

## **The Ability of Elementary School Teacher Education Program Students in Designing Online Learning Scenario Using Problem-Based Learning Model**

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### **ABSTRACT**

Designing learning using learning scenario must be mastered by teacher in terms of the theoretical elements in it. Today teachers need to learn how to design learning scenario that is adaptable to the conditions of online learning by applying problem solving skills using a problem based learning model. Online learning scenario also needs to be designed to match the demands of abilities in the 21st century, namely learning and innovation skills, life and skills, and digital literacy. This study uses a mix method design that combines quantitative and qualitative designs at a simple level (Concurrent Mix Method). The population of this study was the 3rd semester of Elementary School Teacher Education Program (PGSD) students by taking a sample of 75 people through purposive sampling technique. The research assessment instrument used an assessment indicator for making online learning scenario adapted to the syntax of the Problem Based Learning model. The findings and results of the research showed that there were still many students who were not skilled in preparing online learning scenario with Problem Based Learning model. It can be seen by only 5% of students who had very high ability in making learning scenario, 29% were categorized to those who had high ability, while 21% were categories to those who had average ability; and 44% belonged to the category of having low ability. This low ability was seen from the aspects of making KKO and adjusting ABCD elements to learning objectives and making final learning activities that still need to be improved. These results can be the reference for both the teachers and the students that in the future the PGSD students can further improve their skills and abilities in designing online learning scenario for the implementation of effective, innovative and meaningful learning in accordance with the demands of the 21st century.

Keywords : Learning Scenario, Online, Problem Based Learning

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### **I. Introduction**

As a prospective teacher, PGSD students are prepared to become professional teachers in accordance with teacher qualification standards and have the four competencies listed in Permendiknas Number 16 Year 2007. These four are pedagogic, professional, social and personality competencies. Pedagogic

competence is a competency related to the ability to educate, design learning as well as the ability to communicate effectively, sympathetically, innovatively and politely to students (Suwarna, 2013). Designing learning using learning scenario must be mastered by the teacher in terms of the theoretical elements in it (Simatupang & Purnama, 2019).

The ability to design learning scenario is related to one of the tasks given in Mathematics 2 Course, where in this course the students are asked to design learning scenario that is adapted to the current online learning conditions for the learning material of flat shapes. This material was taught to students not only to provide the theoretical understanding to the PGSD students but also to enable them having skill in teaching the flat shape material later to the their future students in designing an online learning scenario by applying problem solving skills in their students' daily lives. The integration of this mathematics course in designing learning scenario is linked to the previous course that students had taken, namely Learning Strategy course, in which the students were expected already to have the knowledge about which learning strategies are suitable for online learning, especially in the flat shape material.

Online learning scenario needs to be designed following the demands of 21st century skills, namely learning and innovation skills, life skills, and digital literacy (Dupri et al., 2021). Problem solving skill in designing learning scenario is a suitable model to use to achieve attitude, knowledge and skill competencies where the application of this model is the integration of flat shape material into everyday life (Sidik & Masek, 2021). In the mathematics education curriculum, problem solving skills, literacy, communication, critical thinking and creative thinking are very important and necessary for students so they need to be taught (Fosha et al., 2003; Mwei, 2017; Rahmawati & Afifah, 2019; Root & Browder, 2019; Maryanti, 2021).

Problem Based Learning (PBL) is a learning model that aims to prepare students to develop higher order thinking skills such as the problem solving process (Al & Khan, 2014; Khoiriyah et al., 2021). This PBL not only has a good impact on one discipline but on all subjects and results in increased results in its application (Sekhon et al., 2020). Therefore, the researchers are interested in investigating the

ability of the PGSD students in designing online learning scenario using Problem Based Learning model.

This study used a mix method design that combines quantitative and qualitative designs at a simple level (Concurrent Mix Method). The population of this study were the PGSD students in the 3rd semester with the total of 162 people. Then the sampling was done through a purposive sampling technique that gained 75 students. The purposive sampling technique was chosen based on the criteria that these students had taken the previous Learning Strategy Course. The research assessment instrument used was an assessment indicator for making learning scenarios based on the syntax of the Problem Based Learning model that was adapted to online learning.

The assessment instrument for designing learning scenario contained several aspects. Those are whether the learning objectives were in accordance with the learning scenario and the use of media/learning resources that support online learning. The next is the steps in the learning scenario that contain aspects that refer to the steps of the problem based learning model, namely orienting students to the problem, orienting students to solve problems, guiding students to solve problems using learning media/sources, stimulating students to ask questions, guiding students to develop and to present work/tasks, guiding students to conclude learning outcomes, reflecting on learning, providing followup learning and informing the next lesson plan to students.

## **II. Discussion**

Based on the research findings, the ability of PGSD students of Universitas Palangka Raya in designing online learning scenario using Problem Learning model was divided into some categories, namely very high, high, average, low, and very low. These findings were revealed through the scoring results of learning scenario designs made by the students. The score level of the students' learning scenario designs can be seen in Table 1 in the following page.

Table 1. The Score Level of The Ability of Students in Designing Online Learning Scenario Using Problem Based Learning Model

Category	Number of Students	Percentage
1. Very high (score > 90)	4	5%
2. High (score 80 – 89,9)	22	29%
3. Average (score 70 – 79,9)	16	21%
4. Low (score 60 – 69,9)	16	21%
5. Very low (score < 60)	17	23%

In Table 1 above, it can be seen that there are only 4 PGSD students who are in the very high ability category in designing online learning scenario using problem-based learning model with a percentage of 5%. Meanwhile, the same total number of students (16 students) belong to each of the average category and the low category with the percentage of 21% for each. The rest 17 people (23%) are categorized in the very low category. Regarding the guideline for the minimum completeness criteria, it can be summed up that 80% of students get scores above 70. In other words, there are only 55% of students who complete and 45% of students who do not complete the achievement. This condition should be a concern because these students were those who had taken Learning Strategy and Mathematics 1 courses and supposed to be capable of designing online learning scenario using problem-based learning model well. In fact, there are only 55% of them who can achieve the expected learning output.

As viewed from the assessment aspect in the learning scenario with a score range from 0 to 3, there are indeed many students who excel in several aspects that are assessed as displayed in Table 2 below.

Table 2. The Assessment Aspect in the Online Learning Scenario Using Problem Based Learning Model

The Assessed Aspects Sub-aspect Average		The Score
1. Preparing the Scenario	Suitability with learning objective	1.87
	Selection of online learning sources/media	2.80
	Orienting students to problem	2.41
	Orienting students to solving problem	2.35

2. Pre-Activity		
3. Core Activity	Guiding students to solve problem using the help of media/learning sources online	2.36
	Stimulating students to raise question	2.44
	Providing/developing/presenting problem	2.37
4. Post-Activity	Drawing a conclusion about learning output	2.28
	Reflecting on learning activities	1.64
	Providing a follow-up activity	1.07
	Informing the next lesson to students	0.81

In Table 2 above, it can be identified that in the aspect of preparation of designing learning scenario in accordance with the expected learning objectives, the average score gained is 1.87. This score might be influenced by the implementation of scenario design because many students did not include online learning objectives based on operational verbs and the elements of ABCD (Audience, Behavior, Condition, and Degree). The use of operational verbs in making learning objectives makes teachers trap only at the level of remembering or understanding (Effendi, 2017). Actually, the use of operational verbs in Bloom's taxonomy concept should reach high order thinking skill. This is in accordance with the model applied, namely the problem based learning model or problem solving that leads to a higher level of thinking starting from analyzing (C4), synthesizing (C5) and evaluating (C6). Elements of ABCD (Audience, Behavior, Condition, and Degree) where the Audience refers to the students, Behavior refers to the description of the behavior of the students to be observed, Condition of the tools or materials used in the implementation of learning, and Degree or the level of success to be achieved from learning. With the use of ABCD elements, the learning objectives that have been prepared before designing the learning scenario will be more directed and orderly in the process of the scenario. Finally, it can have a direct impact on the success of learning (Magdalena et al., 2020).

Furthermore, in the pre-activity of learning scenario, the orientation of students to the problem gets an average score of 2.41, and the orientation of students to solving problem gets an average score of 2.35. The results of these scores are considered good because of close to score 3. This is in line with the first stage in problem based learning, namely the stage of orienting students to a problem. In this problem orientation stage, the students are guided to solve the problem by going

through several various activities such as question-and-answer activity related to the problem (Warsono & Hariyanto, 2016).

Regarding the core activity, the sub-aspect of guiding students to solve problems using the help of online learning resources/media, the average score gained by students are 2.36. In the sub-aspect of stimulating students to ask questions, they get an average score of 2.44, while they get an average score of 2.37 for the sub-aspect of giving/developing/presenting problems. This shows that the contents of the scenarios designed in the core activities were good and have referred to problem based learning activities. Unfortunately, there were still some students who did not use suitable media/learning resources for online learning. The media/learning resources used were still less relevant. The use of relevant media/sources to online learning conditions really needs to be developed in order to increase students' understanding and learning motivation in the classroom (Bima et al., 2021).

Speaking of the post-activity aspect, the students get an average score of 2.28 and 1.64 for each of the sub-aspects of concluding lessons and reflecting on learning activities, respectively. At the same time, the scores gained for the subaspects of providing follow-up activity and informing the next lesson to the students are 1.07 and 0.81, respectively. This is quite ironic because many students made scenarios merely for activities to guide students in concluding their lessons. However, they did not include activities of reflection, follow-up and informing the next lesson to students in the scenarios they made. This might happen due to lacking knowledge of the students and indeed, such activities are seldom carried out at the end of the lesson. Students should notice that these reflection, follow-up, informing the next lesson at the end of the teaching are indispensable to identify the extent of the learning achievement has been reached by students, and to know whether there are still shortcomings from the learning process so that some follow-up activities can be done in order to make further learning better.

### III. Closing

Based on the findings and results of the study, it was found that there were still many students who were not skilled in preparing online learning scenarios using the problem based learning model. This issue was seen by only 5% of students who were categorized in a very high ability in making learning scenario, while the rest 29% had high ability, 21% had average ability, and 44% had low ability. This can be seen specifically from the lack of ability to make operational verbs and adjust ABCD elements in making learning objectives and post learning activities that still need to be improved. Therefore in the future, it is expected that PGSD students can improve their skills and abilities in designing online learning scenario to implement an effective, innovative and meaningful learning that fits the demands of the 21st century and adapts to the current online learning atmosphere.

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