how (Unfamiliarity with Zoom and Google meet)				
2.	Limited resources (power and connectivity) Electricity disruption or Poor internet connection, Shortage of facilities				
3.	Accessibility problem				
4.	Electricity disruption				
5.	Devices to access Zoom and Google meet or Scarcity of electronic devices (e.g., laptops, smartphones)				

15. Are you satisfied with such new culture of learning and teaching way?

a. Yes b. no

1. If yes

Why.....

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2. If your answer to question number 15 is no, what is your reason?

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16. Please encircle the following regarding the **‘opportunities that you experienced during use Zoom, Google Classroom, email and telegram in learning and teaching** ‘on a four-point scale from strongly disagree to strongly agree:

No	Statement	SD	D	SA	A
1	Using these platforms, we have taken the one step further with technology				
2	By utilizing the new media platforms listed above, we were able to prevent the transmission of Covid-19				
3	This helped us gain experience with Zoom and Google Meet, emails, and telegram				
4	It has reduced the amount of time and resources we have spent traveling to the campus				

Thank you -----#####-----

APPENDIX- II-

Interview questions for teachers.

1. Did you teach using Zoom and Google Classroom, Email, and telegram during the covid-19 Pandemic?
2. How do you feel about this new culture of teaching?
3. What issues are you facing with new media teaching practices?
4. What is your opinion regarding the implementation process for online teaching strategies from your colleges and department administration?
5. Which types of courses you have covered online during the pandemic?
- 6 Are Zoom and Google meet, telegram, and email easily accessible?

APPENDIX-III-

ADDIS ABABA UNIVERSITY GRADUATE SCHOOL OF JOURNALISM AND COMMUNICATION QUESTIONNAIRE FOR STUDENTS OF ADDISABABA UNIVERSITY

Dear Madam Respondents,

General direction: The purpose of this questionnaire is to collect data for the research project entitled “**New Media Practices of Learning and Teaching Process during the Covid-19 Pandemic: In the case of Students and Instructors**”

Your genuine and accurate responses will have a great contribution to the findings of the research. Therefore, you are kindly requested to give genuine answers to the questions below.

I would like to Thank You In Advance.

This questionnaire has two sections. The first section is about your profile and the second section is about your reflection on the new media (particularly) Zoom and Google meet, Telegram and Email.

Instructions

1. Please respond to each question by providing a short answer and by circling the answers

(PART I) RESPONDENT PROFILE

(Please encircle the appropriate code)

1. Sex:

A. Male

B. Female

2. College where you are teaching?

A. College of social sciences

B. College of Business and Economic

C. College of Educational and Behavioral

D. Humanities Language Studies, and School Journalism and Communication.

4. Age of respondents?

A 25 -35

B. 36-45 c.

C. 46 - 55

D. 56-65

5. Academic ranks of informants.

A. Professor

Associate professor

C. Assistant professor

D. Lecturer

(PART II) RESPONDENT PRACTICE OF NEW MEDIA

Please encircle the appropriate code)

1. Did you use Zoom, Google Classroom, Telegram, and Email in learning during the Covid-19 pandemic?

a. Yes b, No

2. What was your media device to access zoom, and Google meet?

a. Smartphone b, computer c, library, d, laptop e, tablet

3. Why do you use Zoom and Google Meet, telegram, and email?

A. to teach online classes

B. to send assignments

C. to accessing educational materials

D. to meeting

If any other reason? _____

4. Which place did you use Zoom, and Google Meet applications in learning during the Covid-19 pandemic?

a. University library

b. Campus Wi-Fi zone

c. Cybercafé

d other place.

5. How did you practice Zoom, Google classroom, Email, and telegram in learning during the Covid-19 pandemic?

A. Through previous little experience.

B. through Institutional training

C. Using your ideas

D. Asking for advice from those with more experience online

6. Did you use zoom and Google meet, Telegram and Email before covid-19 pandemic in learning?

A. If yes

Why.....

B. if no

Why.....

7. How often did you use Zoom and Google meet before Covid-19?

A. Sometimes

B. Often

C. Never

D. Always

8. When you teaching with Zoom and Google Meet during the pandemic, what were the challenges you faced?

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9. What are the opportunities you experienced when using Zoom and Google Meet in teaching during the COVID19 pandemic?

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10. Did you think Zoom, Google Classroom, Email, and Telegram are easily accessible in your area?

A. yes

Why.....?

.....

B.no

Why.....?
.....

11. What are the challenges you faced during the pandemic when you teach online?

A.Limited resources (power and connectivity) or Electricity disruption

B. Poor network infrastructure

C.Shortage of facilities

D.Lack of technology know-how (Lack of ICT knowledge)

12. What are the opportunities you experienced when you teach online during the Covid-19 pandemic?

A.By utilizing the new media platforms listed above, we were able to prevent the transmission of Covid-19.

C.It has reduced the amount of time and resources we have spent traveling to the campus

D.This helped us gain experience with Zoom and Google Meet, emails, and telegram

14. Are you satisfied with such new culture of learning and teaching way?

a. Yes b. no

1. If yes

Why.....?
.....

2. If your answer to question number 15 is no, what is your reason?

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Thank you -----#####-----