

The Effectiveness Of Google Meets, Blue Jeans, Cisco Webex And¹² Zoom : The Students' Perception On The Distance Learning Support Tools.

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Abstract

Video conferencing can be used to create a distance education such as flipped classroom and online teaching and learning. Video conferencing brings education to a brand-new world which is allow students to be accessed from anywhere with not out. At the same time, it will eliminate the barriers of the traditional classroom. This study helps the decision makers of the higher education institutions to have a better understanding of the effectiveness Zoom, Google meets, Cisco Webex and BlueJeans by their study. It will help in measuring the level of student's acceptance to the earlier mentioned application. The study was carried out by distributing a survey in the Google-Form questionnaires to 200 students from Diploma Information Technology (Digital Technology) (DDT) in the Department of Information Technology & Communication, Ungku Omar Polytechnic. The findings favour to zoom and Cisco Webex were presented a lot of positives over Google meets and BlueJeans.

Keywords: *Online Learning, Google Classroom, Distance Education, Flipped Classroom, Online Classroom.*

1. Introduction

Distance learning is one of the ways to achieve equal quality education in the country. To sustain the distance education process, an excellent technology is also needed to boost the learning process to becomes perfect. The distance, online or blending learning style of teaching offers many advantages over the traditional classroom teaching method [1]. One important component to support good distance education is to create a good communication technology, one of which is video call or conference technology.

Nowadays, there are many video call communication technologies whether is opensource or paid applications. Currently, Google Meets, Blue Jeans, Cisco Webex and Zoom are a popular free application that is used as a distance education support tool. Some distance learning providers use an open source application such as the Big Blue Button application to support distances learning activities. In general, the Big Blue Button application is complete enough to support distance learning activities. However, there are some limitation to the technology used by application such as the use of flash technology which requires the user to intall flash plug-in, in addition to the tough application to integrate with the existing information system[2].

Video conferencing-based e-learning implies using a computer that acts as a server with a webcam, a microphone, and the Internet for conducting live conference between users. Moreover, video conferencing applications can be used for voice conferencing, and other features such as moderated online chat between students and a teacher, questioning, survey, feedback and query posting help in delivering successful online sessions [3]. A virtual class conducted remotely over the web will be viewed in real time and provide an opportunity for users to post questions via text or voice chat.

e-learning provides a solitary experience that familiarizes the three different learning style of auditory, visual, and kinesthetic learners. The other e-learning benefits are well-organized and disciplined training for online audience and reduced publishingnas well as distribution costs. It also provides customized instruction, which cannot be provided by print media. Thus, e-learning involves many participants with several learning styles. Many institutions of higher education have included e-learning in their curriculum. Moreover, companies from several fields have integrated e-learning in their training programs for improving skills and knowledge.

Google Meets is an upgraded version of the free Hangouts application, it is very suitable for business applications and video conferencing. Up to 100 Video calls are able to host with Google Meets. However, depends on kind of service plan decided. It is provided valuable features just as recording option, ability to dial in to a video conference by phone and the

screen sharing. To protect the data and privacy, Google Meets has offers counter-abuse measures to act as an anti-hijacking. Everyone of Google Account holder are able to access to Google Chat and Google Meets.

Zoom is a cloud-based video conferencing service which allow to virtually meet with other-either by video or audio or both. The free tier allows unlimited one-on-one meetings but limits group sessions to 45 minutes and 100 participants. This application allow recording the live chats and allow to record those sessions to view later.

Cisco Webex enabled Telepresence solution, but outspreads flexibility by permitting customer to consume the service from the Cisco Webex Cloud. The 'one meeting' experience allows a steady audio, video and content sharing experience for all users who joint. This offer provides all the benefit of a Cisco Webex Video Platform is included with Meeting. Webex Meeting is specifically designed for video conferencing and online events. Cisco's Webex was designed in the form of two applications as well. These are Webex Meetings and Webex Teams.

BlueJeans offers an interoperable cloud-based video meetings service that connects many users across diverse devices, platforms, and conference programs. Every single BlueJeans member has a private "meeting room" in the BlueJeans cloud to schedule and host conference meeting. BlueJeans services as "endpoint agnostic", meaning it doesn't distinguish and may effort with any videocall software or technology, including smartphone. This allows it to bond between non-room-based videoconference services as well. The BlueJeans app can be used in-browser or just installed as a desktop app.

2. Objective

In this study, we examined video conferecing for distance learning support. Addressing these issues, our main objective is to find The Effectiveness of Google Meets, Blue Jeans, Cisco Webex and Zoom on the students' perception in the Distance Learning Support.

The purpose of this survey is to allow the decision makers of the polytechnic to have a better understanding of the effectiveness Zoom, Google meets, Cisco Webex and BlueJeans. It is assumed that it will help in measuring the level of student's acceptance to the previously mentioned application and examine the readiness and choose the most relevant tools.

3 Problem Statement

The Corona virus pandemic which is currently ruining diverse parts of the planet has made us realize how important video conferencing is. Coronavirus pandemic has affected the universal educational systems and leading to the almost entire ends of school. At the mid-April 2020, roughly 1.723 billion learners have been affected due to school closures in response to the pandemic. Based on UNESCO monitoring, 191 nations have been applied nationwide closings and 5 have implemented local closings, affecting about 98.4 percent of the world's student population [4]. In response to school closures caused by COVID-19, Universities recommends the use of distance learning programs and open educational applications and platforms that schools and teachers can use to reach learners distantly and limit the disturbance of education to creating safe and healthy learning spaces for their students [5].

4. Material and Method

This section presents the research goal and research questions, the tools for distance learning support, the data sources, the participants, the research procedure and the method for data analysis.

4.1. Research Goal and Research Questions

The research goal of this study was defined as the following using the Goal Question Metric (GQM) approach [6] where we first define a research goal (conceptual level), then define a set of research questions (operational level) and finally describe a set of metrics answer the defined research question (quantitative level).

The following research question (Qs) were defined by decomposing the research goal:

- Q1: This Application is a stress-free online learning activities.
- Q2: I liked the online teaching method more.
- Q3: This application is very effective and efficient way to study.
- Q4: Using this application rises my productivity.
- Q5: My interaction with this application would be interactive and understandable.
- Q6: I have the knowledge required to join in this application.
- Q7: I wish to continue using this application regularly.
- Q8: I experienced satisfaction in this application.

4.2 . Data sources

A questionnaire was developed to measure the students' readiness and choose the most relevant tools for distance learning. The questionnaire consisted of 8 statements reflecting the research questions Q1 –Q8. The questionnaire used a three-point Multiple choice grid from Agree, Neutral and Disagree.

4.2 . Participants

The research was conducted at the Department of Information Technology & Communication, Ungku Omar Polytechnic. The samples were taken from 150 students from Program DDT. Samples are taken from different semester and majoring.

4.3 . Data Analysis

Distributing a survey via online in the Google-Form. All data are automatic generates in the Google-Form.

5. RESULT

This section describe the results from the questionnaire to finding on the effectiveness of Google Meets, Blue Jeans, Cisco Webex and Zoom: the students' perception on the distance learning support tools.

Q1: This Application is stress-free online learning activities.

Figure 1 shows the descriptive statistics and the result for statement related to Number of responden to an easy and stress-free application for online learning tools. Based on the survey 70.5% (141 students) are agreed that Zoom is a stress-free online learning activities tools. The second is the Google meets archive 66.5% (133 students). However, 39.5% (79 students) and 25% (50 students) agreed that BlueJeans and Cisco Webex as an easy and stress-free application for online learning tools. Majority agreed on Google meets and Zoom an easy and stress-free application for online learning tools.

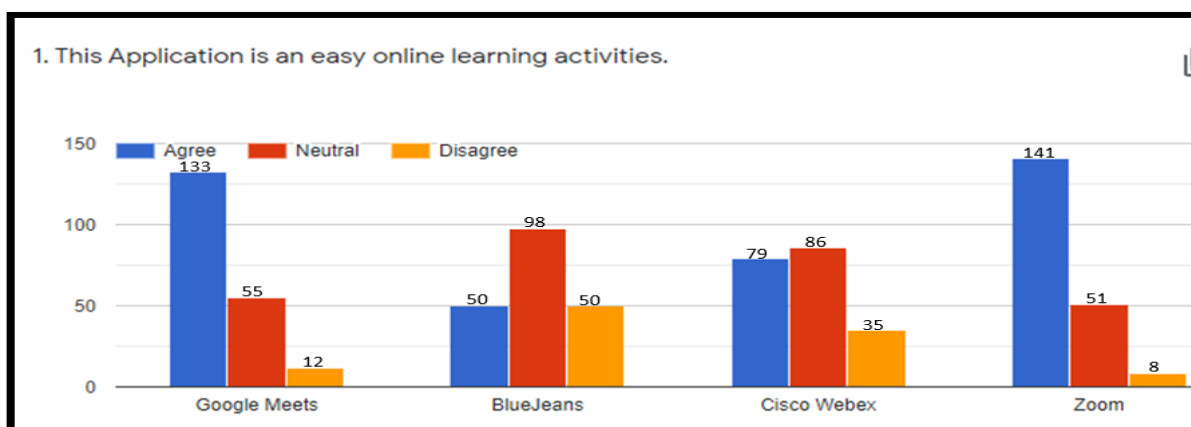


Figure 1. Number of responden to an simple application for online learning.

Q2: I liked the online teaching method more.

Figure 2 shows the descriptive statistics and the result for statement related to Number of responden to a an entertaining online learning application. Based on the survey 70.5% (141 students) are agreed that they are enjoying and liked using Zoom as an online learning activities tools. The second is the Google meets archive 63% (126 students). However, 39.5% (79 students) and 25% (51 students) agreed that Cisco Webex and BlueJeans as an entertaining online learning tools.

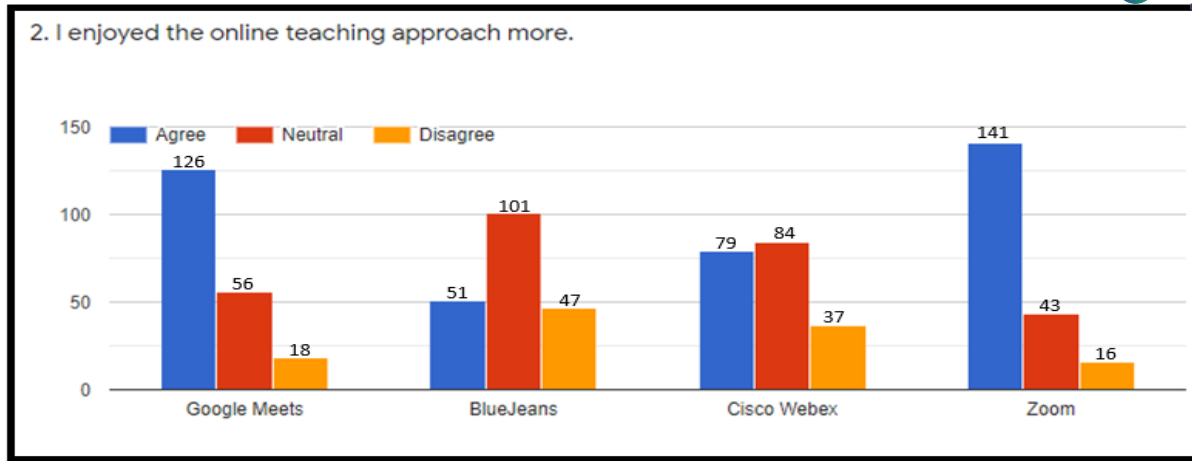


Figure 2. Number of responden to an entertaining online learning application.

Q3: This application is very effective and efficient way to study.

Figure 3 shows the descriptive statistics and the result for statement related to Number of responden feel effective and efficient to study. Based on the survey 70.5% (141 students) are agreed that they are able to study effectively and efficiently with using Zoom. The second is the Google meets archive 63.5% (127 students). However, 43% (86 students) and 27% (54 students) agreed that they are do effective and efficient to learn with using Cisco Webex and BlueJeans.

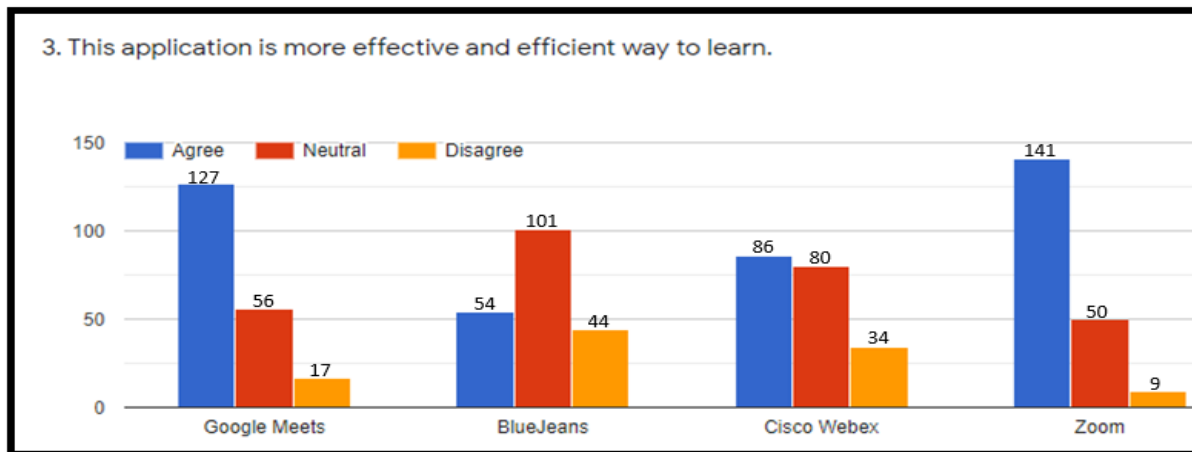


Figure 3. Number of responden meets effective and efficient to study using the application.

Q4: Using this application rises my productivity.

Figure 4 shows the descriptive statistics and the result for statement related to Number of responden feel this application is increases their productivity. Based on the survey 69% (138 students) are agreed that using Zoom has increases their productivity. The second is the Google meets archive 61.5% (123 students). However, 39.5% (79 students) and 27% (54 students) agreed that using Cisco Webex and BlueJeans has rises their productivity.

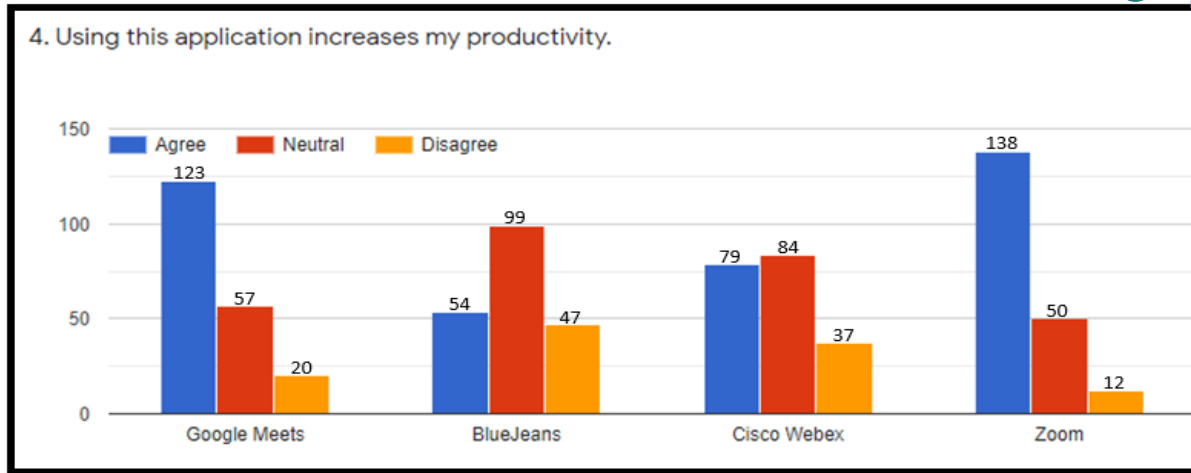


Figure 4. Number of responden feel this application rises their productivity.

Q5: My interaction with this application would be interactive and understandable.

Figure 5 shows the descriptive statistics and the result for statement related to Number of responden agree that their interaction with this application would be interactive and understandable. Based on the survey 68% (136 students) are agree that they are clear and understandable about Zoom. The second is the Google meets archive 62% (124 students). However, 41.5% (83 students) and 26.5% (53 students) agree that their interaction clear and understandable about Cisco Webex and BlueJeans.

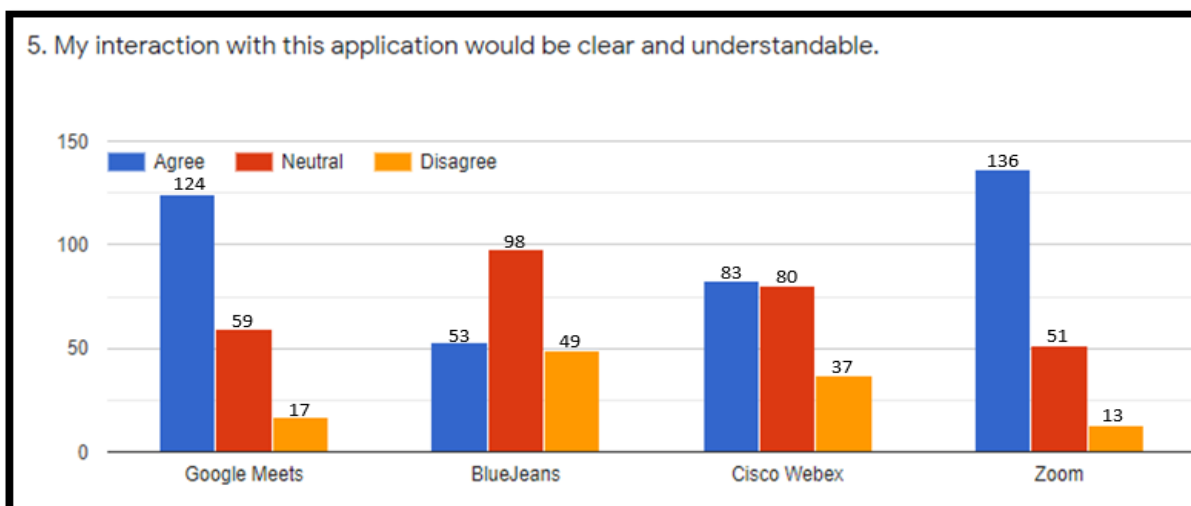


Figure 5. Number of responden clear and understand about the application.

Q6: I have the knowledge required to join in this application.

Figure 6 shows the descriptive statistics and the result for statement related to Number of responden have the knowledge required to join in the application. Based on the survey 72.5% (145 students) are agreed that they have the knowledge required to participate Zoom as an online learning activities tools. The second is the Google meets archive 62% (124 students). However, 40% (80 students) and 25.5% (51 students) agreed that have knowledge to participate Cisco Webex and BlueJeans.

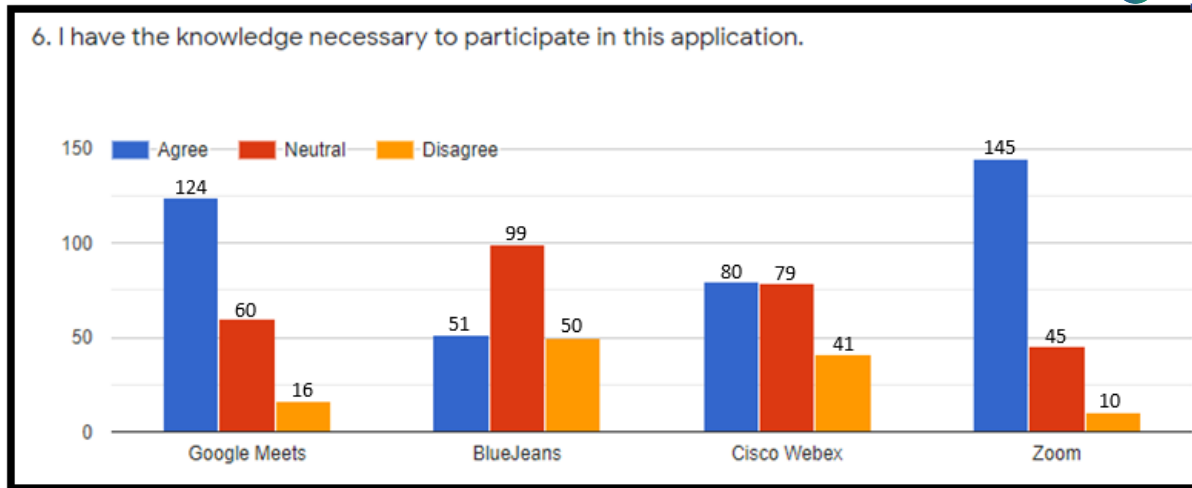


Figure 6. Number of responden have the knowledge required to participate the application.

Q7: I wish to continue using this application regularly.

Figure 7 shows the descriptive statistics and the result for statement related to Number of responden wish to continue using application regularly. Based on the survey 70.5% (141 students) are intend to continue using Zoom as an online learning activities tools. The second is the Google meets archive 63% (126 students). However, 39.5% (79 students) and 25% (51 students) wish to continue using Cisco Webex and BlueJeans as an online learning tools.

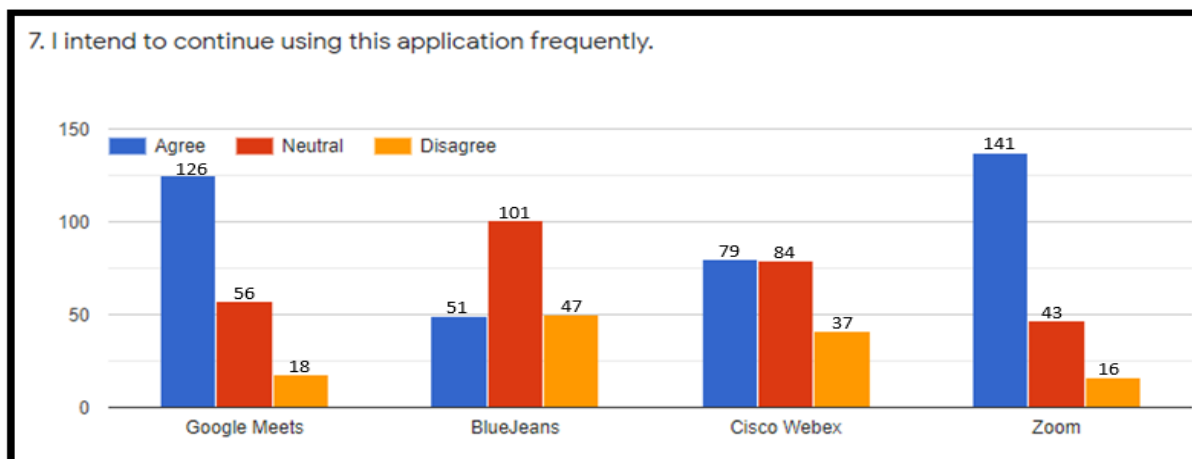


Figure 7. Number of responden wish to continue using application regularly.

Q8: I experienced satisfaction in this application.

Figure 8 shows the descriptive statistics and the result for statement related to Number of responden feel satisfaction with the application using the application. Based on the survey 70.5% (140 students) are agree that they are satisfaction using Zoom as an online learning activities tools. The second is the Google meets archive 63% (127 students). However, 39.5% (80 students) and 25% (49 students) agreed that they satisfied with Cisco Webex and BlueJeans.

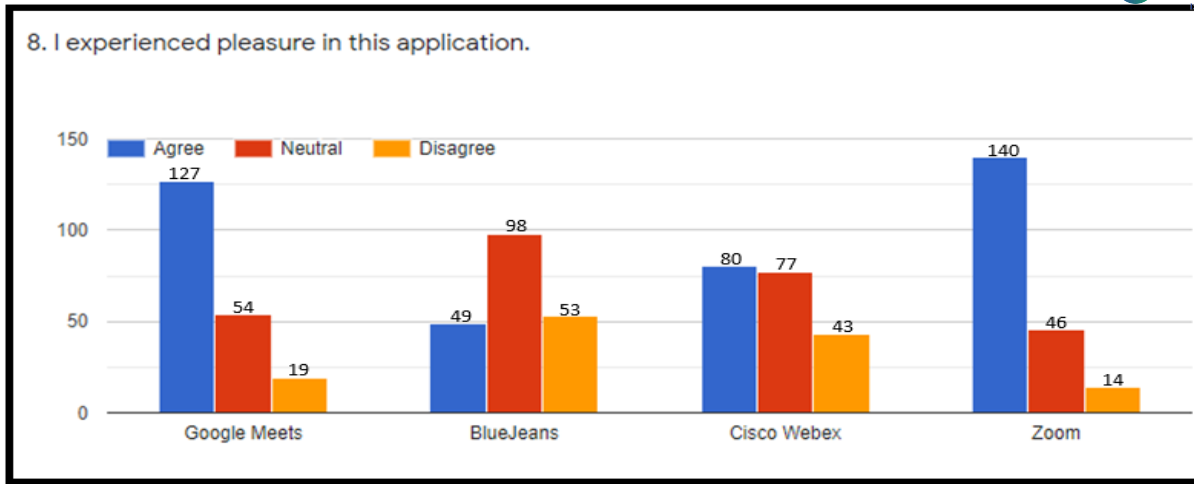


Figure 8. Number of responden feel satisfaction with the application.

6. DISCUSSION AND SUGGESTIONS

A limitation, this study is not the experimental research. Therefore, further research would be to test two different students' groups: synchrononous and asynchrononous on learning outcomes. We strongly recommend zoom and Google meets as an online learning activities tools.

7. CONCLUSION

The Zoom and Google Meets response system influences students positively in all the aspect that were researched in this survey. Implementing Zoom and Google Meets as an online learning activities tools will improve students' level of interactivity, which help students to be active in online class and have collaborative learning. Based on the results discussed earlier, it has been shown that students gave positive responses towards using Zoom and Google Meets. Students were also motivated and enjoyed each of the online learning session. From the survey, we conclude that students are appreciated the use of Zoom and Google Meeys as an online learning activities tools. Zoom and Google Meets session with the virtual class learning method have been shown as a good choice for teaching program DDT, Ungku Omar Polytechnic.

8. REFERENCE

- Gallagher, J.E., Dobrosielski-vergona, K.A., Wingard, R.G., & Williams, T.M. (2015). Web-based vs. Traditional Classroom Instruction in Gerontology : A Pilot Study. vol. 79, no. 2, pp. 1-10.
- Akhmad, A., & Aliv, F. (2018). Online Video Conference System Using WebRTC Technology for Distance Learning Support. International Electronics Symposium on Knowledge Creation and Intelligent Computing (IES-KCIC), 384-387. IEEE.
- Vivian, B.L., & Nazneen, A. (2015). Multimedia Enabled Virtual Classroom for Distance Education. International Conference on Green Computing and Internet of Things (ICGCIoT), 1598-1603. IEEE.
- "COVID-19 Educational Disruption and Response". UNESCO. 2020-03-04. Retrieved 2020-04-12.
- Nasir, M. (2020). Impact of The 2019-2020 Corona Virus Pandemic On Education. International Journal of Health Preferences Research, 1-12.
- Caldiera, V. R. B. G., & Rombach, H. D. (1994). Goal question metric paradigm. Encyclopedia of Software Engineering, 1, 528-532.