

Needs Analysis of Problem-Based Learning Models in Boarding School: A Preliminary Research

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ABSTRACT---- *This study aimed to find out how the description of the need for the development of problem-based learning models in Islamic boarding schools in the subjects of Social Sciences. This research is the initial phase in research and development (R & D) devoted to studying needs analysis with a qualitative approach. Data were collected using several instruments such as interviews, observations, and document analysis. Furthermore, the data were analyzed qualitatively by using content analysis techniques. The results showed the teachers and students at the As'adiyah Islamic Boarding School, especially MTs. As'adiyah Putra 1 Sengkang showed that students' ability in the field of Social Science studies still needed methods that we're able to improve their learning achievement so that they could exceed the Minimum Completeness Criteria. They need innovation in the development of problem-based learning models to replace conventional methods that have been used in Islamic boarding schools.*

Keywords: need analysis, model of teaching, problem-based learning, Islamic boarding school

1. INTRODUCTION

One way to achieve learning objectives is to use an appropriate learning model. The learning model provides guidelines and guidelines for teachers in carrying out learning from beginning to end. The selection of the proper learning model impacts learning outcomes or other learning targets [1,2]. This is based on the fact that there is no effective learning model for all types of subjects, but it depends on the characteristics of the subject matter with the model used.

One of the learning models recommended by experts today is a problem-based learning model. This model was developed to help students develop their thinking, problem-solving, and intellectual skills [4,5]. [8] stated that this model involves the role of adults by participating directly in real or simulated experiences and becoming autonomous and independent learners. Problem Based Learning is considered not only capable of conveying knowledge/content but also being able to connect transfer skills and problem-solving [9].

In the Problem Based Learning model, students can use triggers from clinical scenarios to determine their own learning goals and inform their findings in group discussions [10,11]. Various studies state that Problem Based Learning is a learning model that has many benefits for students. Several studies claim that problem-based learning can develop critical thinking skills, problem-solving, communication, and independent learning [12–14]. D In addition, the model can also increase students' motivation to be greater in learning and able to develop professional skills [14,15].

As the spearhead of education, teachers must innovate in developing their learning models and devices. This must be done considering the teacher himself can identify the needs of his students. In creating a learning product, the teacher must first conduct an initial study, commonly referred to as a needs analysis [16,17]. This activity aims to collect initial information and data about various things that need to be known before designing learning products [18]. After information about the needs of teachers and students is known, the teacher/researcher can continue developing products to address the problems they face [19].

The development of learning products is considered essential because the learning tools available in the market are not necessarily under users' needs (teachers and students). Developing learning products needs to pay attention to potential users' suggestions, expectations, and needs so that these products can help overcome the learning problems they face [20–22]. In addition to teachers who understand the situation in the classroom, students' perspectives also need to be accommodated as material for consideration in designing learning products. Therefore, students as potential users of the

product have the right to provide an overview of the learning they want.

One of the formal educational institutions in Indonesia is the Islamic boarding school. Pesantren (Islamic boarding schools) is an Islamic educational institution with its characteristics compared to other educational institutions, both from the learning process or the education system [23]. Islamic boarding schools have traditional and straightforward characteristics, although pesantren combine education with modern techniques [24,25]. Several learning models are still used in traditional Islamic boarding schools [26]. The various conventional learning models and methods are still widely used by Islamic boarding school teachers as they are known as sorogan, wetonan and bandungan.

Several previous studies have raised the theme of the study of needs analysis associated with the Problem Based Learning model in schools. Needs analysis studies to develop Problem Based Learning-based learning tools have been carried out by several researchers for mathematics, natural science, language learning, and vocational techniques in public high schools [19,27–29]. These studies were devoted to students in public schools, both at the junior high school and senior high school levels.

From these several studies, there has been no preliminary study to develop a social science learning model based on Problem-solving Learning in Islamic boarding schools. As one of the formal educational institutions, Pesantren also needs the attention of researchers so that the institution can be more advanced and developed. Thus, this study aims to answer the formulation of the problem about the need to develop the Problem-Solving Learning model in Social Science lessons in Islamic boarding schools.

2. LITERATURE REVIEW

2.1. Need Analysis

Needs analysis is an activity that attracts the attention of many researchers, which is closely related to obtaining initial information before conducting further studies. Several terms have the same meaning as this needs analysis, including need assessment, preliminary studies, or preliminary research [1]. Needs analysis examines various urgent needs for learning or training by identifying performance areas or programs within an organization [30].

[31] explained that needs analysis is an activity in determining the most basic needs and then proceeds to identify objectives, content, implementation, target population, and intervention outcomes. [32] asserts that needs analysis is an activity in gathering information used to develop curriculum, learning, or training to meet specific learning needs. Not much different from some of these definitions, [33] explains that needs analysis is an activity to analyze various objective and subjective information to define curriculum objectives in the context of a particular institution.

In general, needs analysis is considered the most appropriate method because it can inform many things about the nature and content of students' learning content needs [34,35]. In other words, the teacher or learning designer must collect information about the current situation and condition of the target student [36]. Specifically, several techniques can be used in investigating the needs expressed by experts, including: (1) questionnaires, (2) observations, (3) interviews, and (4) analysis of written and authentic oral texts [36–43].

2.2. Teaching Model

In general, the model is defined as a conceptual framework used as a guide in carrying out certain activities [44]. A model is described as a reference variety, such as a miniature or form arranged in a systematic, proportional, and complete manner. [45] stated that the learning model is a specific learning approach. The learning model is also defined as a conceptual framework that describes a flow or procedure that systematically regulates learning activities. The learning model serves as a general guideline for teachers [46].

The learning model is a planner consisting of several stages starting from the initial stage to the closing part [47]. [48] also states a similar definition, which mentions the learning model as a learning concept related to guidelines and references in designing learning activities starting from the initial, core, and closing activities. In addition, the learning model is also defined as a method aimed at helping students to (1) obtain information, (2) capture and develop ideas, (3) develop both soft skills and hard skills, (4) achieve specific values, (5) develop critical thinking, and (6) improve learning outcomes [49].

The learning model is also interpreted as plans in achieving several targets and objectives, which are carried out through various stages known as syntax [50]. [51] claim that the learning model is synonymous with specialized methods for facilitating learning. The learning model consists of specific strategies in helping students understand the material. There are five elements in a learning model, namely: (a) syntax, (b) social system, (c) principles of reaction, (d) support system, and (5) instructional & nurturant effects [49].

2.3. Problem-based Learning

Problem-based Learning is a learning model based on using problems as a starting point for acquiring and integrating new knowledge. Problem-based Learning introduces relevant problems at the beginning of the learning cycle to provide context and motivation for subsequent Learning [52]. [53] define Problem-based Learning as a learning method that requires operational conditions and is usually included in collaborative or cooperative learning.

Problem-based Learning is a learning method that McMaster University in Canada in 1969. This learning method focuses on learning activities that are useful in solving problems of everyday life [54]. This method also focuses on natural or contextual issues and is expected to help students understand real-life situations [55]. Thus, the Problem-based Learning method is stated as a form of student-centred Learning.

In general, the concept of Problem-based Learning is the result of other learning theories, such as the theory of Kolb, Piaget, Vygotsky, Lave, and Wenger, which is based on constructivism and social Learning and Schon’s theory which is centred on the process of reflection [56,57]. states that Problem-based Learning combines cognitive theory and constructivism to develop cognitive processes by providing opportunities to learn in relevant situations. Problem-based Learning is also expressed as a form of realization of constructivism with students actively involved in learning through cognitive processes and interactions with the environment [8,58]. [59] states that problem-based learning syntax consists of five main phases described in the following table.

Table 1. The learning phase of Problem-based Learning

| <i>Phase</i> | <i>Teacher Activities</i> |
|--|--|
| Phase 1: <i>Provide orientation about problems to students</i> | <i>The teacher discusses the learning objectives, describes the knowledge of various critical logistical needs, and motivates students to be involved in problem-solving activities.</i> |
| Phase 2: <i>Organizing students for research</i> | <i>The teacher helps students define and organize learning tasks related to the problem.</i> |
| Phase 3: <i>Assist with independent and group investigations</i> | <i>The teacher encourages students to get the correct information, conduct experiments, and look for explanations and solutions.</i> |
| Phase 4: <i>Develop and present artefacts and serve it</i> | <i>The teacher assists students in planning and preparing artefacts according to reports, video recordings, and models and helps students convey them to others.</i> |
| Phase 5: <i>Analyze and evaluate the problem-solving process</i> | <i>The teacher helps students reflect on their investigations and the processes they use.</i> |

2.4. Islamic Boarding School (Pesantren)

Islamic boarding schools are defined as traditional Islamic educational institutions to study, understand, explore, appreciate, and practice Islamic teachings by emphasizing the importance of religious morals as guidelines for daily behaviour [60]. On the other hand, pesantren is defined as an Islamic educational institution with a dormitory system that usually consists of several elements, namely Kiai, ajengan or master teachers, students, dormitories, study rooms, and mosques as the centre [61].

In its development, Islamic boarding schools have undergone several decades of changes by getting various influences and changes in legal, social, government and even family aspects [62]. At the beginning of its formation, pesantren was established with various purposes. The main purpose of establishing a pesantren is to fight regional Islamic terrorism and embed education’s spirit [63]. Islamic boarding schools have an important role in advancing national education in Indonesia. Pesantren is seen as a place of ritual, character building, da’wah, and a strong institution to withstand internal and external challenges [26,64].

Pesantren education is a system for developing students’ academic and personal growth, which aims to teach various skills and provide social support [65]. The condition of Islamic boarding schools allows for an academic atmosphere because Kiai (teachers) and students (santri) are part of a parenting pattern capable of developing broad-minded and skilled individuals [66]. Pesantren also plays a role in helping people from the lower classes enjoy education and can learn to become successful people in their lives [67].

3. METHOD

3.1. Research Method & Participants

This research is the initial phase in research and development that aims to explore the needs of students and teachers in Islamic boarding schools regarding problem-based learning. This initial phase uses a qualitative design by trying to understand and interpret one's perception of the topic of research [68]. The research design used is a qualitative design that seeks to understand a person's complex meanings, experience phenomena, attitudes, and perceptions in depth [69,70]. Penelitian kualitatif tidak bertujuan untuk melakukan generalisasi temuan tetapi berupaya untuk mendapatkan pemahaman yang mendalam dari topik tertentu dari sudut pandang para partisipan [71,72].

This research was conducted at Madrasah Tsanawiya Putra 1 at As'adiyah Islamic Boarding School Sengkang, Wajo Regency, South Sulawesi, Indonesia. This research is one of the Islamic boarding schools that has a big role in the development of science in Indonesia. 5 Social Science subject teachers were participants in this study which were determined using the purposive sampling technique. The selection of this sampling technique is based on the characteristics that determine the participants by using specific considerations that are relevant to the research objectives [73]. Some of the considerations used in this research are: (1) teachers with an educational background in Social Sciences, (2) status as civil servant teachers or permanent teachers in schools for at least five years, and (3) already has a teaching certificate.

3.2. Instruments

Several instruments were used in this research, namely interviews, observations, and document analysis. Specifically, the following describes the three instruments.

1. Interview

The main instrument in this study was an interview using a semi-structured interview. This type of interview is a data collection technique by giving questions to respondents in a relaxed and not rigid situation related to the research theme [74,75]. In addition, interviews are also used to explore a person's perspective to understand reality and interpret social phenomena in their environment [76,77]. Several questions in this interview relate to (1) teachers' understanding of Problem-based Learning, (2) how to apply effective learning with Problem-based Learning, and (3) teachers' expectations of Problem-based Learning.

2. Observation

Observation is the oldest form of research method and collects data based on aspects of vision and hearing in a systematic and directed manner [78]. With this technique, researchers observe research subjects directly and record them, recording events naturally and within a specific time [79,80]. In this study, the researcher used limited participatory observation by observing the learning process in the classroom during Social Science learning.

3. Documentation study techniques

The third instrument used in this research is the documentation study technique. This technique is used to obtain data on the study of various references/learning documents related to the research theme. Documentation studies or document analysis refers to analyzing various written documents carried out by researchers to get a comprehensive picture of the research theme [81]. Researchers choose and use this technique to obtain specific information that can support the findings from interviews and observations [82,83].

3.3. Data Analysis

Following the research design used, the data analysis technique in this study used qualitative methods. Data from interviews, observations, and document analysis were analyzed qualitatively using content analysis. This analysis technique is general. It is most widely used in qualitative design [84,85]. In addition, to get the trustworthiness of this research, the researchers used several methods, namely member checking and peer-review. Member checking is done by providing interview transcripts to participants to check whether they follow what was in the previous interview [86]. In addition, researchers also carried out peer review activities by asking research colleagues to correct and provide corrections to the study results [87].

4. RESULTS

4.1. Interview results

Several points became the main highlight of the results of the interviews with the participants. The first thing that must

be considered is related to the problems faced by teachers in teaching Social Sciences in Islamic boarding schools. The habit of the teaching system in Islamic boarding schools, which is dominated by conventional methods (lectures), is considered to be a significant influence, so sometimes it is difficult for teachers to change to innovative approaches. This is confirmed by one of the following interview excerpts from one of the teachers:

The habit of learning in Islamic boarding schools with the lecture model is sometimes carried over into my teaching style in class. It is rather difficult to change old habits into new forms of activity.

Besides the problem of habit and culture, another problem for teachers is their limited knowledge of the Problem-based Learning model. There are still teachers who do not have a clear picture of this learning model. So far, the learning process they use only conveys material, discusses, gives assignments, and gives homework assignments. One participant stated that:

I still don't know what problem-based learning is. I did not receive any information or training related to this learning model.

Regarding teachers' expectations regarding the importance of developing Problem-based Learning-based Social Science learning models, all participants gave relatively the same perspective. They expect that integrating Problem-based Learning models into learning can improve student learning outcomes. In general, they suggest the need to design and develop learning models for teachers, particularly by integrating Problem-based Learning into the learning model. The following are excerpts from the participant interviews.

I think a teacher should indeed design a learning model with Problem-based Learning so that students can recognize specific problems and have provisions in the future in the world of work.

I believe that traditional learning in Islamic boarding schools must be changed to suit the times. In addition, I think Problem-based Learning is an effective model to be developed into Social Science learning.

From some of these interview excerpts, the researcher concludes that problem-based learning models in Islamic boarding schools need to be developed. This is done to improve student achievement or learning outcomes and provide other skills they need. Learning conditions that are only teacher-centred are considered to have been abandoned, considering the current learning styles of students (generations Z and A) are far different compared to several previous generations. Currently, students must be actively involved in all learning processes to construct new knowledge from what they have experienced.

4.2. Observation Results

Observation results show that pesantren teachers still use teacher-centred learning methods. This condition causes students to be still passive, tend to wait, and be less responsive when teachers teach in class. Consequently, learning outcomes and student activity in class are still very low. This condition is also greatly influenced by the pattern of learning in Islamic boarding schools, which have been using the halaqah, sorogan, wetonan and bandongan learning systems in the study of the yellow book.

During the learning process, students in the class only took notes without positively responding to the material presented by the teacher. This condition is unavoidable, considering the complete lecture method during the learning process seems dull and unattractive. It can be said that almost 90% of teachers control the classroom situation without providing opportunities for students to seek and construct new knowledge. Learning in the classroom is only limited to transferring knowledge from the teacher to the students.

This fact indicates the need for innovations that teachers must carry out in changing the learning model in the classroom. The teacher must immediately design the learning model so that the learning outcomes are the expected targets. Each teacher is expected to develop a learning model with a Problem-based Learning model so that students can think critically and develop problem-solving skills. The pattern of pesantren learning, which is identical to the conventional model, is expected to have been changed to assist students in equipping them with the various skills they will need in the future.

4.3. Document Analysis Results

Researchers also conducted documentation studies on several written documents such as Semester Learning Plans (SLP), teacher books, and student handbooks to strengthen the findings on the results of interviews and observations. From the teacher's analysis of the lesson plans, it does not appear that the integration of the Problem-based Learning model is in it. The syntax or learning stages used still adhere to the general systematics, namely the opening, core, and closing sessions. The stages of learning that lead students to case examples (problems) are not explicitly stated in the lesson plans.

The analysis results of other learning tools also found the same problem. For example, the teacher's handbook and student handbooks use textbooks from the central government. In this case, the teacher has not developed teaching materials relevant to the Problem-based Learning model and tends to follow the flow of steps in the textbook. This condition, of course, makes teachers less productive in developing their teaching materials tailored to their students' needs. Of course, uniform package books from the central government have not been able to meet all the needs of students in various regions. This is because the problems faced and the needs of students in each area are different.

The results of the analysis of other documents also indicate some of the findings in this study. From the analysis of the final grades of students in the previous Social Sciences subject, it can be seen that: (1) students' literacy skills in Social Science subjects still need attention, (2) student learning outcomes still need to be improved because they are classified as low and moderate (still little students who meet the scores above the Minimum Completeness Criteria), and (3) the test material questions used so far have not involved students in processing, discovering, and analyzing the problems they are studying on their own.

5. DISCUSSION

Before the teacher develops a model or learning device, the first activity that must be carried out is conducting a preliminary study or needs analysis. Needs analysis is collecting data and information from informants to find out what needs they expect in the learning model development process. The needs analysis results obtained information that Problem-based Learning has not been implemented in Islamic boarding schools as Islamic educational institutions in Sengkang City, South Sulawesi, Indonesia. The majority of teachers still use conventional methods during the learning process. This is in line with several previous studies which state that the learning methods applied in Islamic boarding schools are still traditional [61,63,64,88].

Based on information from the respondents, Problem-based Learning is a learning model that needs to be developed and applied in the learning process in the classroom. Problem-based Learning is a model based on using problems as a starting point for the acquisition and integration of new knowledge. With this learning, students are introduced from the start to various life problems that they may encounter later when they graduate from school [12,58]. However, adopting problem-based Learning into Learning faces challenges because of several factors, including belief factors and problems with learning practices carried out by teachers [89]. In addition, the implementation of Problem-based Learning also faces other difficulties such as negative student attitudes, time allocation constraints, unique characteristics of the Problem-based Learning curriculum, and others [90–92].

This study indicates that the Problem-based Learning model is essential to use to stimulate and develop learning outcomes for Social Science subjects. In addition to lessons in the social field, several studies on needs analysis on Problem-based Learning are urgently needed to be immediately applied to science and mathematics learning [27,28]. The Problem-based Learning model that provides the basis for problems from real life can serve as a stimulus to train students in developing critical thinking skills. This skill is one of four other skills that must be mastered by students in the current era of the industrial revolution 4.0 [93,94]. Critical thinking skills can be an essential skill as a provision in later life and problem-solving, collaboration, and communication skills, commonly referred to as The Four Cs [95].

The needs analysis is the initial phase before the researcher designs the learning model or device. This phase is considered vital because it can be a benchmark on how to develop good learning products according to the needs of its users. The needs analysis is carried out by the teacher in designing learning in the classroom. In other words, there is a gap between reality and desired expectations in achieving student learning outcomes. Needs analysis is a method used to determine the difference between reality and desire [20]. In this case, the common condition embodies ideal conditions, while the reality is a current event that is truly real.

Needs analysis is also carried out to accommodate the current curriculum with the current needs of students. Needs analysis is also interpreted as an activity that involves meeting information as the basis for developing a curriculum that meets the needs of students [22]. This means that the current curriculum must also be adapted to users' needs so that the two can go hand in hand. Needs analysis has a vital role in helping the learning process because it is a fundamental principle in a student-centred learning system [96]. In other words, Learning must be responsive to the needs of its students.

Furthermore, the needs analysis must be related to the learning context, including the curriculum, textbooks or textbooks, the constraints faced, and the rationalization of Learning [97].

6. CONCLUSION

Problem-based learning is one of the learning models considered adequate by experts in improving student learning outcomes, especially in learning Social Sciences. A teacher must design the learning model to achieve this goal, which begins with conducting a preliminary study or needs analysis. The research findings state that the problem-based learning model is a learning model that education experts widely recommend because this model has various advantages. The study results also found that the conventional model still dominated the learning process in Islamic boarding schools by placing the Kiai or teacher as the centre of learning. Although it still has advantages, the conventional method must be replaced with a student-centred learning approach. One form of the Student-Centered Learning approach is a form of problem-based learning. All respondents suggested that efforts should be made to develop problem-based learning models in Islamic boarding schools, especially social science learning.

7. REFERENCES

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