Obstacles and Challenges of Information Technology Application on the Online Lecturing during Covid19 Pandemic Outbreaks

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Abstract

This article is the qualitative narrative case study that have been sampled at students of 12 Universities in Indonesia. The writers applied ATLAS.TI8 to draw analyzing qualitative data results. The results of research are; There are some popular teaching applications that employed by lecturers; zoom apps, google meet apps, Microsoft teams' apps, google classroom apps, WAG apps, you tube, and skype apps. The lecturers' perspectives towards the effectiveness of utilizing the teaching applications in the online lecturing are; effective and efficient for; teaching theoretical subject materials; submitting paperless tasks and assignments; classroom can be held anytime and anywhere as the schedule; running on the lecturing even though no face to face interaction. On the other hand, not effective and not efficient for; teaching practical subjects; need a smartphone; need much internet quota and connection. The lecturers do to encounter the obstacles of devoting the online lecturing during the covid19 pandemic period are; technical obstacles about the belonging of appliances to support the online lecturing; the internet matters; then non-technical obstacles are about organizing the materials and maintaining the process of teaching learning. The lecturers do face the challenges of organizing the online lecturing during the covid19 pandemic outbreaks are; preparing the fitting materials and assessments; and providing the internet quota and connection to manage the online lecturing during the covid19 pandemic.

Keywords: challenges, obstacles, online lecturing, technology

1. Introduction

The impact of covid19 pandemic makes the education sector feel collapse especially in conducting teaching and learning classroom. lecturers get troubles in managing the online classroom since they are not accustomed to use it in a normal way. There are some preparations that are needed to host the online lecturing during this pandemic period. The university should create and manage the system or platform application beyond the running of academic live both for lecturers and students; distributing the syllabus and materials, holding the teaching and learning process; and conducting the academic assessments. In fact, there are still many lecturers got the lacks of knowledge and skill in operating and maintaining the online lecturing nowadays. This study focuses on the state Islamic university namely Universitas Islam Negeri Antasari Banjarmasin, Indonesia towards the way lecturers holding the online lecturing during the pandemic outbreaks.

The application of technology in education setting is not as the something new since it is required to run on the lecturing and distributing the materials for students. Lecturer needs to master the online teaching to support their subject welcome to students even though they are not attending into the classroom. Fabry and Higgs [1] suggested for lecturers to use the technology in having and releasing the home classroom online lecturing for students. They said that

using technology makes their online lecturing become more effective. Technology can access the materials and teaching session anywhere and anytime. It makes lecturer and students can attend the teaching meet on schedule via online. Moreover, Hopson, Simms and Knezek [2]stated that the use of technology-enriched environment can improve the students' higher order thinking skill. Regarding with this, technology orders students to be creative and discipline in merging it beyond the home classroom meeting.

The opportunities and challenges of using technology in teaching and learning considers the lecturer's perspectives beyond their behaviors and attitudes in using it. Lecturers feel difficult and give up in hosting his/her subject using it since they do not master and merge with its technology. Some others feel happy since they can get along with it and make his/her teaching learning become simple and effective. Sezer, Yılmaz, andYılmaz[3] revealed the opportunities integrating the technology into distance classroom that lecturers might combine any technology to support their transferring subject materials. On the other hands, Blackwell, Lauricella and Wartella[4] discussed factors influencing digital technology use in early childhood education that there are some weaknesses in applying it.

2. Research Problems

During the pandemic outbreaks, there are many potentials out of the box teaching which is done by lecturers to walk their classroom. This study come to under questions in this following; 1) what are the online lecturing application used by lecturers? 2) is the online lecturing effective and efficient? 3) how do lecturers maintain the opportunities of applying online lecturing? 4) how do lecturers overcome the challenges of applying online lecturing?.

3. LiteratureReview

The writers have reviewed some Studies on the use of technology that have been revealed by Fabry and Higgs [1]which explained about barriers to the effective use of technology in education: current issues. Then by Salaberry [5] described the use of technology for second language learning and teaching: A retrospective. Duhaney[6] explored teacher education: preparing teachers to integrate technology. Christensen [7] reflected about effects of technology integration education on the attitudes of teachers and students. Roblyer and Knezek [8] argued about new millennium research for educational technology: A call for a national research agenda. Bates and Poole [9] showed about effective teaching with technology in higher education: Foundations for success. Means [10] studied about technology and education change: focus on student learning. Tondeur, Van Braak, Sang, Voogt, Fisser and Ottenbreit-Leftwich [11] explained about preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. Blackwell, Lauricella, Wartella, Robb, and Schomburg [12]explored about adoption and use of technology in early education: the interplay of extrinsic barriers and teacher attitudes. Raja and Nagasubramani[13]reflected about impact of modern technology in education.

Moreover, writers have review on the studies towards the use of technology for education have been conducted by these some following authors like; Groves and Zemel[14] argued about instructional technology adoption in higher education. Hopson, Simms and Knezek [2] detailed using a technology-enriched environment to improve higher-order thinking skills. Yusuf [15] showed information and communication technology and education: analyzing the Nigerian national policy for information technology. Gulbahar [16] stated about ICT usage in higher education: a case study on pre-service teacher and instructions.

Palak and Walls [17] elaborated teachers' beliefs and technology practices: a mixed-methods approach. Eskenazi[18] explained an overview of spoken language technology for education. Kotrlik and Redmann[19] described about technology adoption for use in instruction by secondary technology education teachers. Martin, Diaz, Sancristobal, Gil, Castro, and Peire[20]said about new technology trends in education: Seven years of forecasts and convergence. Johnson, Wisniewski, Kuhlemeyer, Isaacs and Krzykowski[21]revealed technology adoption in higher education: Overcoming anxiety through faculty boot camp. Blackwell, Lauricella and Wartella[4]discussed factors influencing digital technology use in early childhood education.

Additionally, the writers are supported by these studies on Technology in the classroom interaction that have been declared by Bickart and Pierrel[22] mentioned about technology learning in the K-3 classroom. Kozma[23] declared that technology and classroom practices: an international study. Britten and Cassady [24] elaborated the technology

integration assessment instrument: understanding planned use of technology by classroom teachers. Debevec, Shih, and Kashyap, V [25] perceived learning strategies and performance in a technology integrated classroom. Levin and Wadmany[26] viewed listening to students' voices on learning with information technologies in a rich technology-based classroom. Harris and Rogers [27]searched about soft skills in the technology education classroom: what do students need. Sabzian, Gilakjani and Sodouri[28] argued about use of technology in classroom for professional development. Sezer, Yılmaz, and Yılmaz[3] revealed integrating technology into classroom: the learner centered instructional design. Lin, Hsiao, Tseng and Chan [29] discussed learning English vocabulary collaboratively in a technology-supported classroom. Domalewska[30] elaborated technology-supported classroom for collaborative learning: Blogging in the foreign language classroom.

4. Method

The participants of the study were 30 lecturers. The sample were the lecturers who are teaching at some various study program such as; public administration, accounting, library science, law science, management administration, sport science, chemistry, sociology. They stay at some universities like; State Islamic Institute of Religion Manado, State Islamic University Antasari Banjarmasin, State Islamic University of Raden Patah Palembang, State Islamic University of SunanGunungJati Bandung, State Islamic University of Sultan ThahaSaefuddin Jambi, Islamic University of Bekasi, State Islamic University of Maulana Malik Ibrahim Malang, University of LambungMangkurat, University of Sriwijaya, University of WidyaMataram, State University of Malang, and Univeristy of Samawa. The instrument used was the online system open ended structured interview. To collect the data, writers used online system through google form by Microsoft. There were 5 questions to cope the problems of research in order to get the qualified data. Writers used miles and Huberman [31] approach in analyzing the data namely procedures of data reduction, showing the data display, and drawing the data conclusion. The writers used ATLAS.TI8 to support analyzing qualitative data.

5. Research Findings

This study concentrates on the process of teaching and learning at university through the online lecturing.

The variables that are founded about the teaching applications used by lecturers, the lecturers' perspectives about the effectiveness of using technology in the online lecturing as well as the opportunities and challenges for lecturers in conducting the online lecturing during the covid19 pandemic outbreaks in Indonesia.

This finding includes four open ended questions that have been analyzed allowing the Miles and Huberman [31]through drawing reduction, displaying the data, and concluding the result of data research. The four of sub findings are these following;

Question1:

What are the teaching application technology applied used by lecturers inorganizing the online lecturing during the pandemic period?

Lecturer' Answers:

There are some popular teaching applications that employed by lecturers; zoom apps, google meet apps, Microsoft teams' apps, google classroom apps, WAG apps, you tube, and skype apps. (see figure 1)
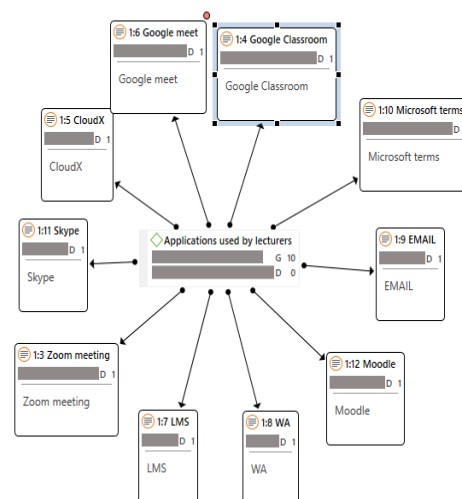

Figure 1. The Teaching Applications Technology Employed in the Online Lecturing

Question 2:

What are the lecturers' perspectives towards the effectiveness of utilizing the teaching applications in the online lecturing?

Lecturers' Answers:

Lecturer 1; yes, it is effective and it can be efficient depends on the materials are taught. If it is transferring theoretical frameworks, that will be fine. But if it is about practical subject, it needs to have direct or offline lecturing because students need to attempt into practical lecturing. Lecturer 2; In the pandemic period like nowadays, it is better having a classroom via the online lecturing. Lecturer 3; The online lecturing will be affective and efficient if this is supported by the adequate internet quota with the fast internet signal. Lecturer 4; The hosting online lecturing is effective and efficient because lecturers might give any assignments and tasks whether in individual or group through online system. Lecturer 5; yes, it is more effective using the online lecturing because the time table is more flexible. Lecturer 6; conducting the online lecturing is less effective because it is hard to do for the practical subject like sport and health study program. They can not practice doing exercises within the online since they need to practice it directly. Lecturer 7; It is effective considered from the managing time and place beyond the distance classroom, but it also faces the problems of internet connection which is unstable sometimes. Lecturer 8; more effective since lecturers can manage the active students who attend the online lecturing. The online lecturing might record the activity of students during the process of lecturing. Lecturer 9; Not more effective because the particular subject materials can not be taught facilitating through the online system. This particular subject needs an offline and face to face classroom. Lecturer 10; It is more efficient since the online lecturing can be received by all students anywhere and anytime, they are. Consequently, for those students who stay at the rural as far as there is any internet connection, they might be able to join the online classroom. (see figure 2)
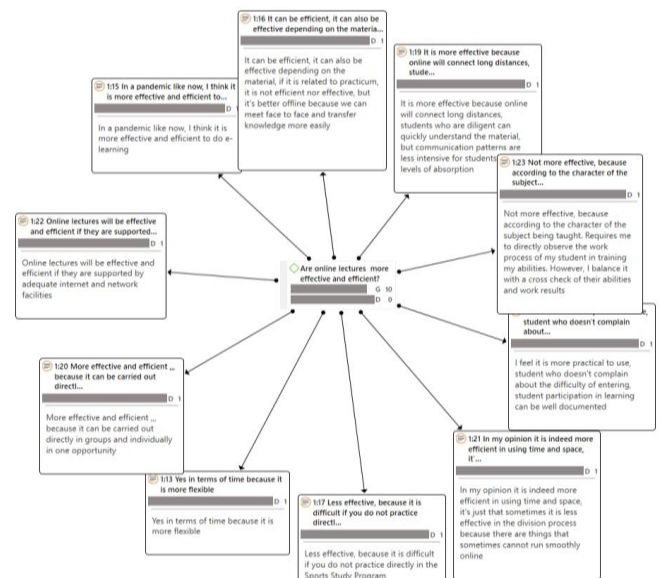

Figure 2. The Lecturers' Perspectives towards the Effectiveness of the Online Lecturing

Question 3:

What the lecturers do to encounter the obstacles of devoting the online lecturing during the covid19 pandemic period?

Lecturers' Answers:

Lecturer 1; lecturers need to prepare the teaching kits very well even though students' awareness of partaking the online lecturing is still low. Lecturer 2; during the process of teaching learning, lecturers feel strenuous to write the examples since there is an unknown technical spot to do it. Lecturer 3; having misconception and miscommunication between lecturer with students because something the tools of voice does not work very clearly. Lecturer 4; lecturing is attended by not all students because it always transpires students got the trouble internet connection and sufficient quota. Lecturer 5; the main obstacles that lecturer's have is that making sure all students have the utensils to have the online lecturing by possessing the hard and soft tools like; smart phone, android phone, internet connection, internet signal, amount of internet quota. Lecturer 6; lecturer can not control and maintain the online lecturing because students do join at home and they might do anything during the process of having distance classroom. Lecturer 7; the teaching time allotment usually is not much or about 30 minutes as we also have a limitation on quota internet that should be considered economically. Lecturer 8; This online lecturing seems

an informal class for the explanation and discussion on the materials can not be lengthen and clearer. Students getting bored if the teaching session run quite long. Lecturer 9; lecturer might not punish the students who do not present at the online lecturing for the reasons they might have many problems in catching the technology mastery and internet connection. Students who stay at a very rural area, there is no internet construction which makes them have no internet access. (see figure 3)
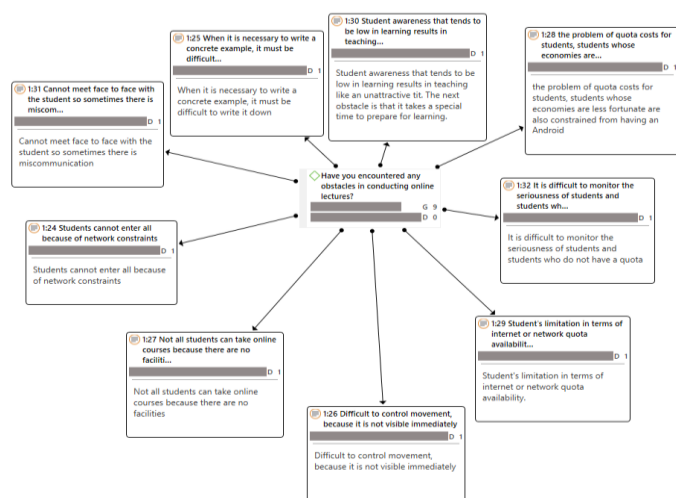

Figure 3. The Lecturers' Obstacles in Conducting the Online Lecturing

Question 4:

What should the lecturers do face the challenges of organizing the online lecturing during the covid19 pandemic outbreaks?

Lecturers' Answers:

Lecturer 1; being creative in choosing the teaching applications that are used in the online lecturing regarding with the materials transferred. Lecturer 2; being inspired in utilizing the technology withing the teaching media and furnishing the teaching innovation during the pandemic period. Lecturer 3; introducing the socialization of the teaching application to the students before applying the online lecturing; teaching apps, schedule, media, materials and assessments use. Lecturer 4; eliminating the economic problems which are confronted by students, including the owning of adequate internet quota during the online lecturing by assisting them getting it from the university for free as the service of institution. Lecturer 5; adjusting the properly creative and innovative teaching media and materials dealing with the eliminated time and space in

shepherding students during the online lecturing. Lecturer 6; designing the productive teaching materials as they are able to create the product of the online lecturing afterwards. Lecturer 7; commanding students with the mastery of ICT literate in order to survive in joining the online lecturing as long as the pandemic occurrence. As the teaching and learning interaction is materialized and transpired by technology, they must be a part of tech-users. Lecturer 8; being adaptive and fast learning to maneuver the old-fashioned teaching into the new era teaching through YouTube, zoom, google meet, google classroom, skype, WAG, Instagram, telegram, etc. Lecturer 9; devising the online assessments to endow the students' achievement in absorbing the materials that have been transferred. Lecturer 10; ensuing the patience and awareness towards the students' condition on learning through online lecturing yet some of them should try so hard to catch the lecturer's distance class. Having an empathy to students as the impacts of this covid19 pandemic. Lecturer 11; encouraging students to face the new era teaching by means of technology of teaching applications with the purpose enduring the difficult life during the hit of covid19 pandemic. (see figure 4)
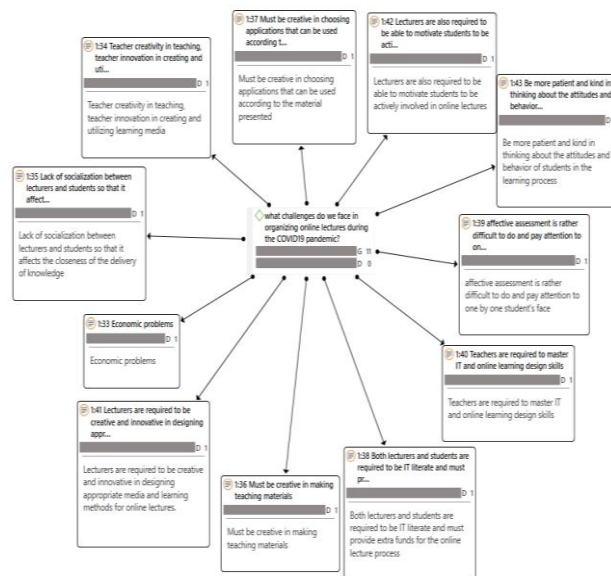

Figure 4. The Lecturers' Challenges in Conducting the Online Lecturing

6. Discussion

This study focusses on the portrayal of the teaching application employed, the effectiveness using them, the obstacles and challenges of implementing

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application within the online lecturing during to cope the covid19 pandemic timing. First of all, the writers declare that the most frequently teaching applications used by lecturers are those the ease-applicable teaching applications such as; zoom apps, google meet, and google classroom.

Additionally, the lecturers' perception towards the effectiveness of empowering the online lecturing through the applications are mostly agree it is more effective and efficient in maximizing the teaching and learning in the pandemic outbreaks; sharing materials with the short explanation; independent learning for students; timeless and placeless in conducting the classroom; saving more energy, money, and time; having paperless assignment and tasks.

Moreover, the online lecturing also encounter some obstacles that are confronted by lecturers in managing his/her distance classroom, namely; technical and non-technical obstacles. Technical obstacles contain of having no smartphone as a tool to join the online lecturing, the limitation of sufficient internet quota, the losing of internet connection, having no Wi-Fi connection, losing the voice while the online lecturing, lacking skill in operating the application, and losing the information of the classroom time schedule. The non-technical obstacles involve explaining the materials with the short time teaching, students are easy to feel get bored with the lecturing, getting misconception and misunderstanding.

Finally, the challenges of applying the online lecturing at university come to these several such as; designing the proper materials and assessment, managing the time allotment in teaching, motivating students with the restrictiveness of economics ability in this covid19 pandemic, assisting students with the unlimitedness of materials sources in order to cope the independent learning, giving the loose time in submitting the tasks and assignments given, demanding no much home works.

7. Conclusion

The writers deductively draw the conclusion that the participants of this study are those lecturers who teach some various subject materials at some universitas in Indonesia. They were teaching using technology to run the online lecturing due to the covid19 pandemic outbreaks. Some teaching applications which support the distance classroom are mostly used the free paid charged like; zoom apps, you tube apps, google meet apps, and google classroom apps. The lecturers argued that the use of teaching applications on the online

lecturing help them to maintain and manage their teaching organizations; transferring materials, giving assessments and do teaching as their educational major duty. Even though a few of them said that it is not effective yet they got a trouble in operating those teaching applications. Lecturers found some obstacles namely technical refers to something about the hard appliances and non-technical closes to the process of conveying materials to students. The challenges in implementing the online lecturing that lecturers can do are preparing the teaching kits well; sources of materials, kinds of assignment and tasks; teaching planning. Driving students with the teaching maps to optimize learning all the materials during the covid19 pandemics.

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