Reflective Pedagogy Paradigm (RPP) as an Alternative for Online Mathematics Learning to Improve Students' Competence, Conscience and Compassion

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ABSTRACT

The innovation and creativity in learning become the main demands of education *zaman now,* because there are many cases that shift along with the current development, especially in the digital era. Learning by using Reflective Pedagogy Paradigm (RPP) as an alternative for online mathematics learning during 4.0 industrial revolutions is expected able to improve Students' competencies during covid-19 pandemic. The purpose of this research is to describe the result of implementation RPP in online mathematics learning in the aspects of competence, conscience and compassion. The implementation of online learning during covid-19 pandemic resulted the interaction among students have several obstacles, that are internal and external factors. It needs self-regulated to overcome the students' obstacles. The approach of this research was qualitative with phenomenological studies. The method of data collection was carried by test to measure competence aspect and questionnaires to measure conscience and compassion. The results of this research showed that in the competence aspect, there was improvement in competencies, that was from 70,25 percent to 92,33 percent. The conscience aspect showed that there was improvement the average score on attitude (conscience) from 3.20 (range 1-5) to 4,18. Compassion aspect, showed that there was improvement from 3,28 to 4,27.

Keywords: Reflective pedagogy paradigm (RPP), Competence, Conscience, Compassion.

1. INTRODUCTION

Education is a process of learning knowledge, skills, and habits that are passed down from one generation to the next through teaching, training, and research. Some say that the definition of education is a learning process that is carried out systematically, continuously by students [1][2] to create experience [3]. Education can also be considered as the transmission of values and the accumulation of knowledge from a society. This is also contained in Law no. 20 of 2003 concerning the National Education System in the first article in section twenty which expresses that "learning is a process of interaction between students and educators and learning resources in a learning environment."

So, it can be concluded that learning is a conscious effort from the teacher to make students learn, namely the occurrence of changes in behaviour in students who are learning, where the change is with the acquisition of new abilities that apply in a relatively long time and because of the effort. In the learning process, especially in learning mathematics, students do not just memorize but students are expected to be able to construct their understanding.

Innovation and learning creativity are the main demands of education today, because many things shift along with the times, especially in the digital era. This is in Mulyasa's opinion, namely, changes in technological needs have coloured the industrial revolution 4.0. education that leads to the development of writing and reading skills can be maintained again. This is due to changes in the needs and development

of society in all fields, including the field of education [4].

Since Covid-19 spread in Indonesia, the education system in Indonesia has become one of the impacts that cause the learning system from kindergarten to university to have online learning. As the Ministry of Education and Culture also issued a circular no. 4 of 2020 related to the implementation of education during the Covid-19 period, where the implementation of the National Examination (UN) for the 2019/2020 academic year was officially abolished and schools carried out the learning process from home [5]. Online learning, which uses the internet as a medium, does not go well and as desired. This is because each student has different characteristics. The implementation of online learning during the Covid-19 pandemic resulted in interactions between students experiencing several obstacles, namely internal and external factors. So, it takes good self-control to overcome the obstacles of these students. The ideal learning process must integrate human values in every lesson so that students not only develop competence but are also treated with conscience and compassion.

Unfortunately, online learning also has its challenges. The results of Firman's research stated that many students had difficulties in understanding the lecture material given online. Lecture material which is mostly in the form of reading material cannot be fully understood by students. Students assume that reading the material and doing assignments is not enough, they need a direct verbal explanation from the teacher regarding some complex material [6]. Communication that is done through online applications, is not able to explain thoroughly the material being taught. Interaction with teachers becomes very important in online learning because it can reduce psychological distance which in turn will lead to better learning [7].

Learning Mathematics using the Reflective Pedagogical Paradigm (RPP) is a perspective on education that emphasizes the integration of efforts to grow human values and develop student competencies through the implementation of learning. The Reflective Pedagogical Paradigm, commonly abbreviated as RPP, is another name for the PPI (Ignatian Pedagogical Paradigm) [8]. The term PPI was later changed to the Reflective Pedagogical Paradigm (RPP). In 2008, KWI in a pastoral note recommended the use of RPP as an approach to education [9]. In RPP the purpose of the entire learning process (evaluation) is for students to become human beings for and with others. So that RPP can be interpreted as learning that integrates learning in the

field of study with the development of human values [9][10]. There are five RPP learning steps, namely: context, experience, reflection, action, and evaluation [11][12]. Online RPP learning is expected to create a student character characterized by competence, conscience, and compassion. In more detail, it can be seen through the following scheme:
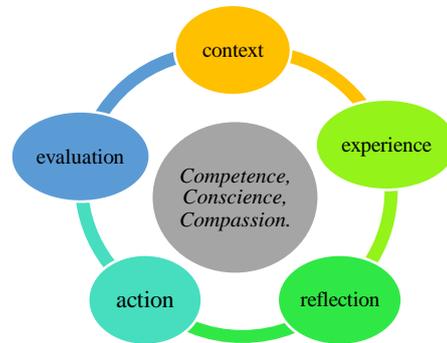

Figure 1 RPP learning scheme

1.1 Context

At the context stage, the teacher facilitates each student to examine various contexts in his life. The main purpose of this stage is for teachers to more accurately detect various possibilities that exist in students and have the potential to support or hinder students in the learning process. Teachers need to understand students as a whole in real terms, such as habits, peers, culture, art, school environment, and other things that affect students good or bad [13].

1.2 Experience

Experience is a concrete thing that has been experienced by someone. With this experience, students are invited to recognize and interpret everything they have gone through so that it becomes a key element in the learning process. Learning experiences are expected to move students beyond not only rote knowledge but into increasingly complex learning skills, understanding, application, analysis, synthesis, and evaluation [14]. This is done through asking, investigating, and analyzing various types of elements and their relationship to experience.

1.3 Reflection

Through reflection activities, each student's experience is expected to be meaningful, so that it can stimulate each student to take real action. At this stage, it is also hoped that it will increase the depth of understanding formed and become a meaningful learning process for students. Reflections that begin

with the reality of real experiences must end and lead to concrete realities to produce new experiences [13].

1.4 Action

Action is an action, both in the heart and psychomotor, which is carried out after students reflect on their learning experiences. In fact, the action is in the form of a better self attitude than before and real actions that can be felt by other people or the environment. The action referred to in reflective pedagogy is that students interpret learning outcomes with mind and heart to realize their knowledge in real-life practice [15].

1.5 Evaluation

Through evaluation activities, actions, experiences, reflections, and actions can be assessed, whether it has gone well so that evaluations that have been carried out regularly encourage teachers and students to pay attention to intellectual development, attitudes, and corresponding actions. Evaluation is not only assessing from a pedagogical perspective, but also having the right conscience, and sensitivity to the needs of others.

2. METHOD

The research approach used is qualitative with phenomenological studies. The population in this study were all students of MTsS Quba Bebesen for the 2021 Academic Year, totaling 59 people. the sample was done by random sampling, namely class VII2 totaling 20 people. Meanwhile, the data collection method was carried out with tests to measure aspects of competence and questionnaires to measure aspects of conscience and compassion. In the aspect of competence, the visible ability is the cognitive ability of students in mastering the material of curved side space. As for the conscience indicator variables used as questionnaires, namely: morals, responsibility, honesty, independence, openness, freedom, discipline, justice, perseverance, persistence, courage to take risks, and the ability to give meaning to life.

As for the conscience indicator variables used as questionnaires, namely: morals, responsibility, honesty, independence, openness, freedom, discipline, justice, perseverance, persistence, courage to take risks, and the ability to give meaning to life. Aspects of compassion, the indicators used are cooperation, respect for others, concern for others, sensitivity to the needs of others, involvement in groups, willingness to share, and willingness to sacrifice. Data collection

from this study was also obtained by in-depth interviews. The data obtained were then analysed using Interpretative Phenomenological Analysis (IPA) [16].

3. RESULTS AND DISCUSSION

Use of RPP as an alternative to online learning starts from the first step, namely context. The context in question is from students, teachers, and the competencies possessed by these students. Second, the experience that has been explored through several activities, learning activities are carried out using the inquiry learning method. Third, the reflection of the various experiences that have been obtained by students, this is done by students by filling out questionnaires during the learning process. Fourth, taking action as a result of reflection, students make better learning presentations after knowing the results of reflection. The fifth stage is evaluation, carried out by giving post-test questions. Posts were conducted to determine learning outcomes from the competence aspect while filling out the questionnaire was conducted to determine learning outcomes from the conscience and compassion aspects.

Before the RPP lesson was implemented, students were given a pre-test in terms of competence, conscientiousness, and compassion. This is done to see how far the changes will be seen by learning with RPP. From the aspect of competence, students' scores for Mathematics subjects are still below the minimum completeness criteria that have been determined. On the aspect of conscience, students have not been able to be critical of environmental conditions and the material that has been taught. Aspects of compassion, students are less concerned with the surrounding environment, especially during learning. For the aspect of competence in terms of the percentage value of the previous material. This can be seen in Figure 2 as follows:
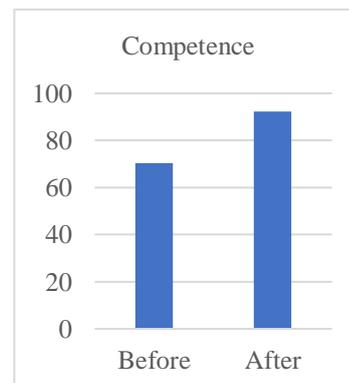

Figure 2 The results of the pre-test and post-test aspects of competence,

From Figure 2, shows that in the aspect of competence, the pre-test score is 70.25 percent and the protest value is 92.33 percent. Aspects of conscience, from the pre-test data obtained as presented in Figure 3 as follows:
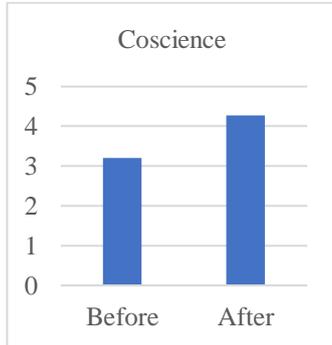

Figure 3 Aspects of conscience before and after RPP

From Figure 3, shows that from the aspect of conscience, there is an increase in the average score on attitude (conscience) which is 3.20 to 4.18 (range 1-5). Meanwhile, in the aspect of compassion, it can be seen in Figure 4 below:
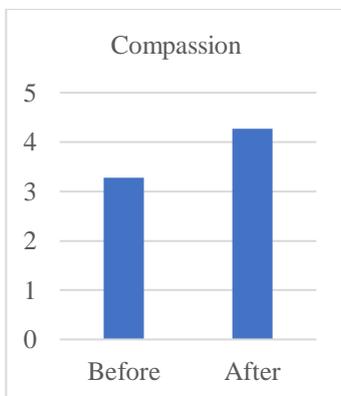

Figure 4 Aspects of compassion before and after RPP

From Figure 4, it can be seen that there was an increase, from 3.28 to 4.27. From the analysis of the data obtained at the first to fourth meetings, from the aspect of competence, students have shown a good improvement, this is evidenced by the results of the average score of students being above the minimum completeness criteria score. From the aspect of conscience, students have also experienced an increase as evidenced by the activeness and critical attitude of students and thoroughness in doing assignments. From the aspect of compassion, many students cannot show a good attitude of cooperation between group members. At first, students had difficulty working on assignments in groups through online learning. But this can be avoided by students recording the results of working on assignments in groups and sending them

to class groups. It is evident from the observation that in these groups students do not work together in groups, but they prefer to divide the questions by the number of group members and then work on their own.

From the data obtained at the fifth and sixth meetings, the competence aspect of all students has shown a good improvement, as evidenced by the results of scores that are above the minimum completeness criteria. The following is the frequency of data on the results of competency aspects of all students who use learning with lesson plans, at the fifth and sixth meetings.

Table 1. Frequency distribution at the fifth meeting for the competency aspect

Interval	Frequency
75-78	6
79-82	6
83-86	2
87-90	6

In Table 1, it can be seen that at intervals of 75 to 78, six students still scored at the threshold criteria with minimal completeness.

Table 2. Frequency distribution at the sixth meeting for the competency aspect

Interval	Frequency
81-84	6
85-88	9
89-92	5
93-96	-

From Table 2 above, we can see that students' scores are better. Where students no longer get scores at the minimum completeness criteria threshold, which is 75.

The task that is their responsibility and students have shown a critical attitude, from the aspect of compassion students have been able to show a good attitude of cooperation between group members, this is evident from the observation that in these groups students begin to work together and help each other in doing group assignments and students able to show a caring attitude to other fellow students if some have not been able to do their group assignments.

As stated by Suparno, RPP is a pedagogy, not just a learning method. A pedagogy means an aRPPoach, a way for teachers to accompany students so that students develop into whole persons [17]. Thus,

learning with RPP is an effort to be able to print students into people who are not only capable in the field of competence, but are also able to integrate conscience and compassion as identities that are inherent in students, namely having a critical attitude towards environmental conditions and having an attitude of social concern for the environment. each other and their surroundings.

4. CONCLUSION

Based on the results of the research data analysis, it can be concluded: there are differences in learning after using lesson plans. Learning with lesson plans on aspects of Competence, Conscience and Compassion is increasing. learning with lesson plans provides opportunities for students to find appropriate contexts and provide in-depth experiences, so students will be more active in carrying out learning activities with lesson plans. The results showed that in the aspect of competence, there was an increase in competence from 70.25 percent to 92.33 percent. The aspect of conscience shows that there is an increase in the average score on attitude (conscience) from 3.20 to 4.18 (range 1-5). The aspect of compassion shows that there is an increase from 3.28 to 4.27.

AUTHORS' CONTRIBUTIONS

CSP Setyowati, I. Louise, Implementation on reflective Pedagogical Paradigm Approach on The Rate of Reaction to Student Achievements. The author explains how RPP lessons emphasize the importance of the reflective learning process as outlined in real action. The results showed that the RPP learning process could increase learning motivation by involving students as critical agents in the learning process. This makes the learning process more personal because it brings the teacher's experience to students. The research sample consisted of two classes determined by cluster random sampling technique, the experimental class using the RPP aRPPoach and the control class using the contextual aRPPoach. Data collection is done by posttest and reflection sheets. There is a difference in the application of learning using RPP on the topic of student achievement reaction levels. The significance value obtained by the ANOVA test is that student achievement is smaller than the significance level.

T. Agnes, Asrowi, LA Sutimin, Enhancing Students' Learning Motivation by Applying Reflective Pedagogy to Modules for Junior High School in International Journal of Psychology and Educational Studies, 6 (3), pp: 106-118, 2019. Authors Agnes et al,

explained that the Reflective Pedagogical Paradigm is the art of thinking in doing something with full consideration that incorporates humanistic values into the subject consciously. This paradigm supports the meaning of each topic in the learning material based on the students' own experiences. In addition, Agnes, et al also stated that complex cognitive skills can only be achieved by complex and meaningful learning. Data collection techniques used in this study were questionnaires and interviews. Data analysis used quantitative descriptive statistics. The data collection instrument used was a questionnaire. The results of the study using the t-test showed that students' learning motivation was significantly higher than before using the module. The results of the post-test and pre-test scores were statistically different, meaning that the application of reflective pedagogy increased learning motivation.

ACKNOWLEDGMENTS

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