

ICT-Based Learning during Covid 19 Outbreak: Students' Responses, Benefits, and Challenges

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Abstract. ICT-based learning is a type of learning that employs ICT to promote, optimize, enhance, and facilitate knowledge acquisition. The purpose of this study was to look into the effectiveness and benefits of ICT-based learning during the Covid 19 Outbreak through online classes, as well as the challenges that students faced during its implementation. The study used a questionnaire and lesson plan analysis to supplement the data collection. Ms.Excel and descriptive statistics were used to analyze the data. The study included 2nd and 4th semester students of beginner and low advanced levels who had previously taken a placement test at the LDC UMP. The study found that the ICT app used in the online class was effective in fostering learning process. The students were satisfied and benefited from the administration of ICT-based learning. However, some minor issues were discovered, such as difficulties in running some features in the ICT app, an unstable internet connection during the class, and a relatively high cost of data consumption.

Keywords: ICT-based learning, students' response and benefit, students' challenges.

1 Introduction

When WHO declared outbreak a public Health Emergency concern on January 30th 2020 and a pandemic on March 11th 2020, the future of education is shifted. The conventional way of teaching and learning which is face to face and held in the classroom is totally changed. The government policy makes all teachers and students to stay at home and do the lock down during several periods of time. As it goes that way, teaching and learning process go online from primary school, secondary school, and higher education simultaneously. None can deny that this is the only way that can be done to protect the teachers' and students' health but still maintaining the students' education.

The pandemic, according to the UNESCO 2020 report, has a devastating influence on worldwide education [1]. By May 2020, 95 percent of students worldwide had been impacted by the virus outbreak, accounting for 1.7 billion students from kindergarten to postgraduate, in more than 200 nations [2], with governments around the world ordering school and university closures. See **Figure 1**. As a result of this, numerous schools and institutions around the world have begun to use online learning. Adoption of ICT-based learning has various students' responses, benefits, and challenges, which is why this paper was written.

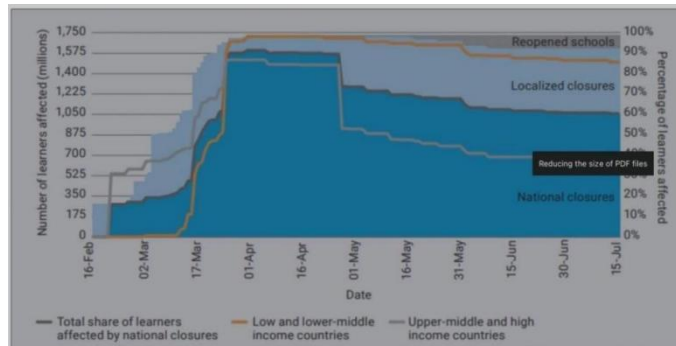


Fig 1. Number of students affected by school closures globally, source: (Statista, 2020)

In this shifting educational landscape, a large quantity of research has acknowledged that Information and Communication Technology (ICT) plays a crucial role in the field of teaching English as a foreign language (EFL). Zoom, Google Meet, Schoology, and other apps are used to transmit the knowledge from teachers to students. Many online discussion forums are made to find out the pros and cons and to find out the advantages and the disadvantages of some apps that are being used. Hence, the essential point that may be lies on every teachers and students head is questions such as “when will it over?”, “will it stay forever?”, “how do we survive our education during this pandemic situation?”, “what will happen to our future?”. Those questions imply one thing; they are scared and worry. Teachers concern about students understanding and the way students absorb the materials since teachers can not control and check their students’ understanding as what happen inside of the real classroom. The next worrying situation is the degradation of students’ motivation in learning because of the boring situation within the online class or simply because the signal and their device are not working properly to support their online study.

The English language learning, as what will be discussed in this study, needs interaction and continuous habitual action of the use of the language itself. Using ICT such as zoom and G-meet let us say, is helping but blocking students natural interaction in some ways. Students have to mute their speaker and tap unmute when it comes to answer such questions from teacher and classmates. Take a look for example, when there is a quiz and students have to tap the button to unmute their speaker immediately. It takes time. Even a single second matter. Not to mention if the device is not working properly. Some students are aggrieved. This is one of the problematic issues in learning through online platform and ICT. On the other hand, the unstable connection, the data consumption, and the students’ motivation become major concern in utilizing ICT during E-learning.

On the other hand, in developing countries, ICT-based learning has numerous problems [3]. Some of these issues include internet speed, coverage, and cost, as well as electrical issues, expensive infrastructure costs, managing and arranging classrooms, hardware and software maintenance, a lack of competence, and occasionally plagiarism. A study by Cox, Preston, and Cox identified some issues related to the use of ICT in the classroom, including the use of ICT software and hardware failure, insufficient use of ICT, some difficulties in accessing to capital resources [4]. Content constraints, and insufficient resources. Technology. Manda and Dhaou explored issues related to the Four Companies, including unemployment, competition, skills,

housing issues, safety and security concerns. privacy. In fact, the challenges of ICT-based education vary from country to country [5].

The study aimed at knowing the students' response, benefit and challenge in using ICT during online learning. The students of non-English department who get an English enrichment program as compulsory course are experiencing some major problem during administering ICT in online learning. Even though the students have mastered the ICT app but the boredom and lost of concentration are still happening.

2 What does Information and Communication Technology (ICTs) mean?

The integration of ICT in language teaching has become a major issue of oversight in language learning in the last two years. The positive impact of information and communication technology (ICT) on students has been documented in research over the past two years. In today's fast-paced world, EFL educators are being asked to take on new perspectives on their careers and career development. It is necessary to explore the specific skills required for ICT in order to improve language learning. The use of ICT as a teaching tool for gathering, analyzing, and organizing data, provides students with the opportunity to interact with a variety of media. ICT is defined as equipment, procedures, and devices that provide physical development and support for generation, transmission, and operations to store and publish files in any format, including audio, text, documents, photos, and video. IWBs, computers, computer assisted language learning (CALL) software, and office applications (word, powerPoint, graphic application tools, and so on) are examples of ICTs [6].

Integration of ICT includes deciding on the usage of various ICTs in each skill, the sorts of ICT applications to be utilized, creating favorite activities, dealing with difficulties that arise from the planned activities, and so on. The integration of ICT into a real-world language context is more important than ever before, since the technology's increasing strength and capabilities are causing a shift in the language learning environment. A slew of research have been undertaken to look into the benefits of incorporating ICT into foreign language instruction. As a result, It is assumed that incorporating new ICT resources such as laptops, interactive whiteboards, LCD projectors, the internet, and social media into educational assistance would enable students to utilize English in a more natural, real-life, communicative, and stress-free context.

Prior studies showed many advantages related to the utilization of ICT during e-learning. Quality of information, supporting learning system, ability of such system to interact, convenience of use, and educational evaluation are only a few of the benefits and components of ICT-based learning [7]. In addition, the benefits will include a variety of ways depending on the subject, such as time and space, equality, better collaboration between students and faculty, direct access to different resources, and international educational services [8]. ICT has positive impact on learning process in undergraduate level [9]. On the other hand, the use of electronic devices in the classroom, such as laptops, cell phones and tablets, as well as the availability of these devices for students, has improved the students reading. According to some statistics, the number of mobile devices surpasses that of the world, which has 7.9 billion gadgets. It allows M-learning to be successful and provides a variety of learning opportunities anytime, anywhere, despite some restrictions on the use of cell phones as learning tools [10]. Control of content, control of presenting styles, originality and modernity, ability to provide feedback at any time, and adaptability are all advantages of ICT use in learning [11].

On the other hand, in developing countries, ICT-based learning has numerous problems. Some of these issues include internet speed, coverage, and cost, as well as electrical issues, expensive infrastructure costs, managing and arranging classrooms, hardware and software maintenance, a lack of competence, and occasionally plagiarism [12]. A confirmed study by Cox, Preston, and Cox identified some issues related to the use of ICT in the classroom, including the use of ICT software and hardware failure, no. support, inadequate use of ICT, some difficulties in access, capital layer, Content constraints, and insufficient resources [13]. Technology. The issues related to the Four Companies was explored including unemployment, competition, skills, housing issues, safety and security concerns. Privacy [14]. In fact, the challenges of ICT-based education vary from country to country. In addition to changes in business models, data issues, liability and property law, and inconsistencies in design and expertise [15], developed countries are facing social problems such as unemployment, HR inability, new forms of stress, and growth. insecurity in some sectors [16], while developed countries are increasingly concerned about infrastructure, technology development, and manufacturing [17].

This study will look into students' reactions, challenges, and benefits of using ICT in the classroom as a way to combat the virus's global spread. To achieve this goal, the following issue arises: what are students' responses to ICT-based learning in developing countries like Indonesia amid the Covid-19 pandemic, as well as the benefits and challenges it presents. Although many developing countries have effectively promoted such technologies for some time, they have not utilized technology in education to the same extent as developed ones. To answer this issue, students from University Muhammadiyah Purwokerto's 2nd and 4th semester study programs, including elementary and low advanced levels, were given a closed-ended questionnaire using G-form to explain their responses, benefits, and challenges of ICT-based learning.

3 Research Questions, Objectives of the Research

The research questions of the study are as follow:

- 1) How are the learners' response toward ICT-based education during Covid 19 pandemic?
- 2) What are the benefit of ICT-based learning during Covid 19 outbreak?
- 3) What are challenges faced by the students in implementing ICT-based education during Covid 19 pandemic?

The objectives of this study are as follow:

- 1) To discover the learners' response toward ICT-based learning during Covid 19 pandemic.
- 2) To find out benefit of ICT-based learning during online learning?
- 3) To explain about the obstacle/challenges faced by the students in implementing ICT-based learning during Covid 19 pandemic?

4 Methodology

4.1. Design

The goal of this research was detecting and uncovering the learners' reactions to the utilization of ICT in English class during online and offline classes, as well as to identify the hurdles they encountered when using this application in English class. The convenience sampling was taken to gather the data. In addition, the research data is numerical, and the analysis employs descriptive statistics. Descriptive statistics, on the other hand, are statistics that are used to examine data by reporting the data obtained as is without drawing any broad judgments [18].

4.2. Population and Sample

The research was carried out at the end of semester of the 2020/2021 academic year (May 2021). It was also intended to evaluate the teaching and learning process of semester 2 and 4 in addition to answering the research questions. The total population of this study was 110 students. The sample was 80 students consisted of 69 students of 2nd semester which grouped in elementary level and 11 students of 4th semester which grouped in low advanced level. The students were from mix study programs who follow IE program held by Language Development Center (LDC) University of Muhammadiyah Purwokerto. The students were grouped into different level of competence based on their score in placement test. Then, questionnaire was distributed to the students through G-form. The convenience sample technique was used since it is appropriate for this pandemic situation. Besides, the research was done in the end of semester where the teaching and learning process was not effective. According to Suwartono , convenience sampling, also known as incidental or opportunity sampling, is a sampling technique based on access constraints that is incorporated in probability sampling [19]. The respondents in this study were 80 students, representing 72.72% of the overall population.

4.3. Instrument

In order to collect data for this study, an open-ended questionnaire was used as the tool. A questionnaire, is frequently used for polls and surveys involving a large population, and it can be used for both description and measurement [19]. Furthermore, the questionnaire contained 15 items, with items 1 to 5 being used to determine the students' responses to the use of ICT in English class during online and offline classes, and items 6 to 9 being used to determine the obstacles they encountered when using this application in English class.

4.4. Data Collection Technique

The questionnaire for this study was provided online via Google Form, and students were asked to fill it out by selecting one of the available alternatives. The questionnaire was created using several phases, including (1) defining the variable before writing questions or statements, and (2) determining the indicators to be measured. In addition, as shown in Table 1, a questionnaire framework might be prepared.

Table 1. The Outline of the Questionnaire

Variable	Indicators	Number of Item	Total
ICT-Based learning during Covid 19 Outbreak: Students' Responses, Benefits and Challenges.	Accessibility	1-2	2
	Appearance of utility	3-7	5
	Communication and Interaction	8-9	2
	Students' Satisfaction	10-11	2
	Students' Obstacles	12-15	4
	Total		

Those indicators were then turned into questions or statements in the next stage. Table 2 shows the list of questionnaire items.

Table 2. List of Questionnaire Item

Indicators	Number of Item	Statements
Accessibility	Q1	I was able to install all apps needed for online classes.
	Q2	I could access the materials and send the assignments through ICT used by the lecturer.
	Q3	ICT (online) has many variances such as Zoom, Gmeet, Schoology, etc.
Appearances of utility (benefits)	Q4	ICT bridges the teacher and students' in E- teaching and learning process.
	Q5	I prefer to use Zoom
	Q6	I prefer to use G-meet
	Q7	I prefer to use other.

Communication and Interaction	Q8	I feel so confident and comfortable to use ICT during online class.
	Q9	The teacher and students feel so excited in running ICT during online class.
Students' Satisfaction	Q10	ICT helps me understand the learning during online class.
	Q11	ICT was the only solution to our current situation (online class)
	Q12	Internet connection was become the first issue. (Unstable connection)
Students' Obstacles (Challenges)	Q13	ICT cost a lot during E-Learning (The data consumption is high)
	Q14	I often lost my concentration and motivation during E-Learning using ICT
	Q15	I got difficulties in running some features in the ICT app.

4.5. Data Analysis Technique

In this study, descriptive statistics were employed to analyze the data. It signifies the data was statistically evaluated and descriptively interpreted. As a result, after gathering the data, it was counted and statistically examined. The data was then computed to determine the percentage. The questionnaire in this study employed a five-point Likert scale because it was suggested as a way to accommodate the responses. Table 3 illustrates this.

Table 3. The Scoring of Likert Scale

No	Option	Description	Score
1	SA	Strongly Agree	5
2	A	Agree	4
3	N	Neutral	3
4	D	Disagree	2
5	SD	Strongly Disagree	1

Furthermore, the mean was calculated to determine whether or not ICT-based learning was effective in e-learning based on the students' responses, benefits, and obstacles. The data was

evaluated using Microsoft Excel in this case. To summarize the research outcome, those data were categorized and concluded at the end of the process using the criteria indicated in Tables 4 and 5. Because all students should complete the questionnaire, the lowest lower limit value for the criteria is 1.

Table 4. The Effectiveness of ICT-based learning, students' response, and benefits

Range	Interpretation
1 - 20%	Extremely Not Effective
21 - 40%	Not Effective
41 - 60%	Effective
61 - 80%	Very Effective
81 - 100%	Extremely Effective

Table 5. Students Challenges

Range	Interpretation
1 - 20%	Very Low
21 - 40%	Low
41 - 60%	High Enough
61 - 80%	High
81 - 100%	Very High

5 Result and Discussion

The research aimed to discover the ICT-based learning; students' response benefit, and challenge. Thus, the data from the questionnaire were calculated to obtain the percentage and mean in order to obtain the research result. In order to arrive at this conclusion, the researchers used Ms. Excel to calculate the data.

Table 6. The result of questionnaire items.

Indicators	Item	Statements	SD	%	D	%	N	%	A	%	SA	%
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	Q1	I was able to install all apps needed for online classes.	0	0	1	2%	6	12%	23	46%	11	22%
Accessibility	Q2	I could access the material and send the assignments through ICT used by the lecturer.	0	0	0	0%	10	20%	23	46%	7	14%
Appearance of utility (benefits)	Q3	ICT (online) has many variances such as Zoom,Gmeet, Schoology, etc.	0	0	0	0%	10	20%	22	44%	8	16%
	Q4	ICT bridges the teacher and students' in E-teaching and learning process.	0	0	0	0%	11	22%	23	46%	7	14%
	Q5	I prefer to use Zoom	0	0	2	4%	18	36%	15	30%	7	14%
	Q6	I prefer to use G-meet	0	0	0	0%	19	38%	13	26%	9	18%
Communication and Interaction	Q7	I prefer to use other.	0	0	4	8%	23	46%	11	22%	4	8%
	Q8	I feel so confident and comfortable to use ICT during online class.	0	0	0	0%	16	32%	20	40%	4	8%
	Q9	The teacher and students feel so excited in running ICT during online class.	0	0	0	0%	19	38%	16	32%	5	10%
	Q10	ICT helps me understand the learning during online class.	0	0	0	0%	16	32%	19	38%	5	10%
Students' Satisfaction	Q11	ICT was the only solution to our current situation (online class)	0	0	2	4%	12	24%	17	34%	10	20%
Students' Obstacles (Challenges)	Q12	Internet connection was become the first issue. (Unstable connection)	0	0	1	2%	9	18%	17	34%	14	28%

Q13	ICT cost a lot during E-Learning (The data consumption is high)	0	0	2	4%	10	20%	18	36%	11	22%
Q14	I often lost my concentration and motivation during E-Learning using ICT	0	0	5	10%	19	38%	14	28%	3	6%
Q15	I got difficulties in running some features in the ICT app.	0	0	9	18%	16	32%	13	26%	3	6%

In detail, the percentage of each item were presented below in Table 7.

Table 7. The Percentage of Each Item

Indicator	Number of Item	Percentage	Category
Accessibility	Q1	82%	Extremely Effective
	Q2	80%	Very Effective
	Q3	80%	Very Effective
	Q4	82%	Extremely Effective
	Q5	84%	Extremely Effective
Appearance of Utility (Benefit)	Q6	82%	Extremely Effective
	Q7	84%	Extremely Effective
	Q8	80%	Very Effective
Communication and Interaction	Q9	80%	Very Effective
	Q10	80%	Very Effective
Students' Satisfaction	Q11	82%	Extremely Effective
	Q12	82%	Very High
	Q13	82%	Very High
Students' Challenges	Q14	82%	Very High
	Q15	82%	Very High

The outcome of this study was visualized using a graphic organizer based on the preceding table. As a result, the chart was utilized to describe the percentage of each item, as shown in **Fig 2**.

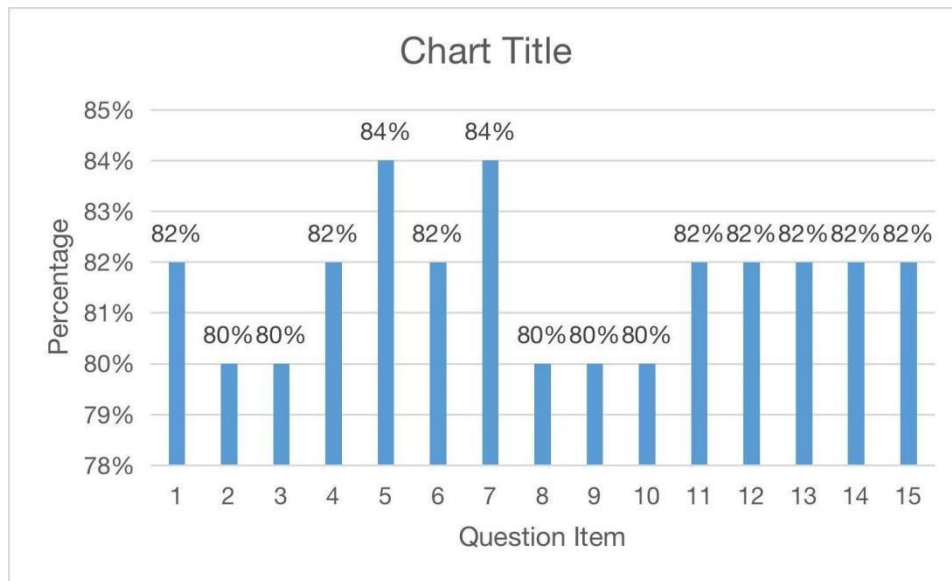


Fig 2. The percentage of each questionnaire items.

6 Conclusion and Suggestion

From start to finish, the goal of this study was to find out the ICT-based learning during Covid 19 Outbreak; students' response, benefit, and challenge related to its implementation in online class. This research was conducted for 2nd and 4th semester students grouped in elementary and low advanced level of competence. The students were from varied study programs and selected through placement test by Language Development Center (LDC) UMP.

First, the result in general showed that 82% students agreed that ICT-based learning during Covid 19 outbreak was effective to be done in online class. Plus, students felt satisfied because ICT- based learning was the only win win solution to maximize the teaching and learning process in this Covid 19 outbreak. As the result could be seen in the chart that Q7 which belong to the appearance of utility (benefit) had the highest percentage (84%). It meant that the students got the benefit from ICT- based learning. Meanwhile, the lowest score was in Q2 (80%). It showed that some students still had difficulties in accessing the apps even though it was only the minor problem. This case need further research on the reason why or what aspect that affect this case the most. Another lowest score was Q3 (80%). It dealt with the variance of ICT-based learning during online class. Mostly, the lecturer used zoom, g-meet, and schoology. The students felt to have more app or used another app to support their learning process.

Second, the result of students obstacle was clearly stated in Q15 (82%). The students had difficulties in running some features in the ICT application such as Zoom and G-meet. It was found that students did not recognize all features and its function maximally. The students knew the most frequently used only. It was the mute and unmute button, share screen, and chat box feature that students mostly used in zoom and g-meet during the online class. It was so unfortunate that the students could not use all features maximally in its attempt to reach maximum result.

Based on the result aforementioned, this present study recommends the effective use of ICT-based learning during Covid 19 outbreak. In addition, it is suggested to the students to have better understanding first before running the apps. Find tutorials on how to use the ICT apps during online class will be beneficial in maximizing the learning process. Tutorials are available worldwide online and free. Plus, the lecturer may find another applicable platform to be used as ICT app in online class. The purpose is to help maximizing the teaching and learning as well as to gain students' motivation in following the the class. In the end, the maximum result of teaching and learning process can not be achieved without a good collaboration among teacher, students, and ICT app during this online class due to Covid 19 outbreak. Finally, this study was conducted in relatively short time period due to limitation of the time. Then, it is suggested to conduct more research on this field in longer time to get better result. Some items in the indicators also need to be dig more to know the exact reason of why certain case happen among the students.

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