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Differences in Student Motivation in terms of Student Learning Styles in Problem-Based Learning

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ABSTRACT

This study aims to explore differences in students' learning motivation based on their learning styles. This study used a questionnaire or questionnaire method to collect data about students' learning style preferences and their learning motivation. Participants in this study were students of SDN Kertawinangun 1 who were randomly selected. The data were then analyzed statistically using descriptive tests and ANOVA tests. The results of the analysis show that there is no significant difference in students' learning motivation based on learning style. Students who have visual, auditory and kinesthetic learning disabilities do not show a high average learning motivation. Teachers can apply learning models that are appropriate to learning styles to increase learning motivation.

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1. PENDAHULUAN

Elementary school students still need special attention from teachers for learning motivation because at that age they are developing important foundations in learning and student learning experiences that will shape their attitudes and mindset in the future. Elementary school students are experiencing rapid cognitive development (Khaulani, Neviyarni & Irdadinding, 2020). Therefore, special attention from teachers in providing proper guidance and support can help students develop strong motivation to learn. In learning, each learner has a variety of learning styles according to what is the learning goal (Noervadila & Misriyati, 2020; Artino, 2016).

The attention that is very important and especially regarding learning preferences, that teachers must understand regarding the varieties of learning preferences. Elementary school students have a variety of learning preferences, including different learning styles. Some students may be more responsive to a visual learning style, while others may prefer an auditory or kinesthetic approach. According to Cohen & Henry (2019) teachers need to understand students' individual learning preferences and provide an appropriate learning environment so that students feel engaged and engaged in learning.

Understanding students' learning preferences will benefit teachers to enable them to convey information in the most effective way. According to Mitra & Beenen (2019) that the type of learning will affect how to convey the subject matter. With the resilience of students' learning preferences, teachers can create longer knowledge retention. Of course it will be very useful in learning new concepts when students have a longer memory of prerequisite knowledge.

Another benefit of understanding student learning preferences for teachers is determining a learning approach that suits students' learning styles, tends to be more involved and motivated in the learning process. Understanding students' learning preferences helps teachers create interesting and relevant learning experiences for students. This can increase student engagement and motivation to learn.

Learning motivation has a very positive impact on students in achieving learning goals. Several studies show that students who have high motivation tend to show greater interest in subject matter, participate actively in learning activities, and achieve higher academic efforts. Motivation in this case includes two things, namely knowing what will be learned and understanding why it is worth learning (Jampel, 2016).

Learning motivation is an internal force that encourages students to start, continue, and direct their learning behavior. Social factors that affect students' motivation to learn include interactions with peers, relationships with teachers, the school environment, and existing social norms. Social facts about motivation to learn can be understood through an understanding of students' social factors that influence student motivation.

According to Nasution (2018) the social factors that influence student learning motivation are interactions with peers. Peers can have a positive or negative influence on student learning motivation. Intellectual ability also influences learning motivation with a positive correlation (Sari et al, 2018). In addition, the relationship with the teacher also plays an important role in student learning motivation. Teachers who are able to build positive relationships, provide support, provide constructive feedback, and show an interest in student development tend to motivate them to learn. On the other hand, an unfavorable relationship between students and teachers, such as poor communication, injustice, or indifference, can reduce students' learning motivation.

At this age, students are experiencing social and emotional development so they need special attention. According to Kendziora & Osher (2016) elementary school students experience significant social and emotional development. They begin to build relationships with peers, develop their identity and learn to manage their emotions. Teachers need to create a safe, supportive and inclusive environment so that students feel comfortable, engaged and motivated in learning. According to Wahyuni et al (2020) the supporting factors for this learning style are the availability of adequate facilities so that teachers can use various learning methods in the learning process, as well as the inhibiting factors, namely teachers who are lacking in maximizing existing facilities at school.

The problem-based learning model has the characteristics of problem-based learning. The PBL model can provide training and great opportunities for elementary school students to develop cognitive, social and emotional through the steps of the PBL model. One of the main problems is the lack of students' intrinsic motivation. Intrinsic motivation Refers to students' drives and desires that come from within, such as the desire to learn because of curiosity or personal interest. Many students experience a lack of intrinsic motivation and tend to rely on extrinsic motivation, such as disbalance or punishment from others to learn. This can result in low quality and durability of student motivation.

Lack of connectedness with subject matter can also be a problem in students' motivational attitudes. If students feel that the subject matter is irrelevant, uninteresting, or unrelated to their real lives, they may lose motivation to study. Students need to see the connection between what they are learning and their personal interests, future goals, and everyday life to maintain high learning motivation. The purpose of this study was to determine the characteristics of students' motivation and learning styles and to determine differences in student motivation in terms of student learning styles in problem based learning (PBL).

2. METOHOD

Basically this section describes how the research was conducted. The subject matter of this research section uses a quantitative research design with a cross-sectional approach. The cross-sectional approach provides a description of the characteristics of the variables at a given moment without involving ongoing observations or changes over time. The participants in this study were 33 students at SDN Kertawinangun 1 who were randomly selected. The research instrument used consisted of a learning style questionnaire and a learning motivation questionnaire. The data collected was analyzed using a statistical method, namely the different test or analysis of variance (ANOVA), to identify differences in student motivation based on learning styles.

3. RESULT AND DISCUSSION

The application of the PBL model is carried out according to the research objectives, namely mapping and knowing differences in learning motivation in terms of student learning styles. The application of the PBL model begins by presenting an interesting question or problem. The teacher gives interesting questions or problems and challenges students. The questions or problems are relevant to real life or learning contexts so that students feel involved and challenged. After that, the teacher continues to provide initial guidance to students to help understand learning objectives and provide initial directions in finding solutions. The teacher guides students in identifying through visualizations displayed in class. Teachers are able to facilitate collaboration between students in class. Teachers provide discussion and collaboration time enabling students to share ideas, think critically, and help one another in solving problems. This can increase the motivation and involvement of students' learning styles. At the end of PBL learning the teacher provides feedback to students regarding learning progress. Constructive feedback can motivate students to continue to improve understanding and skills.

This research attempts to examine some of the characteristics and differences between students' motivation and learning styles in PBL learning. This research was conducted at SDN kertawinangun 1 Cirebon with a sample size of 33 students. The results of the descriptive statistical calculations are listed in table 1 below.

Table 1. Statistik Deskriptif

Statistik	Motivation	Learning style
N	33	33
Range	62.00	20.00
Minimum	70.00	58.00
Maximum	132.00	78.00
Mean	96.3636	66.7879
Std. Deviation	14.60483	5.14634
Variance	213.301	26.485

From the results of calculating descriptive statistics on the variables of motivation and learning style, it is shown that the average motivation is 96.36 while the average for learning style is 66.78. The maximum score for motivation is 132 and the maximum score for learning style is 78. While the minimum score for motivation is 70 and the minimum score for learning style is 58. The results of other calculations show that the standard deviation for learning motivation is 14.6 while learning style is 5.14 . The results of motivation and learning styles have categories and characteristics that are unique to the sample. The results of motivation scores and learning styles show situations that still need special and directed treatment from the teacher and school. The existence of learning motivation will have a very positive impact on other things that are inherent in students (Riyanto & Mariani, 2019).

Table 2. Kolmogorov-Smirnov test

	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Motivation	.125	33	.200*
Learning style	.121	33	.200*

Based on table 2 regarding the results of the normality test, it is known that both motivation and learning style variables have normal distribution characteristics. This is shown from a significance score of more than 0.05.

Table 3. Homogeneity test

Levene Statistic	df1	df2	Sig.
16.347	1	64	.000

In the results of the calculation of the homogeneity test it is known that the data is not homogeneous. This is based on a significance score of less than 0.05. Events resulted in a hypothesis test using Games-Howell.

Table 4. One Way Anova test

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1025.605	2	512.802	2.652	.087
Within Groups	5800.032	30	193.334		
Total	6825.636	32			

The results of the ANOVA calculation obtained a significance score of 0.17, this indicates a significance score of less than 0.05. In other words, there are differences in the results of testing the differences in learning motivation in terms of learning styles.

Table 5. Games-Howell Test

Multiple Comparisons
Dependent Variable: Motivasi

	(I) Jenis	(J) Jenis	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Games-Howell	Visual	Auditorial	-10.05000	5.54918	.193	-24.1691	4.0691
		Kinestetik	-13.52727	6.37270	.112	-29.7220	2.6675
	Auditorial	Visual	10.05000	5.54918	.193	-4.0691	24.1691
		Kinestetik	-3.47727	5.95467	.830	-18.6051	11.6506
	Kinestetik	Visual	13.52727	6.37270	.112	-2.6675	29.7220
		Auditorial	3.47727	5.95467	.830	-11.6506	18.6051

Based on the output of games-howell analysis for each learning style both visual auditory and kinesthetic. The results of the mean difference column do not reveal a significant average difference so that learning styles are not a factor underlying differences in student learning motivation. The results showed that the average learning motivation did not experience a significant difference. As shown in table 1 above which provides average information.

The results showed that students with a visual learning style preference tended to be more motivated to learn when they had visible learning media, such as graphs, pictures or diagrams. Students with a good visual style will focus on vision to understand relevant subject matter and use it to gain a better understanding of the subject matter (Sukarto, Fitriana & Hasanah, 2022; Nuriah,

2022). According to Setyawati (2022) there is a positive influence of learning motivation on student learning styles.

The strategy that can be implemented is to use attractive visual media. Teachers can provide learning materials in the form of attractive graphs, pictures or diagrams to meet the visual needs of students. This can increase students' interest and motivation in understanding and remembering information. In addition, other learning strategies by providing observation activities in learning activities. This observation activity is more likely to be in visual observation activities, such as identifying patterns or comparing images (Pratiwi, Puspitawati & Putri, 2021). This can capitalize on students' visual learning style preferences and encourage active engagement. Teachers should continue to provide learning opportunities for students with a visual style. According to Iftode (2019) understanding and defining student learning styles is very important because this is the key to their active involvement. According to Mat Halif et al (2020) visual learning styles affect the three dimensions (behavioral, cognitive and emotional) elements of student engagement.

Students with an auditory learning style preference tend to be happier to learn when using learning media that provide opportunities to listen to and participate in discussions or through oral presentations (Silitonga, 2020). Social interaction and positive verbal feedback from teachers or friends can strengthen student motivation with an auditory learning style. Learning style is a combination of a person's way of absorbing knowledge and how to organize and process the information or knowledge obtained (Putri Ningrat et al, 2018).

Group discussion can be a special learning strategy for students with an auditory style. Facilitate group discussions that allow students to interact verbally with their friends. These discussions can increase student motivation through social interaction and support understanding through talks and questions.

The current era of technology is very developed and can be utilized for these auditory students. One way is to provide opportunities for students to record subject matter or make voice notes for re-listening. This can take advantage of auditory learning style preferences and help students improve their understanding through recording. For students, recording is very meaningful when carrying out independent learning outside of school. More modern learning styles utilize various technological advances to serve as learning media (AlFath and Sugito, 2021).

Students with kinesthetic learning style characteristics tend to be more motivated to learn when they involve their bodies in learning activities, such as conducting experiments, playing roles in simulations, playing dramas, or using real props. These kinesthetic students are more motivated to seek simulation and practice learning experiences (Magdalena, Fatmawati & Luthfiyah, 2020).

Students with this kinesthetic learning style can actually maximize their learning motivation through experience-based learning. This step is in the form of providing practical and hands-on experiences in learning, such as experiments, simulations, or project-based activities. This will give students the opportunity to be physically involved and take advantage of kinesthetic learning style preferences. According to Mahayanti (2018) there is a significant correlation between visual learning styles and learning motivation, there is a significant correlation between auditory learning styles and learning motivation, there is a significant correlation between kinesthetic learning styles and learning motivation.

On the other hand, activities that contain elements of movement activities provide greater opportunities for kinesthetic students. Learning structured with movement activities really helps the learning process and increases participation in the learning process. For example, allow time for students to stand, walk, or perform simple physical movements to help students stay focused and maintain motivation to study.

The PBL model provides a meaningful context for students. Students are involved in solving real problems that are relevant to everyday life. This involvement requires movement activities so that it can accommodate kinesthetic learning styles. This makes students see the direct relevance between what is learned and the real world, thereby increasing student motivation. In the PBL model, students become active in learning. Students do not only listen to the teacher silently, but must think critically, collaborate, seek information, and apply knowledge in problem solving so that it directly

encourages student learning motivation. According to Wahyuddin et al (2020) learning motivation has a very important role in improving the quality of learning processes and outcomes.

Learning that relates material to the relevance of students' social life will be very meaningful for students' understanding. Students realizing the relevance and benefits of subject matter can increase student motivation. In addition, teachers who provide constructive feedback will increase learning motivation. Positive feedback that stimulates and provides support to students will increase student attention. This can increase students' self-confidence and motivation to continue learning.

4. CONCLUSION

The results showed that there was no significant difference in students' learning motivation based on learning styles in PBL learning. The level of learning motivation in this study was not factored in by learning style. When the teacher uses a learning model that accommodates the three learning styles, it will be better to evenly increase students' learning motivation. These findings indicate that it is important to consider student learning styles in designing effective learning models. Teachers can use learning approaches and models that suit student learning style preferences to increase learning motivation. Learning style is just one of the factors that influence intrinsic motivation to learn. There are other factors that also need to be considered. Therefore, further research can involve a wider range of factors to gain a more comprehensive understanding of student motivation.

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