

Online Learning and Assessment: Challenges and Opportunities during Pandemic COVID-19

(Nationwide Survey of Teachers in Indonesia)

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Abstract—The COVID-19 pandemic has an impact on education system across the world including in Indonesia. Indonesian Ministry of Education on March instructed educational institutional to start teaching online by learning from home, through online learning and assessment methods. This situation brings positive and negative impacts as well as challenges and opportunities for teachers in Indonesia. This study maps the constraints and benefits experienced by teachers in Indonesia during the learning process from home. The research was conducted in a survey by distributing questionnaires online to teachers throughout Indonesia. As many as 6632 teachers became respondents, who come from almost all provinces in Indonesia. Descriptive analysis was conducted to determine the characteristic respondent. The survey results show that 62% of schools carry out online learning and assessment activities. The most widely used online media are WhatsApp, Google Classroom, and Google Forms. About 58.1% of the teachers had difficulty conducting online teaching and 64.2% had difficulty on online assessments. The challenges came from an unstable internet network (64.2%), lack of funds for internet quota needs (50.6%), and limited suitable electronic devices (47%). The opportunities during online learning were increased teacher commitment, empathy for students, increased new experiences with online media, and increased time management skills.

Keywords—online learning, online assessments, The COVID-19 pandemic, challenges and opportunities

I. INTRODUCTION

One of the biggest changes in education system caused by a corona virus is the teaching and assessment process that has moved from face-to-face to online. Indonesian Ministry of Education on March instructed educational institution to start teaching online by learning from home, through online learning and assessment methods. The Indonesian government issued an education policy during the COVID-19 in the form of Circular of the Minister of Education and Culture of the Republic of Indonesia Number 4 of 2020 [1], which stated that the physical and mental health of students, teachers and all school members

was a major consideration. Therefore, the government decided that the learning process should be done from home through online. The government also organizes learning from home by online learning without burdening teachers with curriculum completion for grade promotion [2].

The government has provided instructions to make learning from home easier to implement. For example, teachers are free to carry out various activities and learning assignments according to the interests and conditions of each student, teachers are also expected to consider gaps in student learning facilities at home. The government also states that the output of student learning outcomes is not required in the form of a score, but can be in the form of qualitative feedback from teacher which is useful for knowing student progress. However, in practice, many teachers are still confused about doing online learning and assessment. Certain teachers and schools may have been used to or have conducted online learning and assessment before the pandemic, but there are still many schools that have never used this method. based on research result, for some teachers, using the internet, communicating via social media channels or using video conferencing tools, does not cause real problems [3]. A different result was found in research conducted by Klapproth, Federkeil, Heinschke, and Jungmann [4] on 380 teachers which showed that teachers experienced stress from moderate to high levels because of online learning. More than 50 percent of them spend more than four hours each day on online learning. Most of them experienced technical barriers at the time of teaching. These different conditions encourage researchers to know the experiences faced by teachers in conducting online learning and assessment during the COVID-19 pandemic.

Research on teacher challenges of online teaching at a time of pandemic is developing and beginning to emerge (e.g., Nuland, Mandzuk, Petrick, and Cooper [5]; Donitsa-Schmidt & Ramot [6]; Dhawan [7]). However, the challenges and opportunities faced by teachers in Indonesia, during pandemic has not been conducted. This study aims to fill this important gap and able to become the basis for further research in developing effective online teaching programs.

II. METHODS

This research was conducted in the form of an online survey from July 24 to August 3, 2020 given to teachers in Indonesia through social media such as WhatsApp. The survey was sent individually or in groups to the network teachers who had collaborated with the Pusat Asesmen dan Pembelajaran, Badan Penelitian Pengembangan dan Perbukuan, Kementerian Pendidikan dan Kebudayaan.

The respondents (n) was 6,632 teachers at all levels of school, from formal and non-formal school, private and public schools, which were spread across three regions of Indonesia (West, Central, and East region of Indonesia). The distribution of respondent data is as follows: 1) Western Indonesia: Aceh, North Sumatra, Riau, Lampung, Jakarta, West Java, Central Java, Yogyakarta, East Java, West Kalimantan and Central Kalimantan, 2) Central Indonesia, namely South Kalimantan, East Kalimantan, West Nusa Tenggara, South Sulawesi, Central Sulawesi, and West Sulawesi, and 3) Eastern Indonesia: Maluku and Papua.

The questionnaire used contains open and closed questions about demographic data (age, education, length of teaching, school level, employment status, number of assisted study groups) and questions about experiences faced by teachers during online learning and assessment, during the COVID-19 pandemic. Data collected through online surveys. Online surveys have the potential to collect large amounts of data in a relatively short period of time. The online survey approach is very useful when collecting data from hard-to-reach populations, especially as in Indonesia with a large geographic area. Online surveys are also the most appropriate and safe choice during a pandemic, when people are required to maintain a safe distance from each other (social distancing).

Several methodological issues that must be considered when using online surveys include survey design, respondent selection, data management, and research ethics [8]. Researchers pay attention to the survey design by ensuring that the survey display is easy to use (user friendly) and easy for respondents to understand. Researchers also ensure the privacy and confidentiality of respondent data. The data confidentiality statement, all information regarding the research, the rights of the respondents, and the contact details of the researchers are available on the first page of the survey window. A well-designed survey that pays attention to methodological issues has the potential to increase the reliability and validity of the data collection process.

Survey data collected using Google Forms are automatically stored in the Google Drive database. The survey data then cleaned and checked to eliminate duplicate or problematic data, and then input into SPSS software.

III. RESULTS AND DISCUSSIONS

The descriptive analysis and the demographic characteristics of respondents can be seen in Table 1.

TABLE I. DESCRIPTIVE ANALYSIS AND DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Variable	n	Percentage
Age:		
20-30	1505	22.7%
31-40	2254	34%
41-50	1540	23.2%
51-60	1314	19.8%
>60	19	0.3%
Gender:		
Male	2493	37.6%
Female	4139	62.4%
Level of Education		
Senior High School	256	3.9%
Diploma	160	2.4%
Under Graduate	5471	82.5%
Post Graduate	732	11%
Type of School :		
Public School	4260	64.2%
Private School	2204	33.2%
Public & Private	168	2.5%
School Level :		
Kindergarten/Preschool	336	5.1%
Junior High School	1581	23.8%
Secondary School	1761	26.6%
Senior High School	1298	19.6%
Vocational School	1567	23.6%
More than one school level	89	1.3%
Employment Status		
Civil servants	3011	45.4%
Honorary	1846	27.8%
The teacher remains the foundation	1243	18.7%
Non Permanent teacher	515	7.8%
Teaching Experience		
< 1 year	198	3%
1-5 year	1419	21.4%
5-10 year	1263	19%
>10 year	3752	56.6%
The Number off class		
1-3	2079	31.3%
4-6	2154	32.5%
>6	2399	36.2%
Amount of student in every class		
<10	179	2.7%
10-20	982	14.8%
21-30	2600	39.2%
31-40	2745	41.4%
>40	126	1.9%

Based on gender in table 1, there are more female respondents than male respondents. Out of a total of 6,632 teachers, 62.4 percent of female teachers were respondents or about 4,139 people. Based on the age level, almost 80 percent of the respondents or around 5,299 teachers were between the ages of 20 and 50. Most respondents were in the age range 31-40 years, as much as 34 percent. Based on the type of school, the number of teachers coming from public schools is 64.2 percent or more than private schools. Meanwhile, based on school level, the highest number of teachers at junior high schools/SMP/MTs/equivalent was 26.6 percent. Based on employment status, almost half of the respondents were teachers with the status of Civil Servants (PNS), namely 45.4 percent or 3,011 teachers. Regarding teaching experience, the

majority of teachers have teaching experience of more than 10 years (56.6 percent). The number of study groups that the teacher teaches varies, namely 31.3 percent of teachers teaching between 1-3 groups, 32.5 percent of teachers teaching 4 - 6 groups, and 36.2 percent of teachers teaching more than 6 groups. In one group, most teachers stated that they taught 31-40 students.

A. Learning and Assessment During a Pandemic

Online learning and assessment during a pandemic is a new thing that is a challenge for teachers. This situation creates problems as well as good opportunities for teachers. The results of the survey indicate that the implementation of these activities varies widely because it is influenced by various factors.

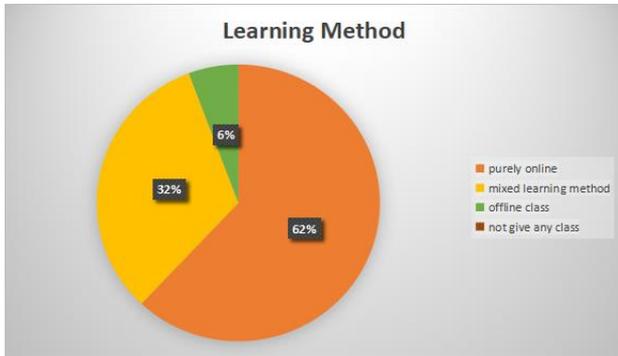


Fig. 1. Methods of learning and assessment during a pandemic.

We can see the way of learning and assessment carried out by teachers during the pandemic through figure 1. Most of the teachers, 62 percent or about 4,112 teachers carry out pure learning and assessment online or remotely by connecting via a computer or the internet. Only a few, namely 378 teachers or about 5.7 percent, continued to carry out face-to-face learning and assessments. The remaining 32.2 percent combined face-to-face and distance systems in their learning and assessment activities.

Online media that is widely used by teachers in the learning process can be seen in Figure 2.

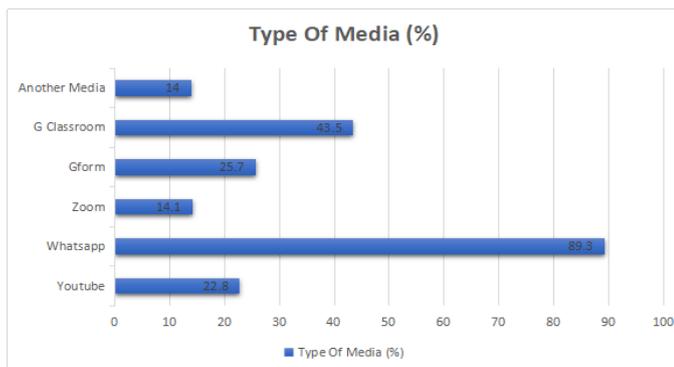


Fig. 2. Online media during online learning and assessment.

A total of 5,921 teachers or around 89.3 percent used WhatsApp as an online media for teaching and learning activities during the pandemic. Through WhatsApp both personally between the teacher and students and in the group of parents of students, the teacher can deliver the learning material being taught, as well as assign assignments to assess learning outcomes. Using WhatsApp is felt to be easier because WhatsApp is a popular social media and is almost owned and used by people even before the pandemic took place. The second largest online media used for learning and assessment is google classrooms, with 43.5 percent of teachers using it. Google classroom is a free web service developed by Google for schools to simplify, create, distribute and grade assignments in a paperless manner and aims to streamline the process of sharing files between teachers and students [9]. Google classroom functions almost the same as WhatsApp but through this application, teachers and students can provide and receive matter and assignments centrally in virtual classrooms. Other online media that teachers use during the pandemic are google forms, YouTube, zoom meetings, google meet, webex, and others.

B. Online Learning and Assessment Challenges

Online learning and assessment can make teachers excited about carrying out teaching and learning activities. The feeling of enthusiasm comes from internal and external factors. Internal factors that make teachers excited include a sense of responsibility as a teacher who feels that education must be carried out regardless of the conditions. Compassion for students who were unable to learn face-to-face also made teachers determined to facilitate learning even if it was a long distance. The external factor that makes the teacher excited is seeing the enthusiasm of students that want to learn even though they do not directly meet teachers and friends at school. In addition, teachers feel happy because teaching time is flexible. They can play a dual role as teachers and parents at home. They also claimed to have had new experiences by studying various online media applications that they had never studied before the COVID-19 pandemic broke out.

The existence of the COVID-19 pandemic has an impact on increasing the commitment of teachers as educators who will remain responsible for providing education even though by online media. The pandemic has also increased teachers' sense of empathy so that they continue to pursue education for their students. Online learning and assessment has a positive impact on teachers to be able to better manage time for themselves, their families, and as teachers. The positive impact of online learning and assessment can also provide opportunities for teachers to gain new experiences by studying various kinds of online media applications.

Apart from the things that make the teacher excited, there are also things that make the teacher not excited about teaching and assessing online. teachers feel unsure of being able to measure students' true learning abilities through online assessments because they do not make direct contact with their students. Munir [10] states that in distance learning and

assessment, one of the tools for teachers to measure student success is the response, but the teacher cannot pay attention to how students learn and how to respond. Teachers are required to believe in the honesty and independence of students in doing school assignments because teachers do not know whether students do it alone or are assisted by others. Based on the survey findings, it turns out that online has a negative impact on teachers in which teachers still doubt online methods, especially in assessment, because they cannot control like during face-to-face activities.

C. The Challenges/Barriers of Learning and Online Assessments

A feeling of lack of enthusiasm from the teacher can also occur because the teacher feels some of the obstacles they experience. These constraints can be seen in the figure 3.

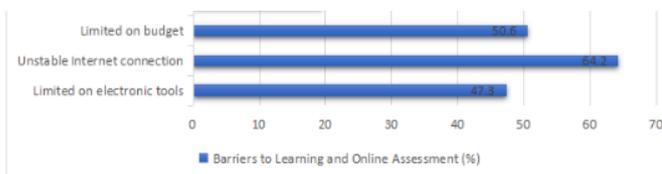


Fig. 3. The barriers of learning and online assessment.

The obstacle most teachers felt in online learning and assessment was the unstable internet network when doing online learning and assessments, namely 64.2 percent (4,256 teachers) who felt it. The second biggest obstacle is actually still related to the internet network, but rather the problem of limited funds to meet the needs of internet quota / data packages used for online. A total of 3,355 teachers (50.6 percent) of teachers felt the need for these funds was lacking. The obstacles to learning and online assessments further felt by 3,140 teachers (47.3 percent) were the limitations in having appropriate and compatible electronic devices to carry out online activities.

Apart from the top three online obstacles above, there are also internal constraints that teachers feel. There are teachers who have difficulty using technology during the online learning process. The teachers also have other activities in the household, especially the woman teachers. In addition, quite a lot of teachers feel tired when they have to stare at a cellphone or computer screen for a long time. Teachers also feel they do not have a good emotional bond with their students when conducting distance learning, especially for teachers and students who enter the new academic year starting with distance learning.

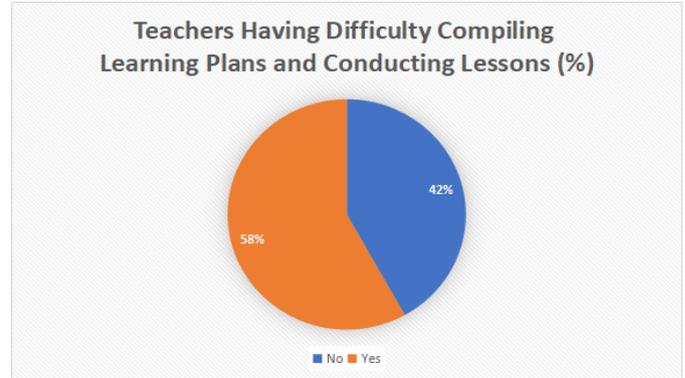


Fig. 4. Percentage of teachers having difficulty compiling learning plans and conducting lessons.

Most of the teachers or 58 percent stated that they experienced difficulties in preparing lesson plans and carrying out lessons during the pandemic through figure 4. So far, teachers have made lesson plans based on existing basic competencies (KD), but some of these KDs are deemed not suitable to be applied for online learning. Currently, Indonesia already has an emergency curriculum that simplifies basic competencies. This decision was stated in the Minister of Education and Culture Decree 719/P/2020 concerning Guidelines for Implementing Curriculum in Education Units in Special Conditions which regulates curriculum, learning and assessment in special conditions [11]. This decision was strengthened by the Decree of Balitbang and Books number 018/H/KR/2020 concerning Core Competencies and Basic Competencies of Lessons in the 2013 Curriculum in early childhood education, basic education, high school secondary education for special conditions. With this regulatory document from the government, it is hoped that teachers will no longer experience confusion in conducting online learning [12].

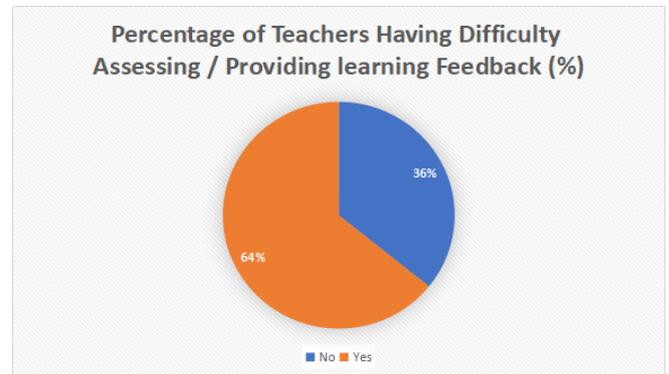


Fig. 5. Percentage of teachers having difficulty assessing/providing feedback.

The same thing happened to assessing and providing feedback to students during a pandemic or learning from home. In Figure 5, we can see that the majority of teachers (64.2 percent) admitted that they had difficulty assessing or providing feedback to students using online methods. The most difficulties faced by teachers are because students are difficult to contact due to not having appropriate electronic devices such

as android mobile phones, not having quotas, or because of difficulties in internet networks in the student's home area. Teachers also complained that many students did poorly on assignments or did not collect on time. Some teachers also feel that the assessment activities carried out are not able to measure the actual ability of students because the teacher cannot control how students do assignments, whether they are actually able to do the assignment or be done by someone else.

Gillett-Swan describes several methods that teachers can use to minimize barriers to students participating in online classes [13]: 1) increasing competence and confidence in using technology, 2) do reflective teaching, to find the best teaching practices for students. One of the ways to teach reflective is by asking for feedback from students related to the teaching being carried out so that there is always improvement for every teaching that is carried out. 3) Improve interactive skills and build closeness with students during teaching so as to reduce anxiety and increase student motivation in online teaching.

Similar statements were also made by Carrillo and Flores [14] that there are things that teachers need to pay attention to in designing an effective online learning environment, namely by taking an accurate pedagogical approach, relevant and authentic assignments, and the use of media / technology as needed. The pedagogical approach that can be taken can provide flexibility to encourage independent learning by setting clear targets and schedules for students. Assignments are tailored to the needs, strengths and interests of the individual. Assessment that can be carried out by teachers focuses on formative assessment with a form of peer-to-peer assessment to encourage student participation and involvement. The teacher can also divide students into small groups to carry out specific tasks (for example, through breakouts or chat rooms).

Meanwhile, according to Vinagre [15], the main factor that can increase social presence in students is collaborative learning. What includes this social presence is consistent participation, communication, group discussions, timely commitment, and commitment to assignments. Another factor that can increase student attendance is to provide emotional support to help relieve feelings of isolation [16].

IV. CONCLUSION

The COVID-19 pandemic has implications for the policy of implementing online-based education in Indonesia, from face-to-face learning to online. This condition requires teachers to master online media applications to help the learning process. The online media most commonly used by teachers in Indonesia in online learning and assessment are google classroom, WhatsApp, and google form. During online teaching and learning activities, many teachers experience problems. The three biggest obstacles in online learning and assessment activities are the lack of stability of the internet network, lack of funds to buy internet quota, and the lack of suitable electronic devices for online learning. Most teachers in Indonesia admit that they find it difficult to prepare lesson

plans, carry out online learning and assessments. Some teachers also still doubt the effectiveness of online assessment methods because the teacher cannot control students whether students actually do the assessment task honestly and independently or not. However, online learning and assessment has a positive impact on teachers, including increasing commitment as an educator, increasing empathy for students, and opening opportunities to learn new things about online media, as well as providing personal time management opportunities for teachers.

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