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Exploring the alternative assessment on mathematical instruction in an era of uncertainty

Muhammad Naim Mahmud [1] *, Heri Retnawati [1], Eri Yusron [2], Elita Rachmayanti [2]

[1] Universitas Negeri Yogyakarta. Jl. Colombo No. 1, Karangmalang, Yogyakarta 55281, Indonesia
[2] Universitas Pendidikan Indonesia. Jl. Pendidikan No.15, Cibiru Wetan, Cileunyi, Bandung, Indonesia
* Corresponding Author. E-mail: naimmahmudmuhammad@gmail.com

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Abstract: The impact of the Covid-19 pandemic in education has caused the learning curriculum to experience replication. Not only in delivering learning material, but replication also occurs in the learning assessment process. Teachers are required to be able to carry out an objective assessment of learning in all subjects. This study aims to determine teacher difficulties and explore alternative assessments used by teachers in mathematics learning in the pandemic era. This research is a qualitative study using an exploratory study approach that aims to deepen the study of research objectives that focus on constraint and alternative phenomena in assessing mathematics learning in elementary schools. The instrument used has been validated by experts and got the value of the coefficient Aiken = 0,742 this shows that the instrument used is valid and in the good category. Data collection was carried out through questionnaires for teachers and field observations in the online learning process. Data analysis was carried out by using descriptive techniques from the findings of the questionnaire and observation instruments. This study's results reveal that the teacher finds it difficult to provide an objective assessment of learning, and the alternative assessment of mathematics learning used is digital learning assessment and structured assignments to parent representatives in each zoning. Future research is expected to develop assessment instruments that can facilitate online learning assessments in the pandemic era.

Keywords: assessment of mathematics learning, assessment alternatives, online learning.

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Introduction

The Covid-19 pandemic that has spread since December 2019 has caused crises in various sectors of the country and dramatically changed lives worldwide. Not only the economic and health sectors, but education is also one of the crucial sectors that the Covid-19 pandemic has heavily impacted. The closure of educational institutions worldwide, along with the rapid spread of the Covid-19 virus, has caused around 45 million students to be unable to continue their learning activities at school (Mungkasa, 2020). Until now, the pandemic has still ushered the world of education into an era of uncertainty, where everything humans do in the world of education cannot ensure anything in the future. In other words, in essence, humans are not living in an era where everything can be measured and determined by methodology and analysis, whose results can be immediately seen in a paper. Who knows how long and how this situation will end? What is certain is that the pandemic has resulted in the emergence of new habitual orders in every aspect of human life, including education.

The closure of educational institutions since the Covid-19 pandemic has led to a shift in the learning system from face-to-face to virtual face-to-face. Although online or electronic (*e-learning*) is not something new, the learning system transition that occurs requires each educational institution to prepare various modified learning tools adapted to electronic learning patterns. Electronic learning or it can be called *online learning, internet-enabled learning, virtual learning, web-based learning, web-based distance education, e-Learning, or web-based teaching and learning* can be defined as online education where information and communication technology used to assist in the development and acquisition of knowledge using the internet, video communication, audio, text, and software to create a learning environment (Basilaia & Kvavadze, 2020). Online learning runs the entirety of conventional methods

but collaborates with the internet, such as the web (Yulia, 2020). (Carliner, 2003) defines online learning as learning materials that are presented in computers. Online learning is an innovative approach to conveying instructions to an audience using the web as a medium (Khan, 1997). Online learning can also be defined as using the internet to access learning materials, interact with content, teachers, and other learners, obtain support during the learning process, acquire knowledge, construct self-meaning, and grow from the learning experience (Anderson, 2008).

As stated earlier, online learning or electronic learning is not new (Bartley & Golek, 2004; Schneider & Council, 2020). However, since educational institutions' closure starts from elementary school to university level, online learning has become more existent than in previous years. This is evidenced by the results of the primary data from the 2019-2020 Indonesian Internet User survey by APJII (Association of Indonesian Internet Service Providers) regarding the increase in the number of penetration of Indonesian internet users, where the increase is seen in the percentage of total penetration which was initially around 64.8% to 73.7%. When combined with data from the Central Statistics Agency (BPS) projection regarding Indonesia's population in 2019, which amounts to 266,922,900, Indonesian internet penetration is estimated to be 196.7 million users (Asosiasi Penyelenggara Jasa Internet Indonesia, 2020).

The transition from face-to-face learning to e-learning has emerged as an unavoidable option in the current Covid-19 era and beyond (Basilaia & Kvavadze, 2020; Naciri et al., 2020). The implementation of online learning was debated not only by education observers but also by all Indonesian people. The reason is, although online learning is not something new, in reality, only a handful of educational institutions are already early and accustomed to doing it. The Covid-19 pandemic, which spread quickly and without warning, caused the transition to online learning into a *culture shock* for both students and educators at various education levels. Even though it has been almost a year since online learning was implemented, learning adjustments are still being made to improve the online learning system so that it is suitable and facilitates students in obtaining their full learning rights. Apart from being based on this, learning adjustments are continuously being pursued because, based on the field results, there are many obstacles experienced in the implementation of online learning. The constraints faced are the various regional conditions in Indonesia that cause not all areas to be covered by internet services (Khasanah et al., 2020), the limited ability of parents to provide online education facilities (Obiakor & Adeniran, 2020), the readiness of technology infrastructure, resources human, and systems management (Susilowati, 2020). Not only are students required to be able to follow new learning patterns, but educators are also required to carry out the maximum modification of learning.

In practice, online learning requires educators and students to interact and transfer knowledge online (Herliandry et al., 2020). One of the activities carried out by the teacher during both online and offline learning is presenting the material. In online learning, the material's presentation is the central part that the teacher must pay more attention to achieve learning objectives. This becomes a challenge for every teacher to convey an understanding of the subject matter to students in virtual situations where educators and students cannot directly interact face-to-face. Not only that, the teacher's ability to carry out learning is demanded to increase when they must be able to present mathematics learning virtually. In face-to-face learning alone, mathematics gets a terrible stigma from students, where mathematics is considered a difficult subject (Rahmah & Abadi, 2019), is feared by students, is boring, and full of calculations, so that students show a lazy attitude to learn mathematics. Even teachers have difficulty. In this case, the teacher reveals that mathematics is a difficult subject to teach students (Fauzi et al., 2020). Elementary school students also consider mathematics difficult (Herwin et al., 2019; Wijaya et al., 2019). Therefore, teachers are pressed to have the skills to present learning material in new ways through approaches, strategies, methods, or learning models that are adapted to online learning to restore the image of mathematics lessons so that they are not feared and re-interested by students.

In addition to improving skills in presenting learning material, another important thing that teachers must improve in terms of adapting online learning is to assess learning outcomes digitally. It is undeniable that *culture shock* occurs in the pattern of delivering learning to students and occurs in learning assessment patterns. Various instructional evaluation practices have been adopted in response to the emergence of the Covid-19 pandemic and have become part of new habits in education. The evaluation of the learning curriculum has been replicated a lot, and one of them is about the learning assessment process. This is in line with the opinion (Cahapay, 2020), which states a large-scale replication of instructional evaluation to the online evaluation. Changes in the application of online evaluation

are the existence of learning assessments in the form of synchronous and asynchronous. The synchronous form requires teachers and students to work together within the set time to carry out assessments through online applications such as Zoom or by telephone, where teachers can provide real-time assessments to students (Cahapay, 2020). Assessment of learning during a pandemic can also be done using the Quizizz application (Darmawan et al., 2020) and Kahoot! (Ismail et al., 2019; Purba et al., 2019; Rachman et al., 2020). The use of these two applications can be another alternative in assessing learning synchronously. Simultaneously, the asynchronous form does not require students and teachers to interact online directly in the same time and space.

Based on the research that has been done previously, the scale used in the process of assessing learning outcomes has changed. Forbes observed that since the Covid-19 pandemic occurred, many schools decided to change their rating scale from quantitative to qualitative such as a "pass" or "fail" system (Farrington, 2020). This is indeed supported by good intentions that do not want to be too burdensome to students, but this has also been debated because the advantages and disadvantages of the rating scale can affect the context of student motivation. Dilanchyan (in Cahapay, 2020) criticized that these changes would reduce students' motivation to get high grades. Such an assessment system is also often seen as a construct of "leniency error" assessment where teachers tend to be considered too "generous" because students are given high passing scores (Brookhart & Nitko, 2019). The transition and adjustment of the online learning assessment system in today's situation cannot be avoided. However, educators are still encouraged to be able to use quality learning assessment alternatives.

Through the Regulation of the Minister of Education Number 4 of 2020 concerning the implementation of educational policies in the coronavirus pandemic emergency phase, the Minister of Education Nadiem Makarim has provided an overview of learning assessments on the online learning system, which is contained in 4 main points. First, learning is carried out at home (*study at home*) by implementing distance learning to provide a learning experience without the burden of completing curriculum targets and class advancement or graduation. Second, distance learning can focus on life skills education, such as about Covid-19. Third, student activities and assignments can vary according to their interests and conditions, including learning gaps and facilities at home. Finally, evidence or product activity must be given qualitative and useful feedback without providing a score or quantitative value (Yulia, 2020). Even though they have got this description, few teachers still have difficulties regarding the implementation of digital assessments in online learning during the Covid-19 pandemic.

Based on the previous premise, this study will examine alternative assessments during the pandemic that had already existed and were carried out by several previous researchers. However, the discussion of these alternative assessments only focuses on using digital platforms as a tool for conducting learning assessments. The study aims to determine teachers' difficulties in assessing learning and exploring alternative assessments of learning used by teachers during the pandemic.

Methods

This study uses a qualitative approach, where the qualitative approach focuses on certain individuals, events, and contexts that provide an idiographic analysis style, is expressed in natural language, uses a small sample, and refers to cases selected purposively or opportunistically (Dowling et al., 2016). The purpose of this study was to find out the difficulties experienced by teachers in conducting learning assessments and to explore alternative learning assessments used by teachers in learning mathematics during the pandemic. The research design used in this study is phenomenology. Phenomenological research design describes the general meaning for several individuals or their experiences regarding a phenomenon or concept (Creswell & Poth, 2016). The phenomenon studied in this study is about the constraints and alternatives for assessing mathematics learning in elementary schools during the pandemic. The phenomenon is then reduced to a description of the universal essence.

This study involved 32 teachers in several elementary schools in Bandung City, Bandung Regency and Ciamis Regency. The research subjects were elementary school teachers in low and high grades. Data collection in this study was carried out through questionnaires for teachers and field observations in the online learning process. The questionnaire used in the data collection process was compiled based on research instruments that have been validated by experts and obtained an Aiken coefficient value of 0.742. This means that the instrument used is valid. The research instrument was

created to explore the obstacles experienced by teachers in conducting assessments and to see what alternative assessments were used by teachers in learning mathematics during the pandemic.

Data analysis in this study was carried out descriptively from the data found by the questionnaire instrument and observation instrument. This descriptive analysis technique uses the analytical technique of Miles et al. (1994) which contains the stages of data reduction, looking for relationships between themes, and verification. The theme referred to in this qualitative research is the unit or the result of the reduction of extensive information regarding the constraints and alternatives for assessing mathematics learning in elementary schools during the pandemic period obtained from the process of collecting data from questionnaires. The information that has been reduced to the theme is then reduced again so that it becomes the final narrative in the conclusion.

Results and Discussion

This study's results were obtained from data collection through distributing questionnaires to a sample of research subjects who were elementary school teachers in both low and high grades. There are two main findings obtained from this study: the difficulty of teachers in assessing mathematics learning in the pandemic era and assessing alternative mathematics learning used by teachers in the pandemic era. The results obtained from distributing questionnaires and field observations on a sample of research subjects contain themes described in detail in the discussion below.

Description and Difficulties of Teachers in Assessing Mathematics in the Pandemic Era

The first findings in this study were obtained from the results of data analysis (Figure 1 and Table 1) regarding teachers' description and difficulties in assessing mathematics learning in the pandemic era. Based on the analysis results, most teachers found it challenging to assess mathematics learning in the pandemic era. Also, more than 50% of teachers think that the assessment of mathematics learning in the pandemic era is ineffective.

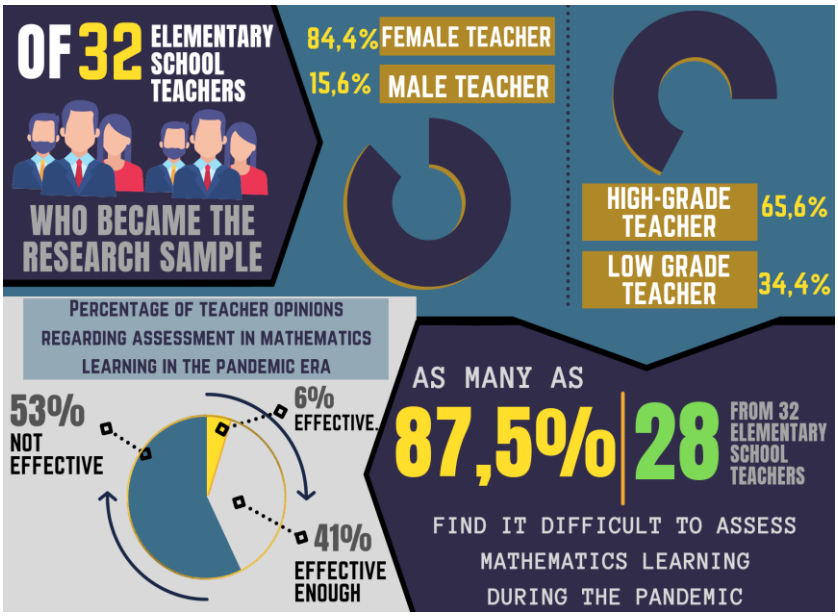

Figure 1. Description and Difficulties of Teachers in Assessing Mathematics in the Pandemic Era

Most primary school teachers, both high-grade and low-grade teachers who were the study sample, stated that they found it challenging to assess mathematics learning in the pandemic era. This is because, in the pandemic era, objectivity in assessing mathematics learning is questionable. Moreover, most of the teacher's assignments are not done individually by students based on their understanding of concepts but instead are done by their parents, other people, or searching for answers on the internet.

Also, the teacher argues that the delivery of online learning material that is not optimal is one of the causes of the difficulty and ineffectiveness of implementing learning assessments in the pandemic era. Not all elementary school students have the facilities and infrastructure to support the implementation of online learning. All the conditions that cause the delivery of mathematics learning materials to be less optimal online then impact students' attitudes and motivation to learn mathematics. Based on the

survey results, not a few teachers complained about their lazy attitude towards learning and being lazy to do assignments to students that appeared during distance learning. This is what then becomes the reason for many parents who end up doing student math assignments. Such conditions cause the emergence of a prolonged dilemma for teachers regarding implementing mathematics learning assessment in the Pandemi era. Both low and high student math scores, in the end, cannot be used as a reference for the achievement of students' abilities as long as the objectivity of the assessment is still questionable.

Table 1. Teachers' Difficulties in Assessing Mathematics Learning in the Pandemic Era

Response	Themes	Conclusion
It is challenging to conduct an objective assessment because most of the tasks are done by parents. Students' answers are assisted by parents or ask questions on google. Students do not understand the concept. Do not know as a whole whether the child understands the concept of the material presented.	The majority of teachers find it challenging to assess mathematics learning because the assignments given to students are not done individually based on their understanding of concepts but instead are done by their parents, other people, or searching for answers on the internet.	Submission of online learning material that is not optimal and parents who replace their children in doing math problems/tasks is the cause of teachers' difficulty in assessing mathematics learning objectively. Abstract Title Keyword Subtitle 1 Paragraph Figure Title
The concept of learning mathematics that low-grade students poorly understand causes the online learning process to be not optimal so that the scores obtained are a lot of the results of parental assistance than children who do the assessment results. Inadequate facilities and infrastructure. Children do not master the material. Many children do not know the basics of mathematics, especially during this pandemic, so that many math scores are low. Most children become forgetful and lazy to learn during a pandemic.	Submission of less than optimal mathematics subject matter causes a lazy attitude to learn and work on math problems/assignments so that teachers find it challenging to carry out learning assessments and impact low mathematics scores.	

Alternative Assessment of Mathematics Learning in the Pandemic Era

The second finding in this study was obtained from data analysis results (see Figure 2 and Table 2) regarding the alternative assessment of mathematics learning used by elementary school teachers in the pandemic era. Based on the analysis results, the majority of teachers made a transition in assessing mathematics learning in the pandemic era, which was then followed by making some modifications in the mathematics learning assessment process. More than 50% of teachers thought that the alternative assessment of mathematics learning in the pandemic era was right.

Most of the primary school teachers who were the research samples made a learning assessment transition to adapt to changes in learning patterns in the pandemic era. In the transition process, the teacher made several modifications related to learning assessments. Based on the questionnaires and direct observation results, the assessment of mathematics learning that teachers usually did before the pandemic era was formative, summative, and portfolio assessments in class directly. The teacher usually tests the students' ability in front of the class or provides an evaluation sheet at the end of each lesson. However, after the pandemic era, most teachers changed the assessment to formative and summative assessments in a digital format with a focus on assessment on the cognitive and psychomotor domains only.

Several learning platforms such as google form, WhatsApp Group, google meet, zoom, and other platforms are alternatives for teachers to transition to mathematics learning assessments. Assessments are also carried out in new ways for both students and teachers, such as doing face-to-face (synchronous) tests, making daily tests in e-forms (asynchronous). However, besides modifying the assessment tools and techniques to be digital, some teachers still do alternative assessments by giving structured assignments to students that can be carried by parent representatives in each zone to be done by students

in their respective homes. The teacher will give a specific deadline for each assignment given to students. After students have finished working on the assignments, the assignments can be collected again through parents' representatives in each zone to be submitted to the teacher and assessed. The teacher argues that collecting student assignments like that can overcome obstacles in implementing online learning, where not all students have adequate facilities and infrastructure to carry out online learning.

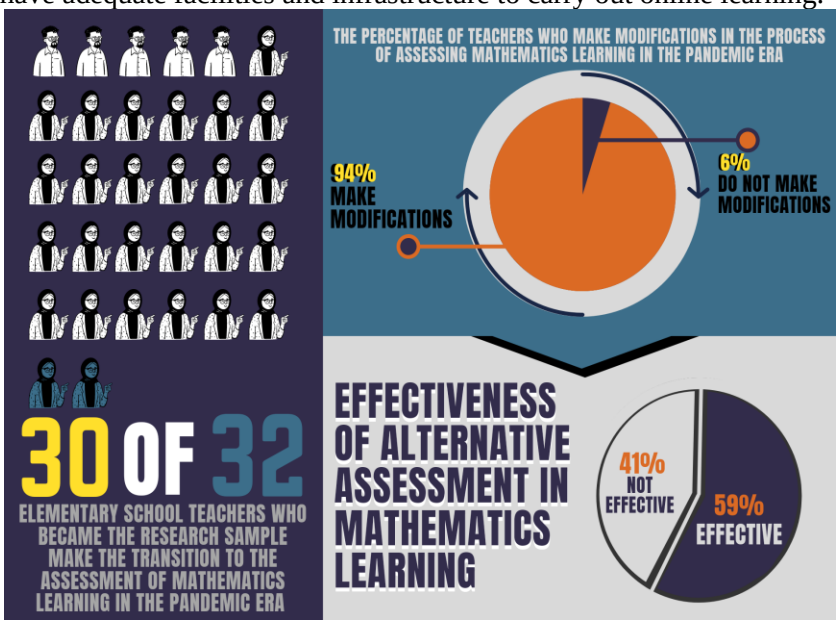

Figure 2. Alternative Assessment of Mathematics Learning in the Pandemic Era

Table 2. Alternatives for Assessing Mathematics Learning in the Pandemic Era

Response	Themes	Conclusion
Questions are given via google form on WhatsApp Group, and the scores are only seen after the students have finished working on them. The teacher delivers online learning by providing material explanations through videos distributed to parents and students through a discussion forum, namely the WhatsApp Group. The teacher gives assignments to students, and students also send answers to the results of their respective thought patterns via video by way of direct explanations of these learners. We are giving daily assignments and daily tests based on the material presented via learning videos or online. Give assignments and ask questions to students via video call.	The majority of teachers conducted alternative assessments in mathematics learning in the pandemic era by using various digital platforms such as google form, WhatsApp, and video calls.	Teachers have carried out various alternative assessments in mathematics learning in the pandemic era, both by facilitating learning assessments through structured assignments and changing the form of assessment to digital assessments.
Once a week, the teacher asks parents of students to come to school with questions that they will work on later. Provide structured assignments for later assessment and submission at agreed times. We are collecting assignments by representatives of each zone. The teacher gives the students worksheets to do in their respective homes, then collects them after completing them.	Some teachers made an alternative assessment of mathematics learning in the pandemic era by providing structured assignments for students to do in each zoning within a certain period.	

In line with the transition and modification of mathematics learning assessments carried out by elementary school teachers in the pandemic era, the assessment components have also undergone slight changes. If before the pandemic, aspects of learning assessment focused on cognitive, affective, and

psychomotor aspects. In this pandemic era, teachers focused on assessment in the cognitive and psychomotor domains only. According to the teacher, assessment in the affective domain is difficult to do because the teacher cannot directly observe students' attitudes during the learning process.

More than 50% of the primary school teachers who were the study sample thought that the alternative assessment in mathematics learning was correct. This is because the two forms of alternative assessments that have been carried out can facilitate students from all economic backgrounds.

Discussion

Covid-19 is the biggest challenge faced by the national education system (Daniel, 2020). The era of uncertainty caused by the covid-19 pandemic has brought the world of education to a novelty in running the education system. The pandemic era has indeed brought a new period to the curriculum (Cahapay, 2020). As a form of adaptation, the learning curriculum has been widely replicated. Not only in the process of delivering learning material, but replication also occurs in learning assessment patterns. In fact, in the learning assessment pattern, during the Covid-19 pandemic, there has been a massive replication of instructional evaluations to online evaluations in educational curricula (Cahapay, 2020).

Even though the Ministry of Education and Culture has guided on things that must be prepared in organizing the online learning process, the changes related to the delivery of material and assessment in online learning are still many complaints from teachers. In research conducted by Utami and Cahyono (2020), it is stated that the lack of interaction between teachers and students in the process of providing subject matter is the main difficulty that causes a dilemma in providing an objective assessment of learning, especially in mathematics. In fact, during the current pandemic, communication with students is the primary key to learning with online media. Difficulties in the learning process must be communicated immediately not to miss lessons (Sudrajat, 2020). This lack of interaction can impact the delay in the formation of assessments and reasoning in mathematics lessons in the learning and teaching process so that during online learning during the pandemic, students' mathematics learning outcomes have decreased. However, if examined, the difficulties experienced by the teacher originated from the teacher himself.

As a teacher in carrying out their roles and functions, they are expected to have qualifications, one such as pedagogic competence, namely the ability or skills of the teacher in managing and organizing learning or teaching and learning interactions such as preparing and delivering material clearly to students (Rasidi & Setiawati, 2015). Law No.14 of 2005 on Teachers and Lecturers states that one of the competencies that teachers must have is pedagogical competence. Managing or organizing learning has become a daily habit of teachers when doing face-to-face learning directly. However, when face-to-face learning undergoes a transition to virtual face-to-face learning, the ability to manage and organize learning becomes something new for teachers. Especially for elementary school teachers who can do face-to-face learning, the condition of online learning in the pandemic era has led to unpreparedness in preparing for learning (Rigianti, 2020). In online or face-to-face learning, managing and organizing learning must be accompanied by skills in using technological devices. To convey the subject matter clearly in virtual face-to-face learning, many things must be prepared by the teacher, and everything is related to technology. If during face-to-face learning, the teacher only needs to bring learning resources and media to the class, then during face-to-face learning, the teacher must be able to replicate these learn-ing sources and media into digital forms they can still be seen and accessed by students. The teacher complains about inaccuracy in interacting with students and is the first difficulty felt in online learning. The teacher's lack of mastery of technology will affect the level of fluency in online teaching and learning activities and the long-distance student mentoring process (Ningsih et al., 2020). Many teachers in this assessment said that one of the causes of the difficulty of implementing online learning, especially mathematics lessons, which then impacted the student assessment process, was inequality in the provision of the subject matter. This causes students' reasoning in mathematics to weaken so that the results of the mathematics learning assessment decrease during online learning.

Also, teachers' difficulty in assessing mathematics learning in online learning is that many students show a lazy attitude in learning mathematics. Based on the results of Utami's research (et al., 2020), one of the causes of laziness in learning mathematics is because the concept of e-learning is not easy when compared to a face-to-face learning system. The lazy attitude of learning mathematics causes every assignment and test that the teacher gives students to be done by their parents or other more mature people. Teachers need to carry out learning assessments objectively according to students' abilities.

Assessment models can impact and improve mathematics learning outcomes (Yusron & Sudiyatno, 2021). The teacher carries out not all aspects that are assessed during online learning. The findings in this study stated that teachers focused more on assessing learning in the cognitive and psychomotor domains during the pandemic. Based on the 2013 Curriculum, the assessment of learning activities must include cognitive, affective, and psychomotor aspects. Assessment of the affective aspect becomes a difficulty for teachers because it is usually done naturally when students communicate, interact, and socialize with friends in class (Rigianti, 2020).

There are three principles in conducting learning assessments: meaningful, transparent, and fair (Rigianti, 2020). However, as long as online learning was carried out during a pandemic, the fair principle seemed to have lost its meaning. Research conducted by Rigianti said that during online learning, all students obtained maximum scores when given questions. This is a good thing but becomes a question for the teacher. The teacher questions these students' learning outcomes, whether it is based on their understanding of the subject matter or students get help from adults when doing assignments. In another study conducted by Utami & Cahyono also stated about the problems in learning mathematics online, including because the objectives or targets of online learning of students towards mathematics lessons are still limited to obtaining satisfactory grades, not the abilities they should improve, and there are still students who gave up on math e-learning assignments when things got tough (Utami & Cahyono, 2020). The findings in this study prove that the situation that occurs during online learning is that teachers cannot objectively assess learning achievement according to students' abilities.

Even though the teacher experiences difficulties in providing an objective assessment of mathematics learning, the teacher continues to try to solve the problem by presenting an alternative assessment of mathematics learning. An alternative assessment carried out by teachers is to conduct digital assessments by utilizing various learning platforms, such as google form, WhatsApp, and teleconference applications. The teacher also provides structured assignments for students to do in each zone within a certain period. Other studies have revealed that apart from utilizing google Forms, WhatsApp, and teleconference applications, teachers who have more technical skills take advantage of other digital evaluation platforms such as Kahoot! (Ismail et al., 2019; Purba et al., 2019; Rachman et al., 2020), Quizizz (Darmawan et al., 2020), Google Classroom (Gunawan et al., 2020). However, regardless of what digital platform is used, the main goal is to carry out alternative learning assessments in the pandemic era synchronously and asynchronously.

An alternative learning assessment where the teacher prepares structured assignments for students to do in each zoning within a certain period is done as another solution for students who do not have the facilities and infrastructure to support online learning, as reported by Pangondian et al. (Jamaluddin et al., 2020) which states that among the factors that are key to the success of online learning is the availability of facilities and infrastructure. As it is known, the conditions of Indonesia's territory vary, so not all areas can be reached by internet services (Khasanah et al., 2020). Online learning during a pandemic cannot run effectively because it is constrained by factors supporting its effectiveness requiring adequate network access (Hamid et al., 2020). It is undeniable, not all parents of students can provide devices as online learning facilities. Apart from the limited ability of parents who can provide online learning facilities, an alternative learning assessment by preparing structured assignments for students in each zone is based on some students' limitations in accessing the internet correctly.

Conclusion

Teachers' difficulty in assessing learning in the pandemic era and alternative learning assessments used by teachers in learning mathematics in the pandemic era. In general, teachers have two difficulties in assessing mathematics in the pandemic era, the difficulty of providing an objective assessment of students' mathematical abilities. Second, the difficulty of conveying mathematics material optimally to students resulted in low math scores during the pandemic. The difficulty of providing an objective assessment of mathematics learning is based on the number of assignments given by the teacher to students instead of being done by parents or other adults. In contrast, inequality in delivering mathematics material is the cause of laziness in learning mathematics because students do not understand the mathematical concepts resulting in low test results.

Then, in an adaptation effort related to online learning, the teacher prepared several alternative learning assessments. Based on the research results, there are two alternative assessments of mathe-

matics learning by the teacher. First, the teacher conducts digital assessments by utilizing several learning platforms such as Google forms, teleconference applications, and WhatsApp. Meanwhile, to facilitate students who do not have adequate online learning facilities and infrastructure, the teacher provides structured assignments to parent representatives in each zoning to be carried out by students in their respective homes with a specific deadline. The assignment is usually carried out within one week and then returned to the teacher to assess.

The results of this study show an overview of the difficulties of teachers in assessing mathematics learning in the pandemic era and alternatives to assessing mathematics learning used by teachers in the pandemic era. Therefore, researchers suggest further research to develop assessment instruments that can facilitate online learning assessment in the pandemic era.

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