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Using Mentimeter for Eliciting the Students' Responses in Formative Assessment Practice

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ABSTRACT

Eliciting students' responses in formative assessment is very crucial. Eliciting their responses in a traditional way, which is a question and answer style makes the students reluctant to give their responses. Traditionally, teachers rise a question verbally to the students as a practice of formative assessment and they are asked to raise their hand if they want to give a response toward the teachers' question. This way of delivering formative assessment makes many students hesitate to give their responses because they are afraid of making mistakes. To overcome this case, Mentimeter as one of the online websites of Student Response System (SRS) was believed to relieve the students' fear of giving responses because this application provides anonymity in eliciting the students' responses. This study investigated how Mentimeter was implemented and how the students' perspectives in using Mentimeter for formative assessment. This research employed a qualitative design. The research involved a teacher and twenty-five students of junior high school in Jombang, Indonesia. The data were collected through observation and interview. The results showed that the use of Mentimeter in eliciting the students' responses in formative assessment helped to overcome the students' fear of giving responses.

Keywords: formative assessment, students response system, mentimeter

1. INTRODUCTION

Having formative assessment at on-going teaching and learning process is necessary. It aims to know the students' understanding of the lesson being taught. Generally, teachers rise some questions verbally as a practice of formative assessment. Then, students traditionally give responses to the teacher's questions by raising their hand. However, some of students hesitate to raise their hand because they tend to afraid of making mistakes and turn out to be a center of attention. They frequently feel nervous of making attention, stating opinion, or giving the wrong answer [1]. Besides, the classmates' sentiment also makes them discourage to raise their hand in giving responses to the teacher's questions. Consequently, it makes the students inactive during the discussion in teaching and learning process. Then, it becomes problematic to the teacher to measure their understanding.

Regarding to this case, teacher needs an innovative way to deliver formative assessment. One of the innovative ways that the teacher can use is a Student Response System (SRS). SRS is a platform offered by the advancement of technology, involving offline and online. Scholars assert that SRS is an attractive teaching tool that allows swift assessment in small, medium, or large classes [2]. This feature allows students to interact during teaching and learning process in anonymous and attractive way [3,4]. Anonymous way means the students can participate in giving response without other classmates or teacher knowing their identity [5]. So, it can diminish the students' anxiety and increase their willingness in giving responses.

Some literatures report that SRS increases student attention, interaction, and engagement in learning process [6,7,8]. Besides, the implementation of SRS shows more positive impacts than traditional ways of giving and responding questions, it shows that the students become more active and less students' absence in responding to the teacher's questions [6,5]. In other words, SRS effectively helps the students to overcome their faintness in giving responses to the teacher's question.

Then, one of the applications that applied SRS is Mentimeter. It is an online learning platform that provide teachers to elicit students' responses in an anonymous way. This application offers a flexible and various way for students to response using their device such as mobile phone, I-pad, Laptop or computer [9,10]. Since the students give responses in the anonymous way, it can sustain the students' engagement during the activity of formative assessment. Besides, the various formats

offered by this application support the teacher to solicit students' opinions in form of close ended and open-ended questions.

Mentimeter as a Students Response System (SRS) is believed to be one of the effective ways to assist teachers in eliciting the students' responses. A previous study has investigated the use of Mentimeter for collecting students' responses in the English for Specific Purposes (ESP) and English for Academic Purposes (EAP) classrooms [10]. The study reports that the use of Mentimeter in the EAP/ESP classroom gives potential benefits for the teachers and students, such as increasing interaction and engagement. But, the study lacks of investigating how to implement it and how the students' perception of using Mentimer for assessing their learning. Thus, to fill this gap, this present study was aimed to investigate how Mentimeter was implemented and how students' perceptions in using Mentimeter for eliciting their responses in formative assessment.

2. LITERATURE REVIEW

Formative assessment, in the field of teaching and learning, can be a useful aspect for the teachers and students. For the teachers, it can be as a consideration to give or develop instructions for the next material. Besides, it helps the teachers to decide whether the teaching should move to the next material or stay in the same material [11]. Meanwhile, for the students, formative assessment can be used as reflection for themselves in having the next lesson.

Defining formative assessment, literatures define formative as a mean of shaping or forming the students' capabilities and skills with the purpose of supporting them to continue the process of development [12,13]. Formative assessment is an assessment given during or ongoing process of students' learning [13,11]. It is used to monitor how well that learning process is working [14] and how far the students have mastered the lesson being taught. Furthermore, formative assessment aims to know how well the students understanding and mastering the material being taught without any grades [14]. In conclusion, formative assessment delivers for checking the students understanding and mastering before moving to the next material.

Formative assessment can be done by using paper-based or computer based or delivered verbally by the teacher. Each of the way mentioned has their own merit and demerit. But, delivering formative assessment verbally such as raising question directly to the class may emerges a problematic issue for the students and teachers. For the students, as common action in Indonesia, raising hand in responding the teacher's questions is needed. It aims to prevent over speaking in the class. Subsequently, raising hand is used as a clue that they want to give responses. However, such this conventional technique of responding teacher questions makes many students reluctant to raise their hand [15]. They hesitate to raise the hand because they feel nervous, afraid of making mistakes, and panic when they become the center of attention. Thus, become matter for the teacher because it will be difficult to assess them and the class will be passive and silent.

As described in the previous paragraph that formative assessment considers as important aspect for the students learning. The students could use the feedback from the teachers and peers in formative assessment as reflection for further learning. Many scholars have investigated the issues of formative assessment [16,17]. These researches report that formative assessment can lead to improvement in learning within the context of the teaching and learning process. However, the feedback will not be gotten by the students if they tend to worry of responding the teacher questions because of raising hand.

Considering this case, teachers need an alternative way to empower the students who tend to reluctant in responding to their questions. Subsequently, eliciting the students' responses in an anonymous way can be one of the alternative solutions that teachers can use to overcome the students' reluctance to respond to the teachers' questions. So, the students do not need to worry about making mistakes. In the past, teacher use Card Response System (CRS) [18] to collect the students' responses in order to prevent students' absence in gi ving comments or answer to the teachers' questions. But, in this modern era, the advancement of technology offers online website that can elicit students' responses in anonymous ways called Mentimer. Menitimer as Students Response System (SRS) is an online web-site that can support the students to give responses in anonymous way. This SRS is believed can help increasing the students' willingness in giving responses and decreasing their anxiety. Thus, conducting research dealing with empowering students' reluctant in giving responses by Using Students Responses System (SRS) for formative assessment may give new insight to English teachers and education practitioners in general.

The use of SRS in formative assessment gives many benefits for teachers and students. It allows the teacher to recognize concepts and instructions that required further explanation and also the students would profit from using this formative feedback in their on-going learning process [4]. Besides, the integration of SRS could improve formative assessment. The SRS assists the students to give responses in anonymous way so they will not more hesitate in giving responses. They could use their mobile phone, I-pad, laptop or computer in collecting their responses. Consequently, the opportunity of the students' absence in giving responses will be less.

There are various online digital alternatives of SRS proposed by the advancement of technology. These digital systems offer diverse ways for students to give response using their smartphone or computer. The SRS

includes Poll Everywhere, GoSoapBox, Kahoot, and Mentimeter. These applications provide a format of giving responses in anonymous ways [19]. However, these applications have individual advantages and limitations. Poll everywhere and GoSoapBox have a diverse range of questions formats, but the free version of Poll Everywhere limits the number of participants to 25 and GoSoapBox to 30 [10]. This application will not applicable in Indonesian class as the number of the students are generally more than 30 students. Then, Kahoot provides a game-based learning platform with generated multiple-choice quizzes. It has limitations in the types of questions format. However, Mentimeter provides a wide range of questions format and unlimited number participants. Due to this wide range question formats and unlimited number of participants, it is believed that Mentimeter has greater potential in eliciting the students' responses in formative assessment.

There are some related studies deliberating the use of SRS and Mentimeter. The first was a study from [20]. The study was aimed to discover the use of Classroom Response System (CRS) another terminology of Students Response System (SRS) to increase classroom Interactivity. This study conducts a mixed-method study. A post-test and pre-test design were used to examine the effects of a CRS on interactivity in the classroom. The result of the study shows that CRS can significantly improve classroom interactivity.

The second study was written by Mork [21]. This study aimed to investigates the use of Students Response System (SRS) in Japanese EFL classrooms. The technology used of SRS was Socrative. The study asserts that the use of Socrative in their process of teaching and learning is generally perceived positively. The survey of enjoyment showed that most of the students were enjoyed using Socrative. They found that Socrative is user-friendly and is believed to be useful for their English studies.

The third related study is written by Vallely and Gibson [22]. The study reports the advantages and disadvantages of using Mentimeter. The advantages of using Mentimeter are creating friendly environment during discussion to the students because they can contribute to give responses in non-judgmental environment as they give responses anonymously and enabling teacher to develop and shape learning material and assessment. Then, disadvantages of the use of Mentimeter are; the students unable to retrieve or edited their responses once they have submitted their answer and it is difficult to measure who does not understand to the lesson being taught because they vote anonymously.

Those are some researchers relate to the use of SRS and Mentimeter in the teaching and learning process. Those researchers investigate the use of SRS and Mentimeter in increasing the students' engagement and enjoyment during teaching and learning process.

However, this research investigated the use of Mentimeter for eliciting the students' responses in formative assessment

3. METHOD

This present study used qualitative approach [23]. It aimed to investigate how teacher implemented Mentimeter for eliciting students' responses in formative assessment and how was the students' comment and response toward the use of Mentimeter. The data were collected through an observation and interview. An observation was done during teaching and learning process using Mentimeter for delivering formative assessment. While conducting an observation as nonparticipant observer, the researcher took field notes for documentation.

Semi-structured interview was done to know the teacher's view and the students' comments and response toward the use of Mentimeter for eliciting their responses in formative assessment. The researcher, during the interview session, remained free to build a conversation, to explore, and to investigate into information that would elucidate and illuminate the research. Teacher and students were interviewed in their first language (Bahasa Indonesia) by the researcher in order to make friendly environment during interview. With the approval of the information, all the participants were recorded and transcribed. It was transcribed into English.

The participant of this study was the teacher and students of year eight in one of junior high school in Jombang, East Java, Indonesia. They are an EFL teacher and twenty-five students involved in this study. They were selected as participant by using purposive sampling.

In analysing the data there were some steps done by the need of the test and the teacher preference. There are various types of question and quiz slides that the teacher can the researcher adapted from Hacth and Farhady [24] procedures. There were collecting data, coding the data, customization options, which are worth looking at when it has displaying the data, and drawing the data. The data were collected through an observation and interview with both the teacher and students. For the interview data, it was transcribed verbatim. Moreover, to ensure the validity of interview transcripts [25], the data was showed back to the participants for confirmation and validation.

The participants were requested to elaborate their comments and remarks to confirm that the transcripts accurately reflected their points of view. After the verification and validation of interview transcripts. An inductive analysis was employed in which pattern, themes, and categories of analysis [23] were extracted from the data. Initially, the researcher read the transcripts to formulate a tentative understanding. Then, in subsequent reading, the researcher attempted to confirm

the understanding. As a part a part of verification, the researcher reread the data and initial categories have revised as a result of several verification.

Displaying the data was done after completing the two previous steps. The data were displayed in the term of narratives. Afterward, the researcher made an interpretation of the result by reflecting personally on the impression of the findings and the literatures that could enlighten the findings.

4. RESULT AND DISCUSSION

4.1. The Overview of The Implementation of Mentimeter

Mentimeter is an online website of Students Response System (SRS) that teacher can use to create interactive presentations of the question for formative assessment. It provides real-time input from students with live polls and quizzes. It is available in all web browser. Teachers and students can access it by using computer or mobile phone. Teachers can create the questions for formative assessment in term of polls, quizzes, or world could. In creating the test there are some steps that should be followed by the teachers. The first is registering an account. The second is choosing the types of questions format. The third is typing the questions in the format chosen. The forth is displaying the questions to get code.

Firstly, the teacher needs to register in the official website of Mentimeter to have an account for creating the test presentation of the formative assessment. It is available in *https://www.mentimeter.com/* (Figure 1).
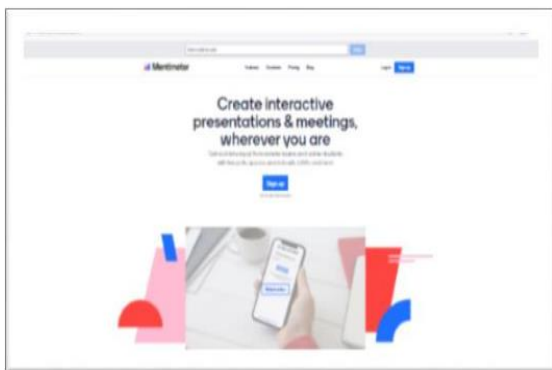

Figure 1 Mentimeter Registration form

Once the teacher has registered in the website, the teacher can make new presentation for delivering the test. Teacher could make more than one type of presentation format depends on the need of the test and the teacher preference. There are various types of question and quiz slides that the teacher can choose (see Figure 2). Each of these types have their own customization options, which are worth looking at when it has been created.

Teacher could use up to three quiz slides in a presentation. If the teacher wants to make more questions, teacher need to make other new slides. Then, teacher can specify as many correct answers as the teacher wants, and set the amount of time the teacher wants students to answer the questions. When the teacher set a certain amount of time for students to answer, it would stop directly when the time was passed. The next the teacher need to type the test in the format slide that has been chosen (Figure 3).
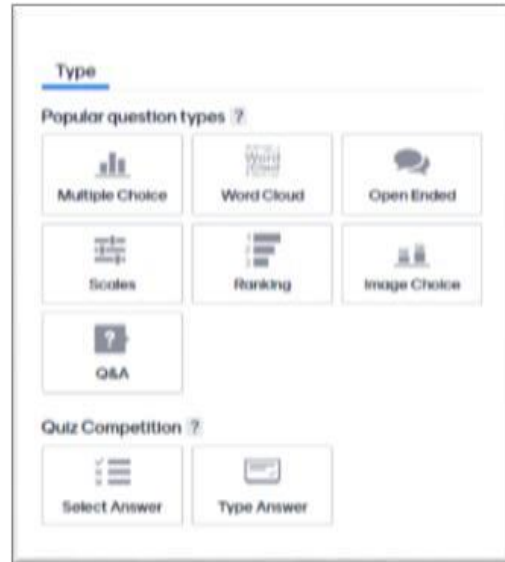

Figure 2 Types of the Slides

Figure 3 The Slide Format for Typing the Test

After inserting the question to the format slide, teacher can choose the type of the result display. For multiple choice format slide, it can be displayed inform of bars, donut, pie, and dots. After the three steps has been done. The teacher could show the presentation using the class computer or projector.
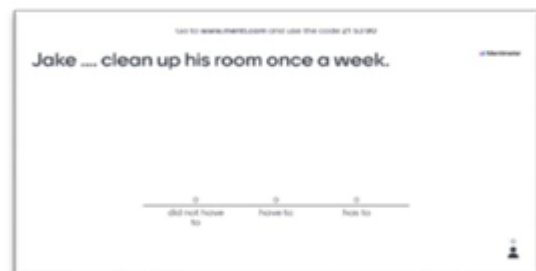

Figure 4 Mentimeter Presentation Form

When the presentation appears, the application instantly shows a unique code (see figure 4). The unique code is used for the students to enter to the application and to give responses to the teachers' questions displayed in the presentation. After the students have the code, they can go to https://www.menti.com/ on their device and enter the code to join the presentation in their device. By using this code, the students do not need to have account to join the teacher's presentation. They would directly enter to the teachers' presentation after entering the code. Once they have joined the teacher presentation, the questions prepared by the teacher would appear. In this time, the students require to type their responses
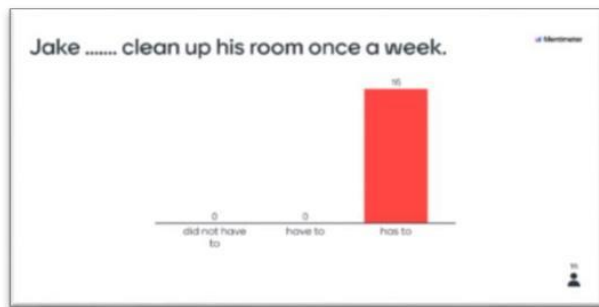

Figure 5   The Result of the Students' Responses Display

Then, their responses directly showed on the teachers' screen or projector (see figure 5). However, the students' responses remain anonymous. So, the students have not to feel worry toward their responses. They could give their responses confidently without thinking of the sentiment of the peers. But they could not edit their answer once they have submitted their responses. Teacher could move to next question after all the students have submitted the responses for the previous question. At the end of the presentation, all responses are directly saved on the system and the teacher could download it for assessment data.

4.2. The Implementation of Mentimeter for Formative Assessment

Implementing Mentimeter for formative assessment helped the teacher to make attractive and effective test for the students. Besides, it could increase students' engagement in the assessing process and provide direct feedback on their comprehension of the lesson and support the active involvement in the learning process by discussing the responses given to the questions [26,27]. However, a study argues that using Mentimeter for assessing students learning did not improve students' learning outcomes [28]. In other word, the use of Mentimeter in formative assessment increases the students' self-willingness and engagement in giving responses but it does not increase the students' learning outcome.

Furthermore, there were a number of beneficial impacts found in implementing Mentimeter for eliciting

the students' responses in formative assessment. First, the students were more accountable to collect their responses as teacher could monitor how many students has collected responses. So, it would avoid the students' absence in giving responses to the teacher's questions. Second, the anonymity served by Mentimeter helped the students to overcome their fear of giving responses. This finding is in line with Sullivan [29] study, it reported that collecting students' responses in anonymous way assuaged students' anxiety of awkwardness in front of their peers and teachers. It can be stated that Mentimeter can effectively help the students to decrease their distress of giving responses toward the teacher's question. Third, immediate result displayed of students' responses could help the students determining their understanding of the lesson discussed. It supported by the findings on Bartsch and Murphy [3] research. They stated that students were better in doing determination whether they understand or not toward the lesson being taught by considering the cumulative result of all the students responses displayed in teacher's screen.

Despite of the benefits of the implementation of Mentimeter, there were challenges faced by both the teacher and the students. The challenges are technology-based challenges, teacher-based challenges, and students-based challenges. First, technology-based challenges, the teacher and students got lost of the network connection and the server was down during the implementation of Mentimeter since Menitmeter is online SRS offered by website engine. Second, teacher-based challenges, there were some aspects that the teacher needed more attention in implementing the Mentimeter, such the content of the questions. It could be the challenges for the teacher because it needed more effort to prepare before delivering it to the students. This is consistent with the finding of Campbell and Monk's study [30], teachers demand to be more creative and innovative in delivering the questions for formative assessment. The questions should allow the students to establish their understanding at the time they answer the questions. Furthermore, the teacher had to make sure that there was no lack of content coverage. Besides, the teacher should also have a plane after having the students' responses, such as what will be done next, what is going to be discussed next with the result of responses. It prevents from lack responses in discussing the students' responses. The last, students-based challenges, the students were unfamiliar to Mentimeter so they faced difficulties and fell confused in operating it. Therefore, it needed time to introduce it to the students before utilizing it.

Another challenge of the use Mentimeter dealt with the cost. The teachers and students need devices (i.e. smartphone, iPad, Laptop, computes) for supporting the activity which needs amount of charge for acquiring it. Besides Mentimeter is not free online platform so it needs amount of money to subscribe it. If the teacher utilizes

this Mentimeter in free account, there is limitation number in each format of slides. But the teacher can make new presentation as many as he wants. Consequently, if the teacher wants to have unlimited access of this Mentimeter, he should change it into pro account which needs amount of money to pay for it.

4.3. Students' Attitude Toward Mentimeter

Many students were initially uncertain about how to use Mentimeter in giving their responses, some of them showed confused expressing at the beginning of the tutorial but, at the same time, they showed their curiosity of this online application. Then, during the implementation, the students' attitude toward Mentimeter were showing positive. Students rated the formative assessment using Mentimeter as more interactive, fun, interesting, and entertaining. The same positive attitudes are also reported by the previous studies using students' response system such as Mentimer [31,32,9]. These studies revealed that the students' performance in giving responses to the teachers' question was improved, they tend to be more active in joining the discussion.

As important, students also rated the delivery of formative assessment as more helpful for them since they do not need to add their identity for giving responses. Since the students give responses to the teacher' questions anonymously, they felt more comfortable in using Mentimeter for eliciting their responses in formative assessment. This is in line with the result of the study by Latham and Hill [5]. The study asserts that the students prefer give their responses for anonymity. On the other hand, the students, because of their youth, have a self-possessed and comfort with using all new technologies since their daily life is familiar with the enhancement of technology. Furthermore, the convenience in using technology is core aspect in creating effective learning activity [33].

Students' were interested in using Mentimeter because of some reasons. Fisrt, they found that the use of Mentimeter in formative assessment is fascinating. It is fascinating because they can directly see the result of the overall class responses after they submit their responses. From this case, the students can instantly imagine the right or the wrong answer of the teachers' questions by looking at the result of the responses displayed in teacher's screen. Second, they found that using Mentimeter was efficient to conduct formative assessment as they did not need to write in the paper to collect their responses. They only needed to type in their devices then the answer would directly show in the teacher's screen. Meanwhile, they thought that the traditional techniques of collecting the students' responses is time consuming. It is time consuming because they need to write in the paper or they need to speak one by one to give their responses. In line with a

study of Olson and McDonald [34], the study asserts that individualized feedback is laborious. Then, it needs amount of time to know overall the students' responses and need much effort to give feedback directly.

Furthermore, the students agreed that Mentimeter was helpful. It helped to overcome their fear in giving responses as they did not need to give their identity when joined and collected their responses. Then, it also supported them to get real time feedback from the teachers and peers. They did not need to wait other time to get feedback. Therefore, they could use the feedback for self-learning reflection for the next lesson.

5. CONCLUSION

The findings of the present study indicate that Mentimeter has strengths and weaknesses when it is implemented in formative assessment. The strengths of using this application is making the delivery of formative assessment more fascinating and efficient. Besides, it makes the environment of learning process becoming more interesting, fun, and entertaining. Students can be more comfortable in giving their responses to the teacher's questions as they do not need to share their identity. Then, the weaknesses of using this application are dealing with the internet connection as this application is online learning platform. Teacher and students need to have good internet connection to implement this website application.

Furthermore, there are also challenges faced by both the teachers and students in implementing this application. They are technology-based challenges, teacher-based challenges, and student-based challenges. Generally, the students show positive attitudes towards the use of Mentimeter in eliciting their responses formative assessment. They can increase the students' engagement in giving responses in formative assessment and help the students to overcome their anxiety of making mistakes in giving their responses as they submit the responses in anonymous way.

Regarding to the findings of the study, some of considerations in implementing Mentimeter in teaching and learning process are suggested. First, in utilizing Mentimeter, a high quality of connection and technology tools are needed. Preparing those stuff before implementing Mentimeter will increase the satisfactory utilization of using it. Second, to avoid students' challenges in using Mentimeter, introducing Mentimeter thoroughly and pleadingly before the activity is recommended.

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