ANALYSIS OF THE PROBLEM BASED LEARNING (PBL) MODEL ON KINESTHETIC LEARNING STYLES IN ELEMENTARY SCHOOL

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Abstract. At this time we really need knowledge or learning which can be found or obtained from anywhere. In accordance with formal education, acquiring knowledge or learning starts from kindergarten, elementary school, high school, high school to college. To obtain knowledge outside formal education, it can be obtained from informal education, namely within the family environment. Apart from formal and informal, there are non-formal ones, namely Islamic studies, madrasas and Islamic boarding schools. Learning is not a short day or two but a very long process. It is a place to seek knowledge that can understand our struggle to seek that knowledge. The learning model is very important, education is closely related to the uniqueness of each student. The material presented in each learning process must be able to cause changes in learning styles and have a positive influence on students' performance. This is intended so that students can use this positive influence as a provision in the form of skills and expertise that will be used in real life and is full of challenges. Teachers must be able to choose the right learning model so that students can have a kinesthetic learning style and improve learning outcomes.In reality, not all students have a kinesthetic learning style and an independent curriculum that emphasizes active learning. There are obstacles when creating syllabi, lesson plans, annual programs, semester programs and KKM. In a RPP the model used is attached, but in reality in the classroom a teacher has not implemented a variety of models, but still uses the lecture method used so that students cannot have the expected learning style. There are many factors that cause a teacher to only use the lecture method, one of which is that the teacher does not understand the model steps that will be used and are attached to the lesson plan. This research aims to see whether there is an interaction effect between the Problem Based Learning model on students' kinesthetic learning styles. Using the literature study research method. Most of the results from these journals discuss Problem Based Learning (PBL) Model. So it is hoped that this model will have an effect towards kinesthetic learning styles

Keywords: Problem based learning, Kinesthetic learning style, IPAS, PBL

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INTRODUCTION

Everyone really needs knowledge or learning, gaining knowledge that can be found or obtained from anywhere. In accordance with formal education, to obtain knowledge or learning starts from kindergarten, elementary school, junior high school, high school to college. While to obtain knowledge outside of formal education can be obtained from informal education, namely in the family environment. In addition to formal and informal, there are also non-formal ones, namely religious studies, madrasas and Islamic boarding schools. Learning is not short, a day or two, but a very long process. Places to seek knowledge can find out our struggle to obtain that knowledge. Wherever we are, knowledge can be obtained properly and correctly.

The government hopes that a good education system will emerge from generation to generation. The generation is also required to be of high quality and able to adapt to the school environment and society. The government has established a legal basis for organizing education in Law Number 20 of 2003 concerning the National Education System. The essence of education is inseparable from the essence of humanity, because the main subject of education is humans (Syamsudin & Budiman, 2006). Education is an important aspect in

human resource development because education is a means or one of the instruments used to free humans from ignorance and poverty (Siahana, 2018).

In the 2013 curriculum, Science and Social Sciences stand alone. Meanwhile, in the independent learning curriculum, Science and Social Sciences are combined into IPAS. The approach used for IPAS subject matter is the authority of the educational unit because schools can continue to use a thematic approach or switch to a subject-based approach. The implementation of the curriculum is expected to improve skills and cognitive aspects, especially in the content of the IPAS subject. The implementation of independent learning is indeed not easy, because we know that education in Indonesia is still far behind, so when some systems change, both teachers and students will be surprised. (Darmayani, 2020). Although the implementation of independent learning is not easy, there are several ways that can be taken to facilitate this implementation.

Change is a common phenomenon that occurs in dynamic life. In the century entering the era of globalization and rapid progress in science and technology, the demands have become more complex and challenging. Various learning styles are highly expected in dealing with these changes. The changing conditions of society and the nation demand that the existing education system adapt to these changes, so it is a shame if the next generation of the nation does not take the time to develop their knowledge. The development of Science and Technology (IPTEK) has changed the world. This change is very fast, extraordinary, and very complex.

This change not only touches social, economic, cultural, and political life, but also penetrates the mindset. If in the past, traditional mindsets that are routine, automatic, and very procedural have become habits, then now a new way of thinking is needed, namely critical thinking. Thus, trying to do this has become our challenge in today's digital era.

The learning model is very important, education is closely related to the uniqueness of each student. The material presented in each learning process must be able to cause changes in learning styles and have a positive impact on student performance. This is intended so that students can use this positive influence as a basis in the form of skills and expertise that will be used in challenging real life. Teachers must be able to choose the right learning model so that students can have a kinesthetic learning style and improve their learning outcomes.

In reality, not all students have a kinesthetic learning style and the independent curriculum emphasizes active learning. There are obstacles in making syllabus, lesson plans, annual programs, semester programs, and KKM. In the attached lesson plan model, various models are used, but in reality, a teacher in the class has not applied various models and still uses the lecture method, so that students cannot achieve the expected learning style. There are many

factors that cause a teacher to only use the lecture method, one of which is that the teacher does not understand the steps of the model that will be used and attached to the lesson plan

The learning process in small groups, centered on students, is a characteristic of problem-based learning (PBL). (Sanjaya, Planning and Designing Learning Systems, 2012). Students need to strengthen good and logical thinking, dare to actively solve problems in real conditions to be able to determine in-depth answers to a problem. (Mulyanto, 2018). The problem-based learning model makes it easier for students to solve problems, because it presents contextual issues that occur around them. Students are active in building their knowledge through discussions and questions based on real-world problems. (Narmaditya, Wulandari, & Rosnita, 2018). For students who explore knowledge using the problem-based learning model (PBL), the results will be good in cognitive and skill aspects. (Syamsul Arifin, 2020). The use of problem-based learning models to find solutions to environmental problems can encourage students to be critical in strengthening thinking skills. (Saiful Amin, 2020). Based on the typical characteristics of problem-based learning assessments, it is very appropriate if this assessment is used to observe the learning process and development of students in their learning. Assessments that tend to focus on complex or contextual tasks allow students to demonstrate their excellence, which includes attitudes, knowledge, and skills according to Bloom's taxonomy.

Every student has a different learning style, so a teacher must be able to understand and determine the appropriate learning style. Even though students are in the same class, their thinking abilities are not the same, therefore their learning styles also vary. A teacher must understand the student's learning style, so that the teacher can manage classroom conditions. Learning style is a way to describe how each person learns or how each person focuses on the process and understands difficulties and new information through different perceptions. (Putri, Magdalena, Fauziah, & Azizah, 2020). Learning style is the way each individual learns according to the ease of each individual in understanding the information being learned. (Matussolikhah & Rosy, 2021).

Thus, it can be concluded that each individual has a different learning style and learning style greatly supports learning outcomes or cognitive abilities. Many factors are influenced by students' learning styles that affect academic achievement, one of which is learning activities. If a child or student receives lessons according to their learning style, then the lesson will be easier to understand. According to the kinesthetic learning style, information is obtained by prioritizing the senses and physical movements. Individuals with a kinesthetic learning style easily understand lessons when they move, touch, or take action, thus gaining direct practice or learning experience (Supit, Melianti, Lasut, & Tumbel, 2023).

A review of previous literature on problem-based learning and kinesthetic learning styles can provide insight into previous research and existing findings. In addition, the learning process in social studies also emphasizes the memorization method. This learning process, which emphasizes memorization, will actually hinder the development of critical thinking because the level of reasoning achieved is only at the memory level. This condition clearly makes learning feel boring and causes most students to lose focus on the material being studied. The low level of learning activity is considered to have an impact on the low academic achievement in social studies achieved by students.

Based on the explanation above, researchers found a problem that there were difficulties in children's critical thinking skills, which resulted in children having difficulty developing according to the standards of the educational process. The uniqueness of this study lies in the application of the Merdeka curriculum in the subject of science, which rarely applies Problem-Based Learning and Kinesthetic Learning Styles. This is based on previous research. Therefore, the researcher wants to try to apply problem-based learning to students' learning styles. Thus, the researcher has chosen the title "The Effect of Problem-Based Learning on Kinesthetic Learning Styles in Science in Elementary Schools."

METHODOLOGY

This study uses a model, namely literature study research or library research with a qualitative approach. Systematic literature review is a method used to evaluate, determine and interpret all research problem findings in answering predetermined questions (Rosa, 2021). So, literature study is research conducted by searching for and collecting several journals or articles that have been indexed and are relevant to the title of the research we are making.

The research will be conducted in the odd semester of the academic year, the research was conducted at a State Elementary School in Bandung Regency, Indonesia. The selection of schools is based on the similarity of school accreditation, implementation of the independent curriculum, teacher competence through teacher certification, student IPAS scores, study time, learning environment conditions, number of students, and availability of supporting facilities and infrastructure.

The data used in this study comes from books and journals, both national and international libraries. In conducting this research, the researcher searched for library data published on the internet using a search engine using the keywords Problem Based learning, kinesthetic learning style, IPAS, PBL. The data analysis techniques after the samples and data have been collected are as follows: (1) data reduction, namely removing various unnecessary things and focusing on important things; (2) data presentation, namely presenting data presented based

on certain sub-sections; and (3) drawing conclusions from new findings that have never existed before.

RESULTS AND DISCUSSION

This model covers all learning actions that must be carried out, even beyond certain strategies, methods or techniques. Someone can be said to use a model if their learning is in accordance with the demands of a model or syntax that has been set. Students in a learning must be studied so that they can be said to be successful. Before carrying out learning, teachers must make a plan to carry out activities. In addition, determine the right model to lighten the lesson material. (Salam R, 2017). In addition to lightening the lesson, the learning model can expand thinking skills and get in-depth lessons. In some models for learning have their own positive and negative impacts, their proper application is an option to obtain good learning outcomes.

Project-based learning comes from John Dewey's idea of the concept of "Learning by doing". This form of learning is Dewey's rejection of preschool institutions that have often been passive, lazy, and unproductive. Learning with the principle of "learning by doing" provides many opportunities for children to be active, work and be productive in finding various knowledge. The implementation of project-based learning is that the field of study/development is presented separately (partially) between one field of study and another. Each field of study has its own learning sequence, as if it does not show any connection between one and the other. This is not the case with the learning proposed by Dewey, so everything is interrelated. In addition, there is also Dewey's thought, namely, a democratic class means that students are divided into small groups to complete interesting projects and the students' own choices.

Learning models have many uses that can reach all areas of education, from planning materials to programs. Each learning model has its own advantages and disadvantages, its proper application is an option to get better learning outcomes.

The Problem Based Learning (PBL) model is a learning process that combines new knowledge as the initial step that is applied so that this learning is made with a student-centered model. they then solve problems and finally integrate knowledge in the form of reports (Munawaroh, 2021).

Based on the explanation above, Problem Based Learning (PBL) is an activity model of active learning from beginning to end that uses solving as a way to construct student knowledge independently which refers to the experience they have had.

A. Problem Based Learning Model Steps

The implementation of each learning model has its own characteristics. The learning steps are divided into three stages, namely: introduction, presentation and closing (Rusmono, 2012). To be more specific:

INTRODUCTION

1. Providing motivation
2. Group division
3. Learning Objectives Information

PRESENTATION

1. Orienting students to the problem
2. Organizing students to learn
3. Assisting independent and group investigations
4. Developing and presenting works and exhibitions
5. Analyzing and evaluating the problem-solving process

CONCLUSION

1. Summarizing the material that has been learned
2. Conducting tests and assigning homework

According to the points above, it describes the steps of learning knowledge with the Problem Based Learning (PBL) model. In the preliminary stage, students are given knowledge or introduced to learning. Furthermore, students are given teaching materials containing information about learning materials to be discussed. After that, it is studied by individuals or groups and then the results are presented. And ends with a joint summary of the material between the teacher and students. After that, the teacher gives a test or homework. According to (Eggen and Kaucak, 2012) there are 4 phases in the Problem Based Learning model, namely:

Table 1. Phases in the Problem Based Learning model

PHASE	DESCRIPTION
Reviewing and presenting the problem	1. Capturing students' attention to engage them in the lesson 2. Informally assessing knowledge 3. Providing concrete examples for the lesson

Formulating a strategy	4. Using an approach to identify a problem with students
Implementing the strategy	5. Engaging students in experiences to identify a problem
Discussing and evaluating results	6. Giving feedback to students

These stages, this study uses the syntax proposed by Eggen and Kaucak. In its syntax, there is compiling and implementing strategies so that teachers can assess students in this regard. This is assessed when students solve problems using strategies so that teachers can provide feedback and monitor students' efforts in providing feedback. In observations, this can be done by observing students' social skills. At each stage of this model, teachers must play an active role in monitoring the development of student learning so that learning objectives are achieved.

B. Strengths and weaknesses of the problem-based learning model

The advantages of the problem-based learning model are as follows: 1) Making students have an open mindset; 2) Making students learn actively and successfully solve problems; 3) Making students communicate well and in groups; 4) Can solve real or concrete problems; 5) Challenging students to have new knowledge skills; 6) Developing critical thinking skills; 7) Making learning fun; and 8) Developing students' interest to continuously learn even though formal education has ended

weaknesses in the problem based learning model are as follows: 1) if students do not have interest or self-confidence, this learning will be considered difficult and they do not want to try again; 2) it takes a long time; and 3) without giving students an understanding of trying to solve problems, they will not learn what they want to learn

C. Learning Theories that Support the Problem Based Learning (PBL) Learning Model

1. Jean Piaget's Learning Theory and Constructivism View

Piaget is a philosopher, scientist and psychologist who is even famous for his learning theory. Piaget's theory discusses cognitive development and puts forward stages of cognitive development in addition to showing that intelligence is related to child growth. Meanwhile, in relation to constructivism learning theory, Piaget is known as the first constructivist, emphasizing that knowledge is formed or built in the child's mind. The study between Piaget's learning theory and the constructivism view with Problem Based Learning (PBL) is that the principles of Problem Based Learning (PBL) are in line with the theoretical view so that

students actively construct their understanding independently, by interacting with their environment through the process of assimilation and accommodation.

2. Vygotsky's Learning Theory Vygotsky's learning theory will be in line with Jean Piaget's theory. The theory that intellectual development occurs because individuals are faced with new, challenging experiences. But there is a difference, namely in Vygotsky's theory the social aspect can spur new experiences or ideas that will be obtained. Therefore, the principles of Vygotsky's theory are part of Problem Based Learning (PBL) activities through learning and learning in small groups.

Each student has a different learning style, so a teacher must be able to understand and determine the appropriate learning style. Even though the students are in the same class, their thinking abilities are not the same, so their learning styles vary. A teacher must understand the learning styles of students, so the teacher will be able to manage the classroom conditions. Learning style is a way to describe how each person learns or how each person focuses on the process and understands difficulties and new information through different perceptions (Putri, Magdalena, Fauziah, & Azizah, 2020). Learning style is the way each individual learns according to the ease with which each individual understands the information being studied (Matussolikhah & Rosy, 2021). Therefore, it can be concluded that each individual has a different learning style and learning styles are very supportive of learning outcomes or cognitive abilities.

Research by (Supit, Melianti, Lasut, & Tumbel, 2023) Learning style: They learn well when they see, hear, and move. At the same time, their teachers have become proficient in using various teaching aids and instructional tools, enabling their students to achieve very high academic performance. However, the results of this study indicate that there is no significant relationship between learning styles (visual, auditory, and kinesthetic) and students' academic performance. Therefore, it can be concluded that the fluctuations in students' performance are not related to any particular learning style, but most likely because these students already possess all three learning styles simultaneously. Kinesthetic learning style is a learning style that involves learning through movement, work, and touch. Children with kinesthetic learning can learn by moving, touching, and doing something (Putri, Magdalena, Fauziah, & Azizah, 2020). The characteristics of this learning style include speaking slowly, responding to physical attention, always being oriented, moving a lot, and learning through manipulation and practice.

According to (Kanji, Nursalam, Nawir, & Suardi, Integration Of Social Care Characters And Moral Integratif On Social Science Lessons In Elementary School, 2020), knowledge, feelings, synergy, actions, habits, and moral culture are levels of social care character education that are integrated within the school environment. In the Ministerial Regulation Number 22 of 2006

concerning Content Standards, it is stated that in the dynamic progress of life, the content of Social Science education is designed to be developed, understood, and analyzed in its knowledge. Social Studies courses, both at the individual and societal levels, aim to enhance active and productive citizens who are aware of their rights and fulfill their obligations (Öztürk & Korkmaz, 2019).In the content of Social Science subjects in Elementary Schools, knowledge, social skills, values, and morals in living within society and the state emphasize the ways of educating, understanding, and applying them (Permatasari, Gunarhadi, & Riyadi, 2019). The implementation of this curriculum is expected to enhance aspects of skills and cognition, especially in the IPAS subject content. The implementation of independent learning is indeed not easy, because we know that education in Indonesia is still far behind, so when some systems change, both teachers and students will feel surprised. (Darmayani, 2020). Although the implementation of independent learning is not easy, there are several ways that can be taken to make this implementation easier.

Learning activities in schools can use various types of learning models that will be implemented. To implement a model during learning, it is necessary to pay attention to important aspects such as the attitude of the learners, the expertise of the educators, and the expectations to be achieved in the learning process. Therefore, according to the author, the model that can be applied to this issue is learner-centered learning or that model.

Social skills have a direct positive influence on cognitive aspects, so the development of social skills in elementary school students will lead to an increase in cognitive aspects. Problem-solving ability has a positive impact directly affecting the cognitive aspects of the Social Studies curriculum. Therefore, the development and practice of problem-solving skills in elementary school students enhance their social cognitive aspects. Social skills have a direct influence, which in turn affects problem-solving abilities, meaning that training and development of social skills in elementary school students improve their problem-solving skills. The model has greater effectiveness in improving social studies learning outcomes. This model can be used as an alternative to explore problem-solving, satisfying, and encouraging students to socialize because students can build their own knowledge by solving problems similar to real-world situations. Besides the learning model used, the level of interest in learning also affects the success of students' learning in social studies. Students with a high interest in learning will be enthusiastic about studying and achieve better results compared to those with lower interest in learning.

From qualitative data, it is confirmed that teachers feel helped in identifying essential materials, allowing them to design and implement better learning. The literacy and numeracy

module from the Ministry of Education and Culture can also be referred to as a helpful tool for implementing the curriculum.

The model has greater effectiveness in improving social studies learning outcomes. This model can be used as an alternative to explore problem-solving, satisfying, and encouraging students to interact because they can build their own knowledge by solving problems similar to real-world situations. Besides the learning model used, the level of learning interest also affects students' learning success in social studies. Students with high learning interest will be enthusiastic about learning and achieve good results compared to those with less interest. Therefore, this model can be applied in teaching and can influence students' learning styles in the subject of Social Sciences. Learning outcomes improved after this model was implemented.

CONCLUSION

The independent curriculum has several key characteristics that support the recovery of learning for the development of soft skills and character, focusing on essential materials and flexibility.

Therefore, after the model is applied in learning, it can influence the learning styles of students in the subject of Social Science because it is linked to problem-based learning that can develop character. In this learning, IPAS in the independent curriculum provides an opportunity to learn through experience, integrating essential competencies learned by students from various disciplines, as well as a flexible learning structure. This kinesthetic learning style can play an active role in IPAS learning.

Social skills have a direct impact, which in turn affects problem-solving abilities, meaning that training and development of social skills in elementary school students enhance their problem-solving skills. Furthermore, the learning model with that model can state that social skills have a direct positive influence on learning styles.

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