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ZOOM CLOUD MEETING: IMPROVING ELEMENTARY SCHOOL ELEMENTARY SCHOOL STUDENTS' ACTIVITY AND LEARNING OUTCOMES

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ABSTRACT

This study was conducted to address the challenges of face-to-face meetings, which were found to often clash with elementasry school students. Meanwhile, the use of technology by elementary school students is less effective even though they have tools that support internet learning. Therefore, based on these problems, the implementation of learning using Zoom application is expected to solve the problem of physical meeting. This study used Classroom Action Research (CAR) with the stages of planning, implementing, observing, and reflecting in each cycle. Furthermore, data were collected through observation and tests, using instruments in the form of elementary school students' activity sheets and learning outcomes. The results showed the use of zoom cloud meetings improved elementary school students' activity and learning outcomes. The activity value was 49.17 in cycle 1 and 68.3 in 2, which fulfills the success indicators of at least 65%. Also, the learning outcomes increased by 23.3% from 56.7% in cycle 1 and 80% in 2. Therefore, the Zoom application can be used for online learning, which is proven to increase the number of elementary school student attendance and their learning outcomes.

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INTRODUCTION

During teaching activities, elementary school students encounter several challenges in terms of communication, and are less involved in the teacher process. This is because almost 100% of the elementary school students are workers who are required to be professionals in carrying out their work. Furthermore, they are expected to actively attend teachers and complete necessary assignments. Therefore, working elementary school students have greater challenges compared to their peers who are not working (Martin et al., 2012). Conventional learning which involves face-to-face meeting, pose a challenge for elementary school students who cannot attend physical teachers because they have to meet up with work time. From the initial data, learning outcomes are below standard, with an average score of 68 and a passing percentage of 52%. Therefore, based on these results, a learning method that stimulates elementary school student participation such as online learning is required.

This method involves adjusting the model from face-to-face to distance education, which encourages elementary school students to actively participate in the learning process (Flores et al., 2016). Furthermore, distance learning facilitates participation level (Michinov et al., 2011). Therefore, this model is very important for individual constructivist and social interactions (Cheng & Chau, 2016).

Technology and communication are needed to accommodate these problems. According to Zainuddin & Keumala, the use of technology provides benefits for educators and elementary school students in accessing learning material without limited space and time (Zainuddin & Keumala, 2018). Hence, online learning can improve academic achievement (River et al., 2016).

The current development in technology and communication has affected educational views in term of progress and change (Huang et al., 2016). In fact, the role of information and communication technology is described as applications that facilitate education. Therefore, improving the quality of education is carried out by changing the conventional learning system to a technological based method (Dewi et al., 2018). Also, an effective e-learning strategy requires effectiveness and efficiency in technology migration (Sanderson, 2002).

Good technology proficiency is required for online learning (Gillett-Swan, 2017). In fact, there is a need for an application that provides a means for face to face collective discussion without having to meet physically in class. This application has a significant influence on communication and education quality (Elsawy & Ahmed, 2019).

Zoom Cloud meeting is a video conferencing application that facilitates communication without having to meet physically. This application can be easily installed on computers, laptops, and even smartphones. It also facilitates collaboration and encourages interaction between educators and elementary school students (Tashner et al., 2016), as well as display documents and share screens between the participants (Gray et al., 2020). Regarding learning and administrative tasks, it is easier to adopt the zoom cloud meeting technology (Adenegan & Abiodun, 2018). Therefore, the use of electronic media is another method in the teaching and learning process (Govindasamy, 2001).

Also, activities on the zoom application, such as conference conversations can be easily transcribed. This electronic media is often employed in companies for online meetings. It is hoped that Zoom will eventually accommodate elementary school student attendance and participation. Also, emergency meetings can utilize cloud zoom meetings (Aggarwal et al., 2012)

Likewise, it is believed that the application facilitates elementary school student engagement in using technology (Tashner et al., 2016). Archibald et al (2019), stated that the benefits include ease of use, cost savings, data management features, and security options. Other features include convenience, time saving, and quick accessibility (Gray et al., 2020). It has also been shown to facilitate communication, collaboration, and interaction among doctoral elementary school students (McCoy, 2015). Odhabi et al., (2013) showed 51.5% of respondents are satisfied with zoom cloud meetings, and

some teachers in India use it for online learning (Gupta, 2020). In other study, it can be used for interview activities (Archibald et al., 2019)

Furthermore, the use of Zoom for online teachers is feasible, which facilitates virtual classes (Dias et al., 2020). Therefore, educators can replay the video recordings and invite elementary school students to reflect on completed lessons (Guzacheva, 2020). This application is very important to support teaching and learning activities (Kamal et al., 2020). Hence, it can increase communication, and enhance goals achievement without face-to-face meetings.

METHODS

Research design

Classroom Action Research was carried out in Sekolah Dasar Negeri Sedati Agung, on mathematic learning materials. The subjects were afternoon class elementary school students during the first semester. Furthermore, quantitative data were used, which include information on elementary school student learning outcomes at the end of each cycle. This study was conducted in the form of action research, with each cycle consisting of planning stages, implementation/actions, observation, and reflection (Figure 1).

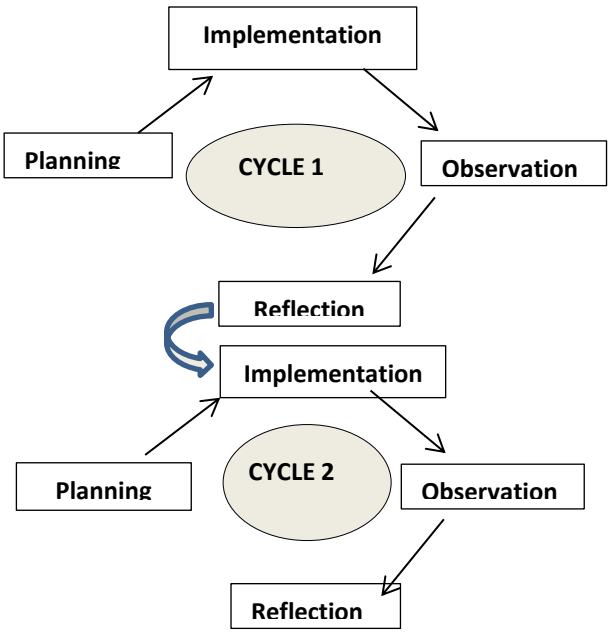

Figure 1. John Eliot Model PTK flow (Sunendar, 2008)

a. Planning

At this stage the research team prepared a Semester Learning Plan (RPS), zoom cloud meetings, evaluation and supporting tools needed in accordance with the lesson plan.

b. Action

The actions in each cycle were carried out in one meeting, and the teacher process was implemented according to the schedule. Meanwhile, each elementary school student was asked to

bring a laptop or smartphone to access Zoom. The material provided was based on the education foundation.

c. Observation and Evaluation

This was conducted during the teacher process using observation sheet and recording of events. The noted factors include pedagogy and activities of teacherrs and elementary school students during the learning implementation.

d. Analysis and reflection

At this stage, the research team evaluated implementation of the action in cycle I, which was used as consideration for planning the next learning cycle. Nevertheless, when expected results are not achieved, improvements are made in the next cycle.

Data Collection Techniques and Research Instruments

Data collection was carried out in various settings and sources (Sugiyono, 2010). The instruments used were the pedagogy and result test sheet, as well as activity observation sheet.

Data analysis

To analyze the data, several techniques were used as follows:

a. Learning Outcomes Analysis Test Data

According to data obtained from the test results, calculations were carried out using the following equation.

$$S = \sum \left(R - \frac{W}{n-1} \right) x\, W_t$$

Description:
S = Score
R = Total correct answers
Wt = Weight
W = Total wrong answers
n = Total options (answer choices) (Suharsimi;, 2013)

The class mean value was calculated using the equation stated by (Sudjana, 2013) as follows.

$$X = \frac{\sum x}{N}$$

Description:
X = mean
∑x = total all score
N = total subject

b. Analysis of Activity Observation Data

Activity data was derived from observation about teaching and learning situations, and the data were calculated by :

$$Student\ activities = \frac{Number\ of\ active\ students}{Number\ of\ Students\ Overall}$$

The following are categories of elementary school students' activity observations in Table 1.

Table 1. Observation Result Value Category

Interval Value obtained	Category
0 – 20	Inactive
21 – 40	Less Active
41 – 60	Enough Active
61 – 80	Active
81 – 100	Very active

Success Indicators

a. Increased elementary school students' activity during teachers with active category at an average value of 65%
b. An increase in test learning outcomes during teachers with a mean value of 80

FINDINGS AND DISCUSSION

Preparation phase

The preparation stage includes setting up a semester plan for social education courses, learning media, observation, as well as reflection sheets. Good organization has an effect on elementary school students' satisfaction in learning (Gray & DiLoreto, 2016). Also, the process that correlates with planning according to elementary school students backgrounds affects their learning design and experience (Hollins, 2011). Basically, the success of online learning depends on the readiness of elementary school students to take part in the process (Hubackova & Semradova, 2016).

The online teacher design was carried out with a cooperative learning model that emphasizes information search based on the topics by prioritizing cooperation in problem solving. The learning process is supported by a zoom cloud meeting which helps teacherrs and elementary school students in conducting online discussions. Therefore, preparing learning tools can help facilitate good communication between teacherrs and elementary school students (Ma et al., 2015). Before the commencement of online teachers, the elementary school students were sensitized on Zoom usage during the afternoon class.

Implementation and Observation Stage

At the initiation stage, the teacherr motivated the elementary school students and made an apperception regarding the learning material given. Seemingly, the right perception will make elementary school students excited about the learning activity (Puteri, 2018). Furthermore, conducting distance learning using this application makes elementary school students more active because they can express their opinions during discussion. Therefore, the use of a digital platform can increase interaction (Naidoo, 2020), which can encourage motivation (Setiawan et al., 2019).

The implementation of this study was carried out in 2 cycles per meeting. For cycle 1, it was held on April 22, 2020, while cycle 2 was in April 27. During the teacher process, elementary school students' activity observations were conducted using the zoom cloud meeting. Hence, at the end of the cycle, an

evaluation was carried out to determine mastery of the learning material through the edmodo application.

Learning activity

Learning was carried out in collaboration with online discussions, which required a stable internet connection (Akçayır & Akçayır, 2018). The research team and elementary school students determined online meeting schedules, hence, there was an improvement in material preparation and internet connection for the learning process. Also, good teaching depends on the preparation and context of education carried out by educators (Barnes, 2017).

In cycle 1, a discussion was carried out with learning material dimensions in elementary social studies education. The presenter (elementary school student group presentation) delivered the discussion results, which was translated into power points. Basically, humans build concepts from experience (Olusegun, 2015), hence, the use of technology services in learning increases motivation (Uden, 2007). This is proven by the course of discussion and learning. However, there are lacking aspects in cycle 1, which include few active learners (only 3 elementary school students). The ability to ask is proven to have an effect on elementary school student learning outcomes (Hofstein et al., 2005)..

Cycle 2 carried out a discussion with learning material on the structure of elementary school social education. The teachers were conducted cooperatively with discussions, and assessment was carried out during the learning process using the edmodo application. Furthermore, the activity in cycle 2 appears to be very active, where series of online learning processes were carried out. Also, interactions have been shown to significantly make learning meaningful (Garrison & Cleveland-Innes, 2005), and pedagogy improve understanding in learning (Lathigara et al., 2021). The following are the results of elementary school student activities (Figure 2).

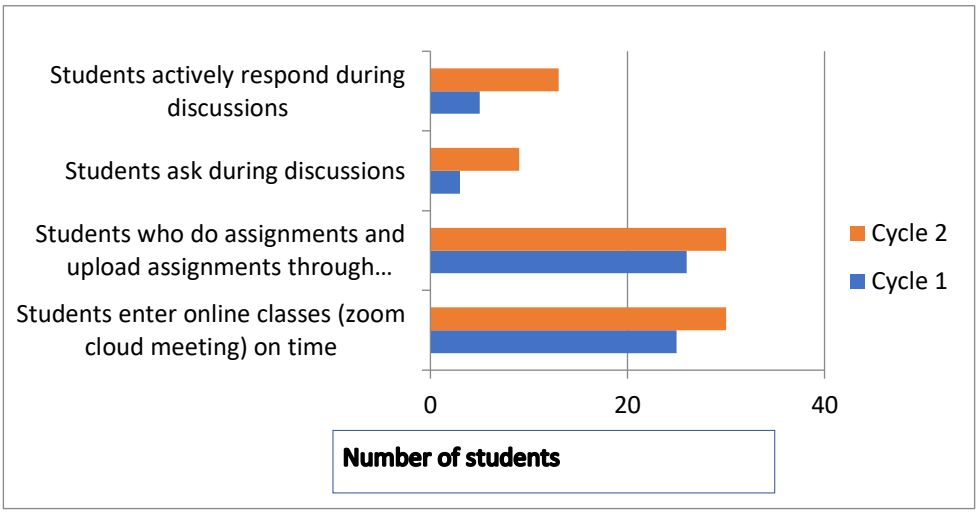

Figure 2. Elementary school student activities during the online teacher process

Figure 2 shows the zoom application increased elementary school students' activity by meeting the 65% and 68.3% success indicators. From the four observed aspects, it can be concluded that there was a general increase. Furthermore, the attendance increased compared to previous offline face-to-face meetings with an average of 70%, while the application facilitated teachers by 83% in cycle 1 and 100% in cycle 2. The use of technology has an effect on learning process (Kirkwood & Price, 2013), and currently, it has become a habit for both teacherrs and elementary school students to facilitate classes

(Lai, 2011). Consequently, elementary school students skills and motivation will increase to learn when they incorporate technology in the teacher room (Mumtaz, 2000)

Zoom has an advantage over other application such as WhatsApp (So, 2016). This is in line with (Terenko & Ogienko, 2020), which showed elementary school student motivation and cognitive activity increased with Zoom.

The active discussion carried out also increased from 5 elementary school students in cycle 1 to 13 in cycle 2. This made the discussion become more active. Therefore, according to Sinha et al (2013), the success of question and answer forums depends on the involvement of discussion participants.

Learning outcomes

In this section, elementary school student academic achievement was presented based on the online lear ıtcomes.

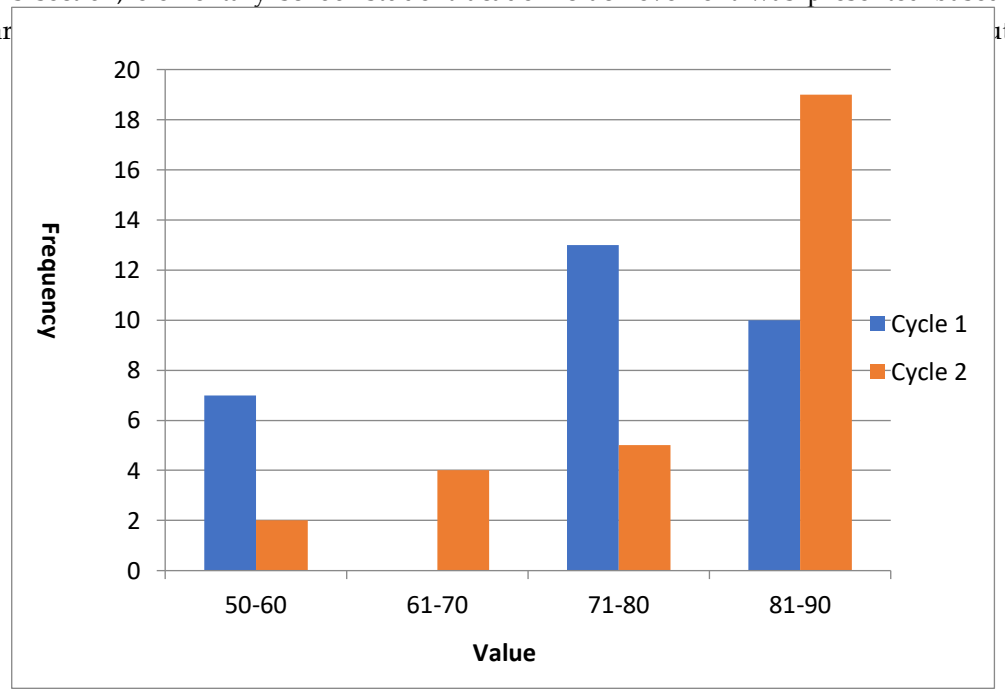

Figure 3. The Frequency of Elementary school student Values

Figure 3 above shows an increase in the frequency of obtained value for elementary school students from cycles 1 to 2. This is influenced by the actions given and the response to elementary school student activities when attending online teachers. Therefore, the activities given to mutually sustainable elementary school students can help in shaping their character and completion of tasks (Kahn, 2014). Furthermore, the incorporation of learning with technology can improve academic achievement (Kintu et al., 2017). In addition, an increase in score above the set standard affects the average value obtained. Figure 4 shows the presentation of the data on elementary school student learning outcomes.

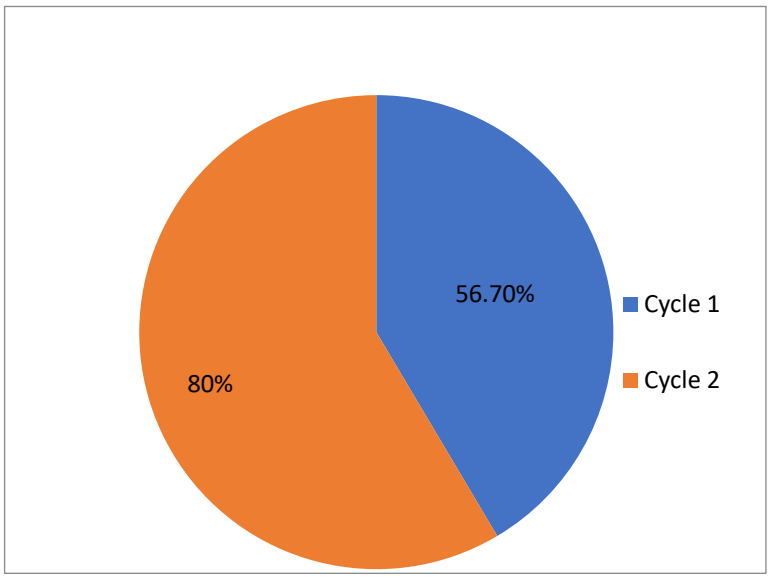

Figure 4. Completeness of Elementary school student Learning Outcomes (%)

According to the presentation above, there is an increase in the completeness of learning outcomes above the predetermined standard from 56.7% of cycle 1 to 80% in cycle 2. This shows actively involving elementary school students affects their ability to solve the given conceptual problems (Safitri, 2016). Furthermore, active elementary school student involvement improves their ability to better solve problems. The interaction between educators and elementary school students is a very influential experience in the cognitive development and motivation of learners (Korthagen et al., 2014). In other words, elementary school student's ability to develop concepts increase significantly when they are encouraged to determine problems in a trained manner. Also, involving elementary school students in learning increases their motivation (Fredricks et al., 2004), which proved to be influential in learner's completeness. The quality and learning outcomes can be seen from the level of educational process provided (Abdel-Basset et al., 2018). In conclusion, the use of technology in the learning process affects motivation and learning outcomes (Lin et al., 2017). The following is a presentation of the increase in the average value of elementary school student learning.

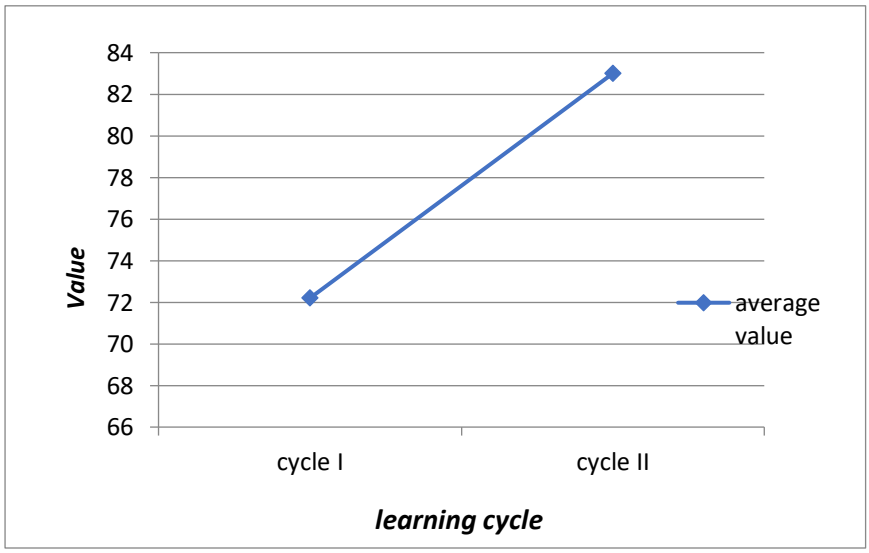

Figure 5. Average Value

The graph above shows the method of understanding a concept greatly influences the results. The learning process is applied with a discussion, beginning with presentations among the elementary school students. In fact, learning methods by introducing the results of elementary school students' conceptual understanding can guide them to understand the perceptions of each individual, therefore, they can master the notions (Pashler et al., 2008). Therefore, learning methods should align with the profile of the class (Hawk & Shah, 2007).

The average increase in elementary school student learning during teachers is through online zoom meetings. The average value of learning outcomes in cycle 1 was 72.2 for 17 elementary school students (56.7%) and 83 for 24 elementary school students (80%) in cycle 2. Hence, the increase from cycle 1 to 2 was 23.3%. The results showed elementary school students are more serious about taking online teacher using Zoom. In fact, they learn better online than receiving face-to-face lessons (Means et al., 2009). Therefore, active participation in online class activities can improve learning outcomes (Tsay et al., 2018).

CONCLUSION

The implementation of zoom application during afternoon class for the 2th grade increased elementary school students' activity and learning outcomses. Therefore, this study was conducted to facilitate those who are unable to attend face-to-face class. Based on the results, the online class improved learning activity more than offline learning. Furthermore, the elementary school students were more confident and flexible when expressing their opinions online. This is proven by the results, where activity values in cycle 1 and 2 amounted to 49.17 and 68.3 respectively. Also, learning outcomes increased by 23.3% from 56.7% in cycle 1 and 80% in 2.

However, the weakness of this study lies in the process and the management of implementation time. The learning time needs to conform with the working elementary school students, in order to have proper readiness for teachers. Therefore, due to time constraints, this study adjusted the elementary school student's time to control variables.

Based on the above conclusions, several recommendations can be made by the government or education managers through learning and training programs. This will provide insight for teachers about online class management or blended learning. Also, this study is limited to working elementary school students, hence, it is still open to be conducted on a wider range of subjects. Therefore, further study is needed for learning models suitable for working elementary school students or pandemic situations.

This study applied Zoom application for working elementary school students in order to maintain their active involvement in teachers. Usually, the elementary school students engagement is only 70% on average, but the application of electronic media improved their activity and attendance.

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