

Comparative study between Zoom and google Meet's Technical efficiency and choice of preference among Students for E-learning in colleges

By

LEVISON R

SCHOOL OF MANAGEMENT STUDIES

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with Grade "A" by NAAC | 12B Status by UGC | Approved by AICTE

JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119

ABSTRACT

The study focuses on the technical efficiency and the reliability of Google meet and zoom in this which were virtual learning era. These studies based on the comparison between zoom and Google meet on the technical efficiency. To find out which is better for virtual learning in this post covid Era. To analysis which of these either have better technical software's to make online learning better and how to improve it. To find out what are the problems faced by the students while taking online classes and to see whether which of these either will suit students across university. The study also focus is on the how these two can make the learning experience higher among students and how these applications can be improved in technical way. This research also focus is on the how these two applications have made the virtual learning experience better in this virtual post covid era. The main aim of the study is to improve the learning experience via these two applications and if there are any flows in this application to give suggestions of improvement for better learning and meeting experience in this 2022 modern era. This comparative study also says which of these both applications is better for online learning and virtual meaning experience in this modern era. To evaluate and construct the above given things a survey has been done using the questionnaires and the responses were collected in the Google forms and the data analysis using the SPSS tools have been done. Conclusions and suggestions have been attached.

CHAPTER 1

INTRODUCTION

1. INTRODUCTION

1.1. INTRODUCTION

Today's global period is characterized by extremely quick developments across many industries, including information (IT). The rapid technological advancement that makes it easier for consumers to perform tasks that were previously more difficult is largely a result of the Globalization period. The advent of new communication technologies has impacted individual learning experiences and given "social learning" a new dimension. These technologies promote individual learning experiences and improve fundamental user interaction. Since the COVID-19 pandemic spread around the world, many students and employees have been forced to continue learning and working from home and conduct meetings and classes online. As a result, many people choose to stay connected using web conferencing or online meeting tools like Zoom, Skype, and now Google Meet. Without the coordination of effective learning strategies and methodologies, online learning will undoubtedly be meaningless. Science is a method or approach to solve a dilemma or comprehend a Natural phenomenon (event). In essence, it is constructed using scientifically based materials, procedures, and attitudes. Every scientific activity is interpreted as part of the scientific method in order to advance our understanding of nature and to learn new things. In order to help Students, find facts, develop concepts, theories, and scientific attitudes, the learning process of science is heavily focused on the process skills approach. There are numerous initiatives to enhance student learning outcomes, some of which include encouraging pupils to learn and pique their interest in it. Because learning, which encompasses everything that is said and done, is a crucial process for altering human Behavior. Learning is crucial for the formation of behaviors, attitudes, convictions, objectives, personalities, and even perceptions in people. In this post covid era we prefer to stay home and do things from studies to work. In these conditions we prefer on these two applications a lot which are zoom and Google meet for online learning (E-learning) and to do the work meetings staying from home. we use these applications a lot and we are completely relied on them as a tool for studying and interacting. These two applications play huge role in these days for conducting online classes (E-learning). We are completely dependent on these two in all the E-learning Conditions. While Staying inside our houses in Covid times these applications Helped us to study and to do works without going out by risking our lives in all possible ways. These two in particularly have many extraordinary features to make the E-learning experience better. In this particular study we are going to discuss about which is better and which is more technical efficient to make the virtual learning experience better we are going to compare which of these either is fit for or better

for online learning (virtual learning or E-learning) experience and which of these either is useful for our betterment of E-learning experience for US in the future.

1.2 Google meet and zoom meet

Google Meet and Zoom are two of the most popular video conferencing tools on the market. Their popularity speaks to the fact that both products offer great meeting tools that can be used for meetings, team collaboration, virtual events, interviews, and training. The software that is best suited for you and your organization will depend on your personal needs and business requirements. While both Google Meet and Zoom are great options, they do have distinct differences that are worth highlighting.

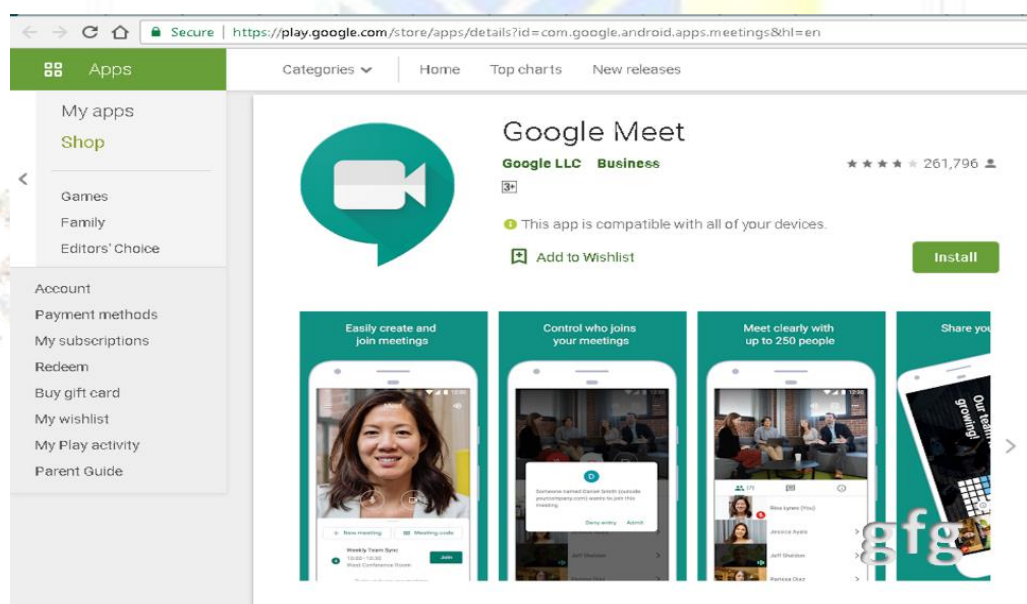
Since most businesses and studies had to go remote overnight due to the COVID-19 outbreak, using video conferencing software has become even more essential. Teams can coordinate all of the workflow thanks to virtual meetings by simply scheduling a brief meeting at any time.

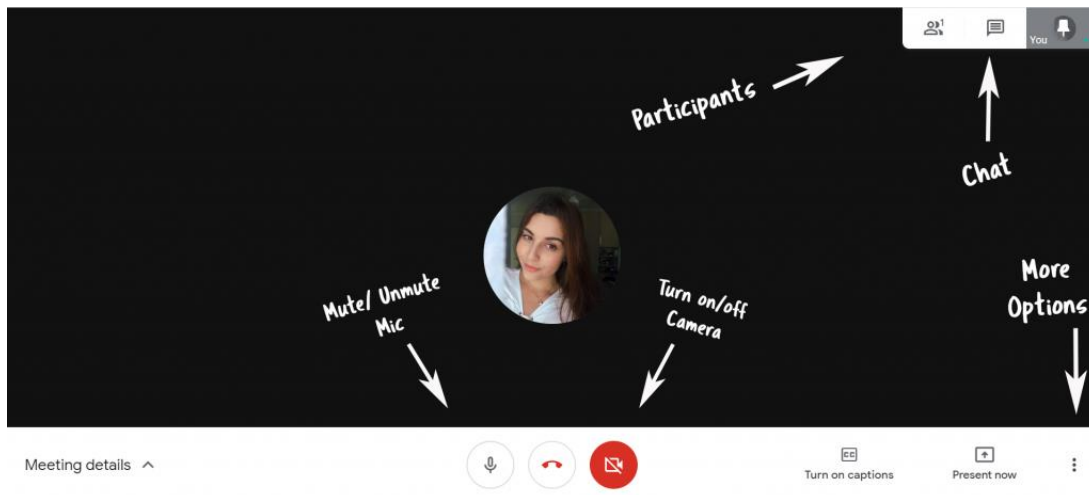
The two most widely used virtual conferencing tools on the market, Google Meet and Zoom, are direct rivals. They also have some significant differences that, despite having many features in common, can significantly influence your choice of video conferencing tool.

1.3 Google meet

It is a program for video conferences. In the year 2017, Google Inc. developed it. It can function flawlessly on the Web, iOS, and Android devices. It has a maximum of 100 free participants and a 60-minute time limit. It has a maximum of 16 characters visible on screen at once. With intelligent background noise filtering, it has a very secure and reliable system. The Google Workspace video conferencing app has a new name: Google Meet (formerly known as G Suite). People may still refer to it by one of its former names, Google Hangouts Meet or Hangouts Meet.

Despite being a component of Google's business platform, this tool can be bought separately.





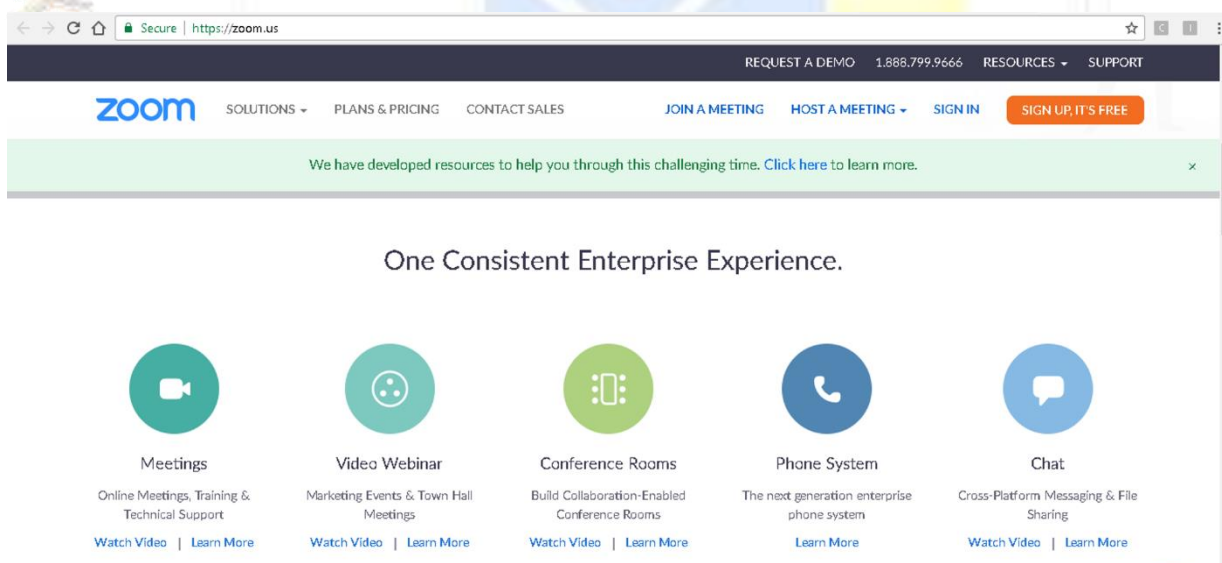
1.4 Zoom Meet

Zoom is a cloud-based video conferencing platform that is mostly used for webinars and virtual meetings. Additionally, this application provides chat, conference rooms, a phone system, and other interfaces with other tools from third parties.

It reached 300 million daily participants on April 21st 2020, making it one of the most well-liked apps in this market.

Zoom is peer-to-peer cloud-based software that was created by Zoom Video Communications Inc. and is used for teleconferencing, distant learning, and preserving social connections. It is one of the simplest videoconferencing tools available today. It had recently come under fire for security flaws and a false claim of end-to-end encryption, both of which the company handled well. It is widely used for video chats and online meetings with friends and family.

Users of the Zoom communications platform can connect by video, audio, phone, and chat. An internet connection and a supported device are necessary for using Zoom. For the majority of new users, the first step should be to register and download the Zoom Client for Meetings.





1.5 Comparison of the features in zoom and google meet

1.5.1 Platform supported

Google Meet is browser-based and can live in any web browser. Zoom is software-based and supports:

- Window
- Mac
- iOS/iPad OS
- Android

There is a workaround to have a Zoom meeting in your browser, like Google Meet, even though the features are limited.

Both have a mobile app.

1.5.2 Messaging

Both tools let you send group messages during a video call. Messaging can be a great way for attendees to ask questions while someone is speaking.

You can also use the message feature to send links and other information to people on the call. Then, people can copy and paste the link or text into their browser.

Messages are available on the desktop and mobile versions of both Google Meet and Zoom. Meeting hosts can also adjust message settings to provide a safe space for everyone.

Yet, only Zoom allows sending messages to individuals people in the meeting.

1.5.3 Screen-sharing

Sharing your screen is another important feature to have when conducting virtual meetings. Zoom and Google Meet allow you to share your screen with others in the meeting.

You can share your screen for a presentation, a video or some other page. Meeting hosts can also disable screen sharing capabilities on both platforms.

1.5.4 Recording & transcribing meetings

If you want to make sure everyone can watch the meeting, you can record your calls. Zoom and Google Meet allow hosts and participants to record the video and audio.

Zoom also provides audio-to-text transcripts of the meeting. Google Meet doesn't by default but using Chrome extensions, there are ways to do it.

1.5.6 Integrations

Zoom is working hard to offer many integrations to have more productive meetings. Upcoming Zoom integrations include Trello, Slack, and Miro.

Google Meet integrates with other Google apps, such as Google Drive. Google Meet also benefits from browser extensions, like this one to easily take meeting notes in Google Meet

Over 200 applications, including PayPal, HubSpot, Write, Square, Trello, FreshBooks, Evernote, Slack, Click Funnels, Eventbrite, WordPress, and Zapier, are integrated with Google Meet. Additionally, as previously mentioned, Google Teams effortlessly integrates with all other Google products, such as Calendar, Slides, Gmail, Drive, Chat, Sheets, and Docs.

Over 1,000 applications have been integrated by Zoom, including Dropbox, Chili Piper, Zendesk Notifications, Teamplify, Salesforce, Zapier, Kahoot, Stripe, Paycor Recruiting, Classpro, Calendly, and Pardot. Zoom is able to provide more corporate capabilities than Google Meet because of the sheer volume and range of integrations that are available.

1.5.7 Participant number

It is one of the most significant ways Google Meet and Zoom differ.

On the free plan, both can support up to 100 participants.

On paid plans, Google Meet can support up to 250 people. With Zoom, you can get the Large Meetings add-on to increase capacity to 1,000 participants.

If you will meet one-on-one or with small groups, both platforms can work well for you. But if you want the option to host a very large event, Zoom will be a better fit.

1.5.8 Meeting length

Both Google Meet and Zoom limit the length of time meetings can last on their free plans.

Google Meet limits free one-on-one meetings to 24 hours at a time. Group meetings with at least three participants can only go for 1 hour

Zoom doesn't limit free one-on-one meetings but limits group meetings to 40 minutes.

The free meeting time limits can be restrictive and are worth considering.

1.5.9 Product experience

Google Meet offers a minimalist and clean user interface. Zoom's user interface is also straightforward, with not a ton of added features in the app. Each platform provides additional benefits for its users to make their experiences more seamless.

1.5.10 Captions and transcripts

Google offers a real-time captions button so users can see a transcription of every word that's being said during the meeting.

At this time, you can use captions for English worldwide. If you're in the European or Asia Pacific regions, you can have captions in:

- French
- English
- German
- Spanish (Mexico)
- Spanish (Spain)
- Portuguese (Brazil)

Keep in mind if you record the video call that the captions will not appear on the recorded video. Read more on [How to record a Zoom meeting](#). Press the button during a video call to turn on the captions feature and select your language. There also is a profanity filter.

Zoom also offers a close-caption or transcription feature. This can be provided through:

Manual captioning by a host or meeting attendee

Zoom's live transcription feature

Integrated third-party close captioning service

There are limitations with Zoom's transcription service. It only supports English and isn't always accurate. The volume of the speaker's voice, background noise, and various dialects can affect the accuracy.

If you need accurate captions for accessibility or other needs, Google Meet is a better fit.

1.5.11 Low light mode

Low light mode is currently only available on the Google Meet app for iOS and Android devices. The app will automatically detect the amount of lighting mobile users have, enabling users to turn on low light mode within five seconds of joining a call.

For Zoom, users have to go into their settings to enable their video to adjust for low light. You can set it to:

Auto - Zoom will automatically adjust the lighting

Manual - Users need to adjust the low-light setting until they're satisfied

Zoom users can adjust their settings on mobile devices or the desktop app.

1.5.12 Virtual backgrounds

Google Meet allows users to change their backgrounds before or during a video call. You can blur your background or upload your own image for your background. Click on your image of yourself when you're in a meeting to change your background.

With Zoom, you can add an image or video as your background. To change your background, you'll need to go into your account settings to choose from one of Zoom's pre-uploaded images or to select your own. If you're an administrator on a group account, you can change the background of all members in a group.

Google Meet makes it easier for users to change their background by being able to do so from within the meeting. Zoom adds in an extra step with participants having to go into their settings, but allows more options and control.

1.5.13 Hand raising

It's important to note that the hand raise feature is only available in certain Google Workspace editions, like Education Fundamentals and G Suite Business. Whether you're using Google Meet for distance learning or a work meeting, participants can easily raise their hand when they have a question. Either the moderator or the participant can lower their hand once their question has been addressed.

In the latest versions of Zoom, participants can raise or lower their hands under the "reactions" feature. Hosts will get notifications that someone has raised their hands and can unmute their mic when it's time for them to speak. However, meeting hosts can disable this feature.

Emoji reactions

Both Google Meet and Zoom have emoji reactions. In Google Meet, participants are able to set the skin tone of their emojis. Administrators can control what emojis participants can choose from.

In the desktop version of Zoom, participants can also select the skin tone of their emojis. The emojis will disappear after 10 seconds

With both Google Meet and Zoom, meeting moderators and hosts can disable the emoji feature. All non-verbal feedback can be removed by the host or participant.

1.5.14 Security

While general features are important when comparing Zoom vs. Google Meet, security features are also vital.

Fortunately, Google and Zoom have taken extra steps recently to secure your video calls.

1.5.15 Call encryption

Zoom and Google Meet use encryption to protect your video calls. Encryption requires a digital security key to read or view the information you encrypt.

By encrypting your calls, you can speak with your clients or teammates about confidential matters.

1.5.16 Password or code

Zoom lets you create a password when you set up a meeting. It also gives you a unique meeting number to differentiate your meeting from other meetings.

With Google Meet, hosts can get a 10-digit meeting code that you can use to restrict access. You can give the password or code to people who you allow to join.

That way, you can keep random people from getting into the meeting. If someone happens to share the meeting information with an unauthorized participant, that participant won't be able to get in.

While you can start meetings without a password or code, you can make your meeting more vulnerable. Even a simple password with Zoom can be enough to restrict access.

1.5.17 Joining restrictions

Zoom and Google Meet also let you restrict when people can join the meeting. With Zoom, you can use a waiting room to hold people before you let them in. People can go into the waiting room, and you can let in the people you want.

Google Meet lets you restrict how early guests can join a meeting, so no one can join more than 15 minutes before the start time. You can make sure to be available a bit before the meeting starts to let people in.

Restricting when people can join is useful when you have private, back-to-back meetings. You can use the same meeting room on Zoom, for example, and you can use a waiting room for early arrivals.

1.5.18 Account requirements

Another excellent security feature of Google Meet is that all participants must have a Google account. Not only can this restrict who can join your meeting, but you can verify each participant.

While it can seem annoying to require an account, you can use the requirement to protect yourself.

Zoom doesn't require you have an account to join a meeting, but you do need an account to host one. However, you can only allow participants with a specific email domain.

That can be useful when you want to have a team meeting since you can block people from outside of your organization.

1.5.17 Video and audio settings

Both Google Meet and Zoom let you set a meeting so that participants join without using their video cameras. If you will have a lot of participants, this can help you control who can see what.

You can also automatically mute participants as the host. Muting audio and turning off cameras can help you take control of the meeting to avoid wasting time.

1.5.18 Pricing

While both platforms offer similar pricing, there are some differences.

Google offers:

A free plan with basic meeting features;

Google Workspace Business Starter for \$6 per user per month;

Google Workspace Business Standard for \$12 per user per month;

Google Workspace Business Plus for \$18 per user per month; and

Google Workspace Enterprise, which has custom pricing.

Ultimately, Google offers plans ranging from \$0-\$18 depending on your business needs.

Zoom Offers:

The most popular plan offered by Zoom is Zoom Basic because it's free and widely used. Zoom also offers paid plans, which include:

Zoom Pro for \$14.99 per user per month,

Zoom business for \$19.99 per user per month, and

Zoom Enterprise for \$19.99 per user per month.

Zoom’s plans therefore range between \$0 and \$19.99 per user per month. Other pricing points to consider with Zoom include The Zoom Large Meeting Add-On, which allows you and your team to expand your meeting capacity to 1,000 participants. This add-on is included with any of the paid plans. Starting at \$40 per month, additional cloud storage is also available to you with Zoom.

1.5.19 Free Plans

The free Google Meet plan limits participants to 100, and group meetings can't go past an hour. However, you can have as many meetings as you need.

People can join from a browser, invite external participants, and adjust the layout. If you need to share your screen, you can also do this with a free account.

Zoom lets free calls host up to 100 people, but they limit the time to 40 minutes. However, you can have unlimited meetings with one other person, so it's suitable for many uses.

Both Google Meet and Zoom are two of the best free video conferencing apps. Google Meet is great if you use G Suite, and Zoom is excellent no matter what other tools you use.



1.5.20 Paid Plans

You can get a paid Google Meet plan as part of Google Workspace. A Google Workspace Essentials plan starts at \$8 per month per user, and it allows meetings with up to 150 participants that last for 24 hours.

Larger companies can also get Google Workspace Enterprise, which allows for up to 250 participants per meeting. Both paid plans offer features such as meeting recordings and breakout rooms.

With Zoom, you can choose from many different video and audio products. Paid video plans start at around \$15 per month per license.

You can then host group meetings for longer than 40 minutes, and you can record meetings. A paid plan also lets you access other paid upgrades, such as the Large Meetings add-on and cloud storage. That way, you can manage all of your video calls.

		
	Zoom	Meet
Free plan	Yes	Yes
Price Range	\$0 - \$19.99 user/month	\$0 - contact to negotiate
Max. Number Attendees	500	300
Screen Sharing	Yes	Yes
Recordings	Yes, in all plans	Yes, only in paid plans
Duration of meetings	Unlimited on paid plans 40 minutes on free plan	Unlimited on paid plans 60 minutes on free plan
Captions	Yes, with third-party tool	Yes, in real-time
Integrations	888 tools	Just with Google Workspace apps

1.6 Pros and Cons of Google Meet

Pros

Browser access

Free plan

Requires Google account for others to access

Google integrations

Browser extensions

Cons

Few integrations

Limited for large meetings

Pros and Cons of Zoom

Pros

Free option

Many integrations

Compatible with any platforms

Great for large meetings

Cons

40min annoying limit on the free plan

Software to download

1.7 Google Meet vs Zoom: Interface and Layout

One of the most popular aspects of Zoom is that it can display up to 49 participants on one screen. Whereas Google Meet allows up to 16 participants showing on the screen simultaneously on its tiled layout.

Google Meet offers some other different layouts:

Auto: Lets Meet choose the layout automatically.

Sidebar: Only the active speaker or the presentation will be displayed on a larger window. Some attendees will be on the left side, in smaller windows.

Spotlight: The presentation, active speaker, or pinned feed will fill the entire screen.

Tiled: Up to 16 people on the screen when no one is presenting. But if a Presentation starts, it will appear in a large tile, and the most active participants will appear on the side in smaller tiles, likely the sidebar layout.

And with Zoom you can have the following layouts:

Active Speaker View: It switches the large video window between who is speaking with 3 or more participants in the meeting.

Gallery View: Displays thumbnail displays of participants, in a grid pattern.

Floating Thumbnail window: Allows you to minimize the main Zoom window, but keep the video hovering other applications. It's possible to move the Zoom window around the screen, or even hide it.

Custom Gallery View organization: Allows you to drag videos to create a custom organization. Notice that only you will see your custom order.

1.7 Online learning in Post Covid era

Students and teachers at all levels of education have been forced by the coronavirus pandemic to quickly adapt to online learning. The effects of this and the changes needed to make it work could change how education is provided for all time.

Technology and administrative processes for adopting online learning, as well as the infrastructure that supports its access and delivery, have to fast adjust in response to the COVID-19 epidemic.

Although many people still struggle with access, significant resources have been allocated and procedures have been developed to help learners get access to the course's activities and materials, to make communication between teachers and students easier, and to manage the administration of online learning.

The future generation of online learners has a clear path ahead of them as paths for greater access and opportunity to online education have now been built.

1.8 Statement of problem

- ❖ To analyze, compare and find out, which of these applications is good for Online learning.

1.9 Objectives of the Study

- ❖ To analyse and find out which is more reliable and preferred among Student. Which one of these makes the online meeting and learning experience smooth and reliable for students.
- ❖ To analyse and find out which of these has better user-friendly interface and have simple managerial tools for Access at the time of use easily.
- ❖ To find out which is preferred by students in learning through online.
- ❖ To Find out which is more technically efficient.

1.10 Need for the study

- ❖ This research focuses and compares on the technical efficiency of the Google Meet and zoom meet for E-LEARNING. This Research studies which is more technically efficient and reliable for the students in the time of study through online mode. Which is preferred by students in time of study for virtual learning. What are the technical improvements which can be done in these applications to improve the E-Learning experience. To find which has more technical advantage.

1.11 Scope & Significance of the study

The purpose of this work is to determine whether Google Meet and zoom E-learning Technology is efficient and reliable for the students for Virtual Learning.

The objectives are to:

1. To find which is more technically efficient to make E-Learning better in all means.
2. To analyze the virtual learning experience among students
3. To find which is preferred among students for Virtual learning.

4. To improve the technological aspects of both the applications for virtual learning

Chapter 2

Literature review

THE TREND IN USING ONLINE MEETING APPLICATIONS FOR LEARNING DURING THE PERIOD OF PANDEMIC COVID-19

HENDRI PRATAMA¹ *, MOHAMED NOR AZHARI AZMAN¹, GULZHAINA K. KASSYMOVA^{2,3}, SHAKIZAT S. DUISENBAYEVA⁴

This study is carried out to examine the trend in using online meeting applications to learn during the outbreak period. This study was conducted using qualitative methods through descriptive analysis of the results of observations and documentation. This scenario shows the increment of the usage of these applications in the teaching and learning process (P&P). The use of this application is very helpful in the teaching and learning process between teachers and students. Overall, there is an increasing trend and give the effect towards usage of online meeting applications in solving learning problems in the future.

UTILIZATION OF ONLINE LEARNING MEDIA DURING THE PANDEMIC PERIOD IN HIGHER EDUCATION: ZOOM, GOOGLE CLASSROOM, AND GOOGLE MEET

This study aims to analyze and describe the use of online learning media (Zoom, Google Classroom, and Google Meet) during the Covid-19 Pandemic at the Tarbiyah Faculty, Universitas Ibrahimy. The advantages and disadvantages of online learning media are studied in-depth to analyze the effectiveness and pandemic phenomena experienced by lecturers, staff, and students. The accuracy of the data was obtained through triangulation techniques and analyzed interpretively to find significant meaning in the development of continuous learning.

STUDENTS' PERCEPTION ON GOOGLE MEET VIDEO CONFERENCING PLATFORM DURING ENGLISH SPEAKING CLASS IN PANDEMIC ERA

From these findings, the conclusion was the usage of google meet video conferencing in the speaking class showed positive respond that students' perception on google meet showed mostly perceive the advantages rather than disadvantages of google meet video conferencing provided

GOOGLE MEET APPLICATION AS AN ONLINE LEARNING MEDIA FOR DESCRIPTIVE TEXT MATERIAL ASWIR¹, MUHAMMAD SOFIAN HADI², FATIMAH ROSIANA DEWI³* 1, 2, 3 UNIVERSITAS MUHAMMADIYAH JAKARTA, INDONESIA

This research uses qualitative research with descriptive methods where the research results are obtained through observation and interviews which are then analyzed by describing them. The results of the study found that Google Meet is suitable for delivering Descriptive Text learning material while speaking practice for students in class 10 IPS 4. However, this media cannot be used

to carry out written assessments so that other media is needed as an additional medium of taking written scores.

THE EFFECTIVENESS OF MEDIA ZOOM MEETINGS AS ONLINE LEARNING DURING THE COVID-19 PANDEMIC

The research instruments used were test instruments and questionnaires. The instrument test was carried out to determine student learning outcomes in the form of an essay test of 12 questions that had passed the validity and reliability stages by the expert. While the positive response questionnaire aimed to see student responses to the effectiveness of the Zoom meeting media as a learning medium.

EFFECTS OF THE GOOGLE MEET ASSISTED METHOD OF LEARNING ON BUILDING STUDENT KNOWLEDGE AND LEARNING OUTCOMES

The results of this study are about the effect of the Google Meet media-assisted lecture method while studying at home (SFH) to build student knowledge and learning outcomes. Supports research through teaching and learning of different methods by different educators or researchers. Campus participation, in this case, the study program coordinator in monitoring and assessing learning methods to build student knowledge and learning outcomes to support student learning achievement. Different teaching and learning conducted by lecturers to support the needs of students during the Covid-19 pandemic. Lecturers must discuss more through the method of teaching in teaching

CHAPTER 3

Research Methodology

3.1. METHODOLOGY:

Research methodology is mainly needed for the purpose of framing the research process and the designs and tools that are to be used for the project purpose. Research methodology helps to find the customer satisfaction based on product. This time research methodology is framed for the purpose of finding. **The choice of preference among students for Online learning (Zoom OR Google meet).**

3.2. RESEARCH DESIGN:

Descriptive Research Design

Descriptive research is a study designed to depict the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study

3.3. SAMPLING TECHNIQUE:

Convenience sampling method

A convenience sample is one of the main types of non-probability sampling methods. A convenience sample is made up of people who are easy to reach.

It is descriptive type of study

It's based on dependent variable

3.4. SOURCES OF DATA:

Data collection is the term used to describe a process of preparing and collecting data.

- ❖ Primary Data – Questionnaire given to 100 respondents
- ❖ Secondary Data - Websites and online journals, Published reports & Review of literature from published articles

3.5. STRUCTURE OF QUESTIONNAIRE:

The questionnaires had only one section of set 20 questions. The 20 questions were set up with the options of 5point Likert scale. In the demographic questions their graduation status and their Alma matter was asked with the age of respondents. The questionnaire was set up in a such a way that but the respondent's agreement to the statement.

3.6. SAMPLE SIZE:

The population size of this study is 1000. The 10% of my population size is the sample size (100) of the project research.

3.7. PERIOD OF STUDY:

This study was done for a period of time for 2months starting from September 2021 to November 2021

3.8. LOCATION & TARGETED PEOPLE OF STUDY:

The study was done in various location as it was done and collected via google forms from various people across Chennai. The students are the targeted people in this research study.

3.9. HYPOTHESIS:

HO: There is no significance difference in choice among the students between zoom and google meet .

H1: There is a significance difference in choice among the students between zoom and google meet

HO : The students rely on the technical factors on selecting the applications

H1: The students do not rely on the technical factors on selecting the applications

TOOL FOR TESTING THE HYPOTHESIS (SPSS)

Chi Square, Regression

3.10. TOOLS FOR ANALYSIS:

3.10.1. Percentage analysis

Research questions are always answered with a descriptive statistic: generally, either percentage or mean. Percentage is appropriate when it is important to know how many of the participants gave a particular answer. Generally, percentage is reported when the responses have discrete categories.

3.10.2. HYPOTHESIS ANALYTICAL TOOLS (SPSS)

(2 TEST)

Tool for testing the Hypothesis (SPSS)

CHI SQUARE

A chi-square test is a statistical test used to compare observed results with expected results. The purpose of this test is to determine if a difference between observed data and expected data is due to chance, or if it is due to a relationship between the variables you are studying.

applications of Chi-square Distribution:

To test the 'goodness of fit'.

To test the independence of attributes.

To test the homogeneity of independent estimates of the population variance.

To combine various probabilities obtained from independent experiments to give a single test of significance.

REGRESSION ANALYSIS

Regression analysis is a statistical method that shows the relationship between two or more variables. Usually expressed in a graph, the method tests the relationship between a dependent variable against independent variables.

this technique is widely applied to predict the outputs, forecasting the data, analysing the time series, and finding the causal effect dependencies between the variables

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1. PERCENTAGE ANALYSIS

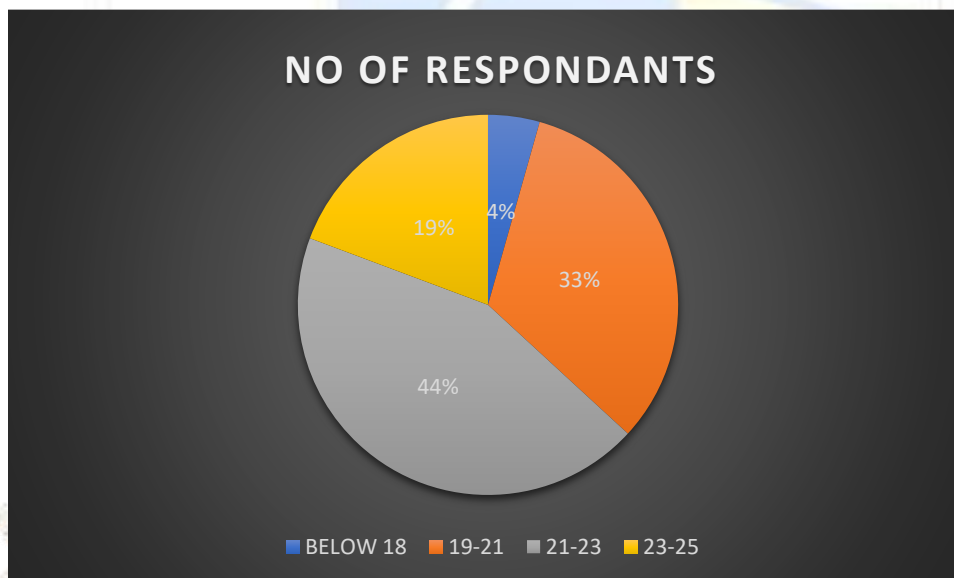
MODEL

4.1.1 Table indicating Age of the respondents

S.NO	AGE	NO OF RESPONDANTS	PERCENTAGE
1	BELOW 18	5	4.6
2	19-21	37	33.9
3	21-23	50	45.9
4	23-25	22	20.2
TOTAL		109	100

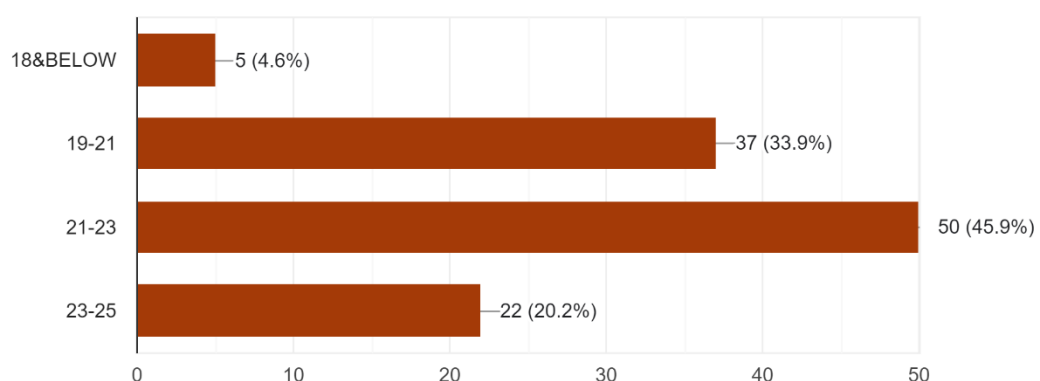
Source: Primary data.

Pie Chart represents Age of the respondents



AGE

109 responses



Interpretation

From the above table and graphs it is interpreted that the number of respondents Below 18 Age of respondents are **4.6%**, between 19-21 age of respondents are **33.9%**, between 21-23 age of respondents **45.9%**, between 23-25 age of respondents are **20.2%** respectively.

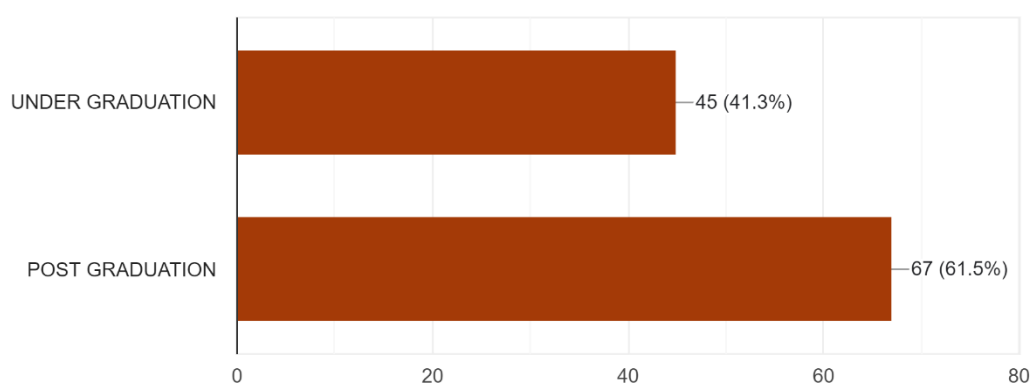
Inference

Majority (**45.9 %**) of the respondents are age between 21 to 23 years.

Graduation status of the respondents

GRADUATION

109 responses



Interpretation

From the above table it is interpreted that the number of UG respondent is 41.3% and PG respondent is **61.5%**.

Inference

Majority (61.5%) of the respondents are Post graduation students.

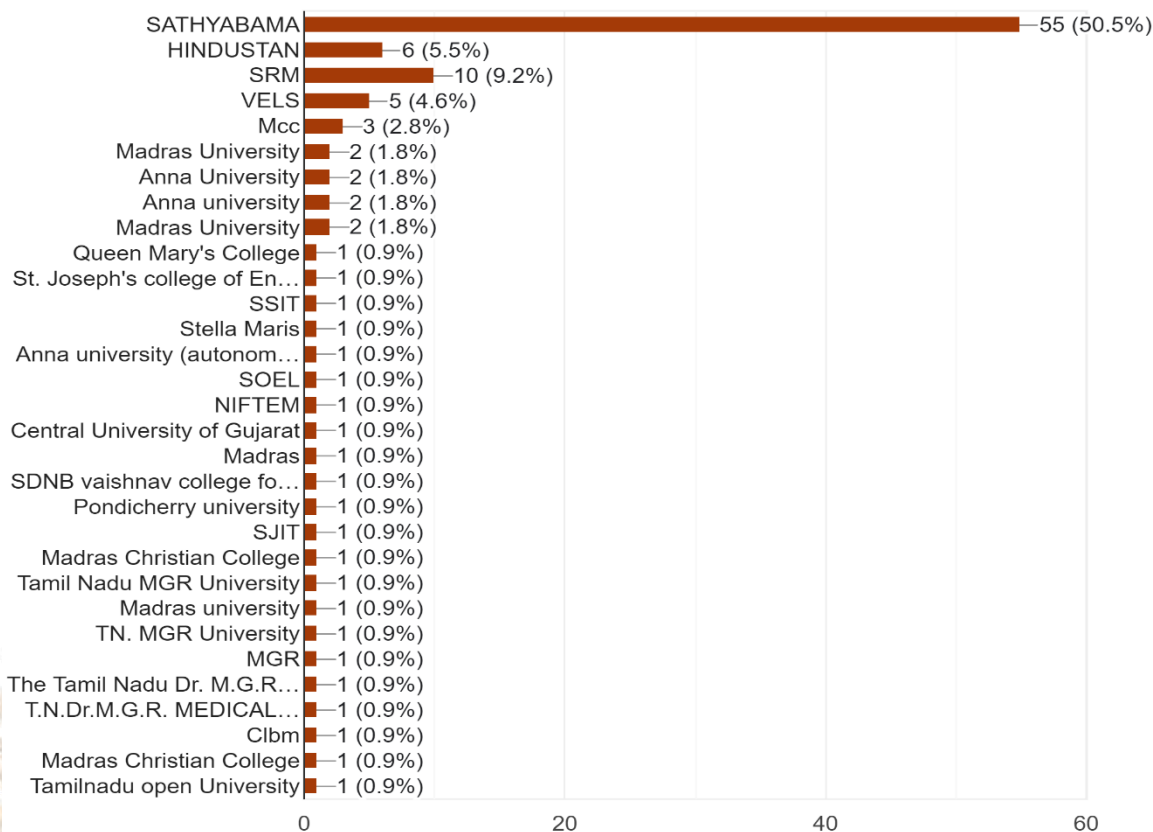
Universities from which students have responded:

Students from various universities and colleges responded to the google forms.

The majority of the responses came from the **Sathyabama university 50.5%** and followed by other universities.

UNIVERSITY

109 responses



4.2 STATISTICAL ANALYSIS
CHISQUARE:

AIM 1: To analyse the significant association between difference in choice among the students between zoom and google meet.

H1.1: There is a significance difference in choice among the students between zoom and google meet

TABLE: ASSOCIATION BETWEEN THE AGE OF THE RESPONDENTS AND THEIR LEVEL OF AWARENESS

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.942 ^a	4	.001
Likelihood Ratio	15.124	4	.004
Linear-by-Linear Association	8.781	1	.003
N of Valid Cases	300		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is 1.38.

INTERPRETATION:

The result in the above table shows that there is significant association between the age of the respondents and their level of awareness as $p= 0.001$ which is less than 0.05. This finding supports the hypothesis and so there is a between difference in choice among the students between zoom and google meet.

REGRESSION ANALYSIS

AIM: To identify the significant relationship between the factors influencing the choice of preference among students to prefer the zoom over google meet and zoom meet over google meet

H2: There is significant relationship between the factors influencing that the students are rely on the technical factors on selecting the applications

TABLE: THIS SHOWE THE RELATIONSHIP BETWEEN THE TECHNICAL EFFICANCY ON THISES APPLICATIONS IN LINK AS STUDENTS PREFERNCE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.368 ^a	.136	.133	5.31329	.136	46.733	1	298	.000

a. Predictors: (Constant), FACTORS

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1319.336	1	1319.336	46.733	.000 ^a
	Residual	8412.861	298	28.231		
	Total	9732.197	299			

a. Predictors: (Constant), FACTORS

b. Dependent Variable: Techical features

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.680	1.340		11.702	.000
	PEFERENCE	.524	.077	.368	6.836	.000

a. Dependent Variable: choice

INTERPRETATION:

The above table shows that the linear regression method was used and it was significant at $p=0.000$. The first table shows $R=0.368$ which is the correlation influencing the choice of preference among students to prefer the zoom over google meet and zoom meet over google meet. The model summary table shows $R^2=0.136$ which means 13.6% of variance. The ANOVA table shows the F value of 46.733

CHAPTER 5

FINDINGS, SUGGESTIONS AND CONCLUSION

CHAPTER 5 –**FINDINGS, SUGGESTIONS AND CONCLUSION****5.1. FINDINGS****5.1.1 Age of the respondents:**

It is interpreted that the number of respondents Below 18 Age of respondents are **4.6%**, between 19-21 age of respondents are **33.9%**, between 21-23 age of respondents **45.9%**, between 23-25 age of respondents are **20.2%** respectively.

- Majority (**45.9 %**) of the respondents are age between 21 to 23 years.

5.1.2 Graduation status of the respondents:

- It is interpreted that the number of UG respondent is 41.3% and PG respondent is **61.5%**.
- Majority (61.5%) of the respondents are Post graduation students.

5.1.3 Universities and the collage of the respondents:

- Students from various universities and colleges responded to the google forms.
- The majority of the responses came from the **Sathyabama university 50.5%** and followed by other universities.

5.1.4 CHOICE OF PREFERNCE AMOUNG THE STUDENTS:

- Majority of 24 percentage of respondents agree in that user interface is Google is adaptive
- Majority of 34% respondents that Google meet as responsive without any lag
- Majority of 40% percent of respondents strongly agree that the silent features in Google meet make learning experience better
- Majority of 38% that suggest that they have faced internal issues internet issues on and off

- Majority of 42% have said that they have faced partial internet issues while using zoom
- Majority of 41% is agrees that the Google meet is good for virtual learning
- Majority 37 percentage stays on neutral choosing over zoom
- Majority of 48% of people stays on neutral in choosing zoom
- Majority of 44 percentage of faced connectivity issues while using both zoom and Google meet
- Majority of 40% people agree that the caption feature in Google meet is effective

5.2 Suggestion:

There are lot of ways by which we can improve the Google meet experience by giving data saver facilities and features of optimization of foreign application. Giving board in the Google meet can help teachers to teacher a lot and we adaptive Features which we can improve in Google meet

There is a lot of features which should be include in zoom meet especially the security in zoom meet should be improved and making the recording and saving it should be made easy. There should be a feature to stops spamming and hacking.

5.3 Conclusion:

According to the research many students prefer both zoom and Google meet for online learning. Google meet peaks in some cases and zoom in peaks in another cases. When come to simple user interface adaptivity and easy to use Google meet take up a peak. Comes to mass gathering and recording quality zoom meet take up a peak there. Both have lot of things to update and to change a lot. Both are effective tools for online learning in this virtual learning era. These two-play huge role in virtual learning. If these two improving the further given things they can capture the market and as well as students will use a lot for the online learning and colleges will use a lot for teaching students and teachers will preferred for Online teaching

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ANNEXURE – I QUESTIONNAIRE

1. UNIVERISTY
2. AGE
 - i. Below 18
 - ii. 19-21
 - iii. 22-23
 - iv. 23-25
3. GRADUATION
 - i. UG
 - ii. PG
4. Do you think the user interface in Google meet is adaptive
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
5. Do you think the Google meet is responsive without any lag in the time of use
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
6. Do you prefer Google meet over zoom meet for virtual learning
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagrees
9. Would you prefer zoom meet over Google meet for virtual learning
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagrees
9. Have you ever faced internet issues while using Google meet
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
10. Have you ever faced internet issues while using zoom meet
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
11. Does the user interface of Google meet is better than zoom meet.
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree

12. Have you ever faced connectivity issue in Google meet
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
13. Have you ever faced lower connectivity issue in zoom meet
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
14. Do you think Google meet is optimised in a way such that it can be used in various devices
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
15. Do you think zoom is optimised in a such a way that can be used in various devices
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
16. Do you feel the caption feature in Google meet is effective
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
17. Do you think that auto caption in future should be installed in zoom meet
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
18. Do you think zoom it is most stable and optimised than Google meet.
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
19. Does the Google meet is better than zoom meet for virtual learning
 - A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree

20. Does these both applications consume lot amount of data and storage
- A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
21. Does the zoom meet take longer time for login in
- A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
22. Do you think zoom meet is more reliable flexible and stable for which virtual learning
- A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
23. Do you think Google meet is more reliable flexible and stable for virtual learning
- A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree
24. Do you think zoom meet have more technical features than Google meet for the usage of students for better interaction and communication in the classes
- A. Agree
 - B. Strongly agree
 - C. Neutral
 - D. Disagree
 - E. Strongly disagree

