Evaluation of Elementary School On-line Based Learning Mathematics Management in Covid-19 Pandemic Period

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Abstract---**In this Covid-19 pandemic era, the learning process in elementary schools especially Mathematics learning has run improperly. Students have difficulty in learning because the learning process is online. This study aimed to find the root causes of the low student learning outcomes in the pandemic era, and search recommendations on how to manage the learning process so that the students are able to reach their goals. Qualitative research was applied at the SDN Ungaran 1 Elementary School by taking each class for 2 children, and several essential people such as the Principal, Mathematics teacher. The focus of this research was on the learning planning, the learning infrastructure, the implementation in the field and the learning evaluation systems. The data was taken through triangulation system. The data was processed with descriptive analysis. Further study of the learning management that teachers still have not prepared the learning that supported the children's learning. In the implementation of online learning there is a need for scaffolding so students will feel there is a teacher, that is when an evaluation of progress is made, the progress of student learning. Thus, repeatedly the students will succeed in learning.**

Keywords: Online learning, Elementary mathematics, independent learning

I. PRELIMINARY

The Covid-19 pandemic is a disaster for the entire world. All human activities are disrupted, one of which is in the realm of education. Many efforts are carried out by the countries including Indonesia which has shut down all the face-to- face learning and the teaching activities at school until university. It was conducted to prevent the spread of pandemic covid-19 itself. The impact on Indonesian education is that the students have to learn at home and do the online learning. With the presence of Covid-19 pandemic, the education should follow the ways which are expected to help the learning conditions in schools. The schools need to push themselves with the online learning.

Online learning is a type of learning and teaching that allows the delivery of teaching materials using the internet, intranet or another computer network, or the learning process that utilizes the information and communication technology (ICTs) systematically to integrate all components of learning, including the interaction of learning across space and time, with guaranteed quality (Setiawan, 2017). In this case, the students are required to learn using technology, and be able to learn the subjects independently. Self-learning does not mean that the individual learns alone but it embodies the real will or desire and the person does not depend on others, in this case is the students are able to do the learning themselves, they can determine the effective learning ways, be able to carry out the tasks of the learning well and be able to do the learning activities independently (Hiemstra, 2013).

It also appears on the conditions at SDN 1 Ungaran particularly in the Mathematics learning, where students still have not been ready yet to learn online as well as the students, their parents also still have difficulties on using the information technology. The role of the students to learn independently is also considered still having difficulties because the students of SDN 1 Ungaran in the online learning still requires assistance or involvement by parents at home.

Mathematics as science has very diverse interpretations, in this case it plays an important role in elementary Mathematics learning. How can mathematics learning be given to students, mainly during the Covid-19 pandemic. One of them is the learning method of scaffolding. In scaffolding learning, it is expected that the educators can provide a great help to the child during the stages of early learning and subsequntly the children are able to take over bigger responsibility as soon as he can do so. This assistance can be in the form of instructions, warnings, encouragement, describing problems into learning steps, giving examples or others so as to enable the students to grow independently (Adinegara, 2010). During the implementation, the students will be given a complex difficult task and the assistance is given for students only on the early learning stages. Later, the educators will reduce the assistance and give the member the opportunity to take over the

bigger responsibilities once he can do it. On that basis, it is the needed to conduct a thorough evaluation study regarding to the process of Mathematics learning at SDN 1 Ungaran which uses the online learning during the Covid-19 pandemics. There are some recommendations for the learning implementer in some aspects: (1) contect: which becomes the basis of the use of online learning in Mathematics learning and the support from the school components in the use of learning models; (2) input: the availability of supporting facilities and infrastructure for online Mathematics learning; (3) process: the performance of the teachers in terms of preparation, process, and student involvement in the online learning process; (4) product: the student learning outcomes in the Mathematics learning by using the online learning as well as the independence of the students towards the Mathematics learning by online learning.

II. METHOD

The approach used in research was the qualitative which were applied at SDN 1 Ungaran by involving 2 students for each of the class, and some key people such as the Headmaster, the Mathematics teacher. The research focus was on the lesson planning, the infrastructure, the plan implementation and learning evaluation systems. Data was taken using triangulation system (observation, in- depth interviews and documentation). The evaluation criteria set were as follows: (1) the learning was based on a situation analysis; (2) the school component supported the learning model; (3) teachers, parents and students need online learning; (4) the school should have adequate facilities and infrastructure; (5) the teacher has a lesson planning document; (6) the minimum teacher observation score fulfilled the "good" criteria; (7) student and teacher attendance $\geq$ 75%; (8) worked independently $\geq$ 60%; (9) students' independence in the learning $\geq$ 75%.

Validity and reliability tests were carried out on a questionnaire instrument for students. The questionnaire for teachers and parents were only for the validity of the content and construct. The questionnaire instruments of the students necessity towards online learning and the questionnaire of the independence of the students towards the learning were conducted for validity and content and construct reliability tests. After the strategy and the principles of research were well conducted and the data was collected, the data got into the analysis. As there are quantitative and qualitative forms of data, data analysis was carried out by a combination of two methods. Data analysis with three stages: (1) checking the identity of the questionnaire; (2) tabulation stage, the data was processed according to the type of data taken. The data in the form of scale woud be scoring processed, the data in the form of

value of the students achievement would be given a score by the scale of 100; (3) evaluation analysis stage, quantitative data were collected and processed in accordance with the nature of the data and the purpose of the research such data scrutinizing the learning design plan document (RPP), the class observation, the presence of students, the teacher attendance, the students attitude towards the learning process.

III. RESULTS AND DISCUSSION

Based on the results, it was obtained that the students' needs for the online learning during the Covid-19 pandemic showed the level of need was up to 80%. The teacher need which was shown was up to 88%. The parents need also showed the need was up to 85%, most of the facilities and infrastructure which was owned by the school and the parents was quite adequate, the document tools used by teachers were not supportive for the learning and not supporting students to learn independently (RPP which was used did not support the online learning), the documents of the learning tools used were still similar to the past documents, the learning which was given by the teacher was not structured yet (the implementation of the learning given was tend to provide instruction to students therefore it was not easy for students to do it) so that the assessment system of the teachers was still based on the mercy because the circumstances which they experienced were not because of the understanding of the students.

IV. CONCLUSION

The policy of studying at home that is applied to the entire level of education in Indonesia would force the students to learn about the technology. In this case, it is necessary to make efforts that really need to be conducted at SDN 1 Ungaran in the learning process during the Covid-19 pandemic. The learning itself certainly refers to the readiness of schools, teachers, students and parents. The readiness can be seen from the lesson plan, the learning facility and infrastructure, its implementation as well as the learning evaluation system. In this case, the teachers' assistance is required to design the Mathematics learning through online, teachers can design e-modules as teaching materials for the students. In the implementation of online learning, a structured model or strategy is required so that the aspects of the assessment based on the mercy will not appear. The scaffolding learning model is needed to help the students so they can understand the lesson material well, help one another and exchange the knowledge one another. Teachers should provide complex assignments and provide assistance to students only in the early

stages of learning. Then they should reduce the assistance and provide opportunities for the students to find the problems.

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