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THE RELATIONSHIP BETWEEN PHYSICAL EDUCATION ASPECTS IN LEARNING USING THE PROBLEM-BASED LEARNING MODEL

Magdalena Rambu Pisu Wasak ^{1*} & Isak Riwu Rohi ²

^{1,2}Department of Physical Education Health and Recreation, Universitas Kristen Artha Wacana, Indonesia

*e-mail: rambuwasak@ukaw.ac.id

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Abstract

The research aims to see the relationship between aspects of knowledge, attitudes, and skills in physical education learning carried out by teachers when using the problem-based learning model according to suggestions from the Merdeka Belajar Curriculum. This research uses an ex post facto research design, where researchers process data from treatments carried out at Kupang 3 state junior high school, NTT. The aspects that will be revealed are learning outcomes, including aspects of knowledge, attitudes, and skills, using tests contained in the physical education syllabus, which consists of tests of knowledge, attitudes, and skills (observation). The research population was 300 students of Kupang 3 state junior high school, NTT and a sample of 10% was taken, and 30 students from class 8A were obtained as the research sample. The problem-based learning model will be used in the 2023–2024 academic year (30 April - 30 May 2024), so researchers will only collect data. Data analysis was carried out by testing normality using the Kolmogorov-Smirnov test and the Pearson correlation test. The research results show that the results of physical education learning using a well-planned problem-based learning model will give rise to a strong relationship between aspects of knowledge and skills (0.998), attitudes and skills (0.642), and knowledge and attitudes (0.639). For further research, it is highly recommended to conduct experimental research related to the use of this problem-based learning model and examine more specific aspects of attitudes such as cooperation, discipline, and other knowledge and skills such as gymnastics, fitness activities, rounders, athletics, etc. The problem-based learning model in the Merdeka Belajar Curriculum model can be useful for physical education teachers.

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✉ Alamat korespondensi: Jl. Adi Sucipto No.147, Oesapa, Kec. Klp. Lima, Kota Kupang, Nusa Tenggara Timur.

E-mail: rambuwasak@ukaw.ac.id

INTRODUCTION

Physical education is essentially a learning process through physical activity or sports activities with the aim of improving cognitive, affective, psychomotor, and emotional abilities. In this regard, teachers in physical education learning must provide the widest possible opportunities for students to be able to develop their potential and talents in the field of sports to achieve HRQoL (Bremer et al., 2020; Ginanjar, et al., 2023; Haegele & Zhu, 2021; Papaioannou et al., 2020; Pavlović et al., 2022). This will never be separated from the role of the curriculum who set by the government and its policies, of course physical education teachers must be able to adapt to the needs of physical and spiritual growth and development so that children are ready to enter further education (Indonesia, 2003). In connection with physical education which is part of sports development at an early age, the Indonesian government has issued regulations that focus on the importance of this development which involves the roles of teachers, parents and coaches (Indonesia, 2022). This development can be carried out in schools through the stages of introduction, interest and talent monitoring, which include continuous guidance and development in order to increase national achievement (Indonesia, 2022) which has been proclaimed by the government. As we know, the hope of every physical education teacher is that the learning they carry out must be planned and right on target so that it provides benefits for training students to be active in learning, to think creatively in a fun physical education learning environment. Basically, physical education carried out in planned schools also provides students with the opportunity to interact with other individuals or groups and can develop their potential and talents in sports. This paradigm is very important to be internalized and implemented by teachers because it can improve students' social (Ginanjar et al., 2020, 2022; Umar et al., 2023; Umar & Ko, 2022), positive attitudes (Kao, 2019), forming an understanding (Li et al., 2023), and being creative when studying.

In 2022, it has been determined that the curriculum used in Indonesia is the Merdeka Belajar Curriculum, where physical education

learning must also adapt to it. This curriculum is basically implemented by giving students the freedom about their activities using the facilities prepared by the teacher to form the 3 pillars of physical education namely knowledge, attitudes, and skills. In this regard, the role of physical education teachers as a learning resource and learning facilitator become crucial in order to designing the effective and enjoyable about the learning so that students can achieve the goals.

It cannot be denied that every school is required to use the Independent Learning Curriculum, which recommends using project-based learning models and problem-based learning models. The fact that many schools have started implementing the Merdeka Belajar Curriculum. The same thing happened at Kupang 3 state junior high school, NTT, where physical education learning used the Merdeka Belajar Curriculum, using the problem-based learning model. The use of this learning model is seen as being able to make students active, because the learning is student-centred and fosters student independence in learning physical education. The well-planned physical education program often creates positive motivation learning (Fuaddi et al., 2020), challenging and enjoyable activities (Dorofieieva et al., 2019; Hafid & Damiti, 2023). Teachers must be aware when using the problem-based learning model because it will make students hone their knowledge, skills, and attitudes (Gao & Tasnaina, 2024; Yasmin Siti S et al., 2024). This situation occurs because of the emergence of students' creativity and independence in finding learning resources and solving problems according to the conditions they face. For example, in learning football. Students move more and try to find their own learning resources and apply them according to their own designs in solving problems, a condition which without realizing it can also form a superior attitude known as the *Pancasila Student Profile*.

In this active learning, students can communicate & discuss during learning between students and students or students and teachers, this component is a determinant of learning success and achievement of goals (Hasanuddin & Mappaompo, 2024; Mateo-Orcajada et al., 2024). Most students believe

that physical education learning is fun learning through a series of physical activities or sports, this condition physical education teachers must be able to use it to be able to form positive attitudes in students during physical education lessons. Through problem-based learning model, students become actively involved and creative in physical education learning. The physical education lessons provided must be able to inspire each student's critical thinking process so that they are able to be actively involved in solving every problem (Gonçalves et al., 2024; Gregori-Faus et al., 2024). The problem-based learning model can create a link between the movements carried out and the understanding provided by the teacher.

METHODS

The method used in this research is experimental, with an ex post facto research design (Fraenkel et al., 1993) because the research that processes data from treatments that have been carried out at Kupang 3 state junior high school, NTT. The aspects that will be revealed are the learning outcomes, including the knowledge, attitudes, and skills aspects because of physical education learning using problem-based learning model. The main aim is to see how the aspects of knowledge, attitudes and skills are related in physical education learning carried out by teachers in the classroom. The instrument used is the test contained in the physical education syllabus which consists of knowledge, attitudes, and skills test. Meanwhile, the skills used are a football playing test using the observation method.

The research population was 300 students at Kupang 3 state junior high school, NTT, and 10% were taken according to the experimental research criteria. From the

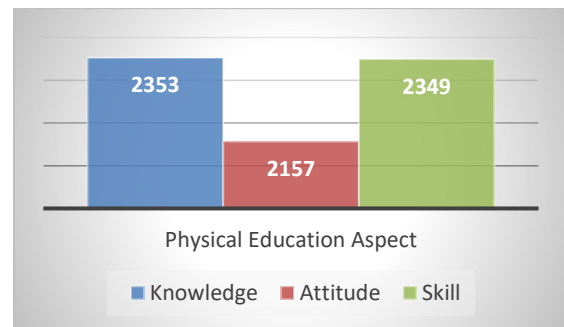
results of the calculation, 30 students were obtained and class 8A was determined as the research sample. The problem-based learning model treatment was carried out by physical education teachers so that researchers only collected data that existed in the 2023/2004 (30 April - 30 May 2024) academic year.

Data analysis was carried out using the following steps: 1) Normality test used by Kolmogorov Smirnov with p-value > 0.05. 2) Analysis of the relationship between aspects of physical education learning, namely knowledge, attitudes and skills using Pearson Correlation at p-value > 0.05.

FINDINGS AND DISCUSSION

Finding

Based on the results of the research that has been carried out, the following data is presented which is the focus of this research.



Graph 1. The result of Physical Education Aspect at Kupang 3 state junior high school, NTT

Based on the Graph 1 for the knowledge aspect the result was 2353, Attitude the result was 2157 and Skills the result was 2349. Based on these results it can be concluded that in physical education learning using the Problem-based learning model, the emphasis is more on the Knowledge aspect, then Skills and then Attitude. formed from the learning process.

Table 1. Student Characteristics Data

Subject	N	Average Age	Body Mass Index	
			Average	Description
Student of Kupang 3 state junior high school, NTT	30	12	20.05	Normal

Table 2. Data Normality

Normality Test	Aspects of Physical Education Learning
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	Knowledge	Attitude	Skills
Statistic	0.112	0.146	0.104
Asymp. Sig. (2-tailed)	0.200	0.104	0.200

Table 3. The Result of Relationship between Physical Education Learning Aspects

		Knowledge	Attitude	Skills
Knowledge	Pearson Correlation	1	.639**	.998**
	Sig. (2-tailed)		.000	.000
	Sum of Squares and Cross-products	1097.367	430.300	1095.100
	Covariance	37.840	14.838	37.762
	N	30	30	30
Attitude	Pearson Correlation	.639**	1	.642**
	Sig. (2-tailed)	.000		.000
	Sum of Squares and Cross-products	430.300	412.700	431.900
	Covariance	14.838	14.231	14.893
	N	30	30	30
Skills	Pearson Correlation	.998**	.642**	1
	Sig. (2-tailed)	.000	.000	
	Sum of Squares and Cross-products	1095.100	431.900	1098.300
	Covariance	37.762	14.893	37.872
	N	30	30	30

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the table 1 the number of students involved in this research was 30 students, with an average age of ± 12 years. Meanwhile, for the Body Mass Index aspect, a value of 20.05 was obtained, where all students have an ideal / normal body.

Based on the table 2, it can be seen from the results of the Normality test using Kolmogorov Smirnov for the Knowledge aspect that a statistical value of 0.112 was obtained with a significance of 0.200. For the Attitude aspect, a statistical value of 0.146 was obtained with a significance of 0.104. Meanwhile, for the Skills aspect, a statistical value of 0.104 was obtained with a significance of 0.200. This condition means that the data on the Knowledge, Attitudes and Skills aspects of physical education learning are normally distributed.

Based on the table 3, for the Knowledge and Attitude aspects, the Pearson Correlation score was 0.639 with a significance of 0.000. For the Knowledge and Skills aspect, the Pearson Correlation score was 0.998 with a significance of 0.000. Meanwhile, for the Attitude and Skills aspect, the Pearson Correlation score was 0.642 with a significance of 0.000. Based on these results, it

can be concluded that physical education learning uses the Problem-based learning model in the Merdeka Belajar Curriculum which places more emphasis on the relationship between Knowledge and Skills in the first position. In second position there is a relationship between Attitudes and Skills and in third position there is a relationship between Knowledge and Attitudes

Discussion

Based on the research results and data analysis, the following research findings are presented, including:

1. There is a significant relationship between the knowledge and skill of the Student.

The research results show that the relationship between knowledge and skills has a correlation value of 0.998 with a significance of 0.000. This means that the first aspect of physical education that appears when using the problem-based learning model suggested in the independent learning curriculum is the strong connection between knowledge and skills. This makes students motivated to be

active in learning and able to collaborate with other students (Penningtin G Collin, 2020). Increased student activity occurs due to the emergence of an attitude of mutual trust and communication with each other in solving problems so that students become confident in determining learning that they believe can increase their learning success (Ginanjari, et al., 2023). Students' problem-solving and critical thinking abilities will not occur if learning is not enjoyable for students. When students are actively involved, feelings of responsibility will indirectly emerge within them (Zhao et al., 2024). For example, when playing Asep, he was able to know the various needs that he had to do as a strong defender, then after knowing the criteria, Asep immediately carried out defense training with his team by playing 2 vs 2 and 3 vs 3 while still respecting his attacking partner. Good planning in physical education learning plays a big role in the enjoyment of learning.

In the problem-based learning model, every student is able to understand and understand the learning carried out by the physical education teacher. This happens because in its implementation the teacher does not only lecture, but the students explore their own soccer playing skills by looking for learning resources that are deemed suitable for implementation by themselves and their learning group. For example, when the material is passing, students are able to find their own passing learning scheme and are able to make accurate passes and increase their chances of scoring points. Students are also able to make crucial movements or passes that can result in goals/wins. This connection between knowledge and skills is also proven when students receive verbal questions from the physical education teacher at the end of the lesson. Where almost 3 groups were able to explain why passing in the game of football is so important, and most answered with different versions according to their training experience including the learning method they considered suitable for their group. This condition clearly occurs because of the flexibility of thinking within students where there are no restrictions on cognitive thinking abilities and each student is able to make the right decisions when practicing passing in the field (Sulz et al., 2024). This makes it clear

that the use of a problem-based learning model that is right on target and well planned can make the connection between aspects of knowledge and skills in mastering the football stronger than previous learning which only used repetition/drilling.

2. There is a significant relationship between the attitude and skills of the Student.

The research results show that the relationship between Attitude and Skills has a correlation value of 0.642 with a significance of 0.000. This means that the second aspect of physical education that appears when using the problem-based learning model suggested in the independent learning curriculum is the strong connection between attitudes and skills. In physical education learning using a problem-based learning model, there are attitudes that can be directly seen when learning takes place. From the start of learning, students have been accustomed to being independent by preparing their own equipment, then continuing with searching for and determining learning that they feel is suitable for their group. Through this process, students are actually indirectly given responsibility for being able to achieve the learning goals set by the physical education teacher at the start of learning (Viciano et al., 2020). Learning success will also automatically be achieved if students understand the aims and objectives of the teacher when learning using a well-planned problem-based learning model. Learning strategies like this will reduce students' dependence on teachers, because they can get learning resources wherever and whenever they want (Arufe-Giráldez et al., 2023). For example, Ani, who seems to be having difficulty dribbling in football, always gets support and motivation from his teammates, even Rijal and Meta don't hesitate to show Ani the correct dribbling. This is one of the mental attitudes that is expected when using the Merdeka Belajar Curriculum, where each group develops a good attitude of cooperation and cooperation so that Ani does not easily give up trying to improve her dribbling which she feels is still lacking. Meanwhile, Rijal and Meta's attitude of helping Ani who was having difficulties was also a reflection of the

sportsmanship shown so that their teammates were able to study well despite difficulties. This condition is clearly in line with government regulations within the scope of the Pancasila Student Profile.

Apart from that, the learning atmosphere presented in this problem-based learning model makes students actively communicate, trust each other to be able to solve problems together (Essiet et al., 2022), because the main emphasis is on cultivating positive attitudes in students and active participation throughout. physical education learning (Pentury et al., 2020). The good ability of physical education teachers when designing this problem-based learning model makes students calm, not anxious and focused on learning (Elsborg et al., 2024; Soini et al., 2024), so that in real football games students rarely make mistakes and able to show good football performance. The most important thing that teachers need to understand is that students' hopes when studying physical education are to acquire knowledge and skills that are useful and beneficial (Anwar et al., 2020). When students learn in active and enjoyable conditions within the framework of the problem-based learning model, without realizing it, learning success can occur according to the physical education teacher's expectations as stated in the Merdeka Belajar Curriculum.

3. There is a significant relationship between knowledge and attitudes of the Student.

The research results show that the relationship between knowledge and attitudes has a correlation value of 0.639 with a significance of 0.000. This means that the third aspect of physical education that emerges when using the problem-based learning model suggested in the independent learning curriculum is the strong connection between knowledge and attitudes. The problem-based learning model is designed according to the directions of the Merdeka Learning Curriculum and is able to produce interesting and useful learning for students. Through the problem-based learning model, students feel challenged to complete the learning tasks set by the physical education teacher at the start of learning (Tendinha et al., 2021). This can be

seen from the beginning of the lesson, each group immediately discussed and immediately rushed to look for the material provided by the teacher from various sources. After receiving appropriate material or learning, each group of students takes it seriously and it is not uncommon to see groups changing their way of learning because they feel it is not appropriate or like the Asep group who actively ask the teacher when there is a learning component that the group feels is not understood.

The courage to try and never give up in the face of newly understood knowledge is the attitude expected by teachers in physical education learning (Albar & Southcott, 2021). By daring to try and not being afraid of making mistakes, students can achieve learning goals well. As a good physical education teacher, you must be able to make learning more meaningful (Moraes et al., 2024) which ensures that students' goals of sports and academic achievement can be achieved well. The goal of a physical education teacher is essentially to make students learn well and have an interest in what they are learning (Moreno-Díaz et al., 2024; Yerdanova et al., 2024). A condition that will make students become more mature in thinking and behaving, because learning becomes more effective and provides benefits (Quiñonero-Martínez et al., 2023). Physical education teachers also need to monitor the positive emotional conditions of their students to make it easier for students to concentrate on studying (Asyrofie Aulawy et al., 2022) so that movement tasks and learning objectives can be achieved well.

CONCLUSION

The results show that the well-planned physical education learning using a problem-based learning model will give rise to a strong relationship between aspects of knowledge and skills (0.998), attitudes and skills (0.642) and knowledge and attitudes (0.639). Based on these results, physical education teachers who want to increase their students' knowledge and skills in learning physical education are advised to use the problem-based learning model in accordance with the recommendations of the Merdeka Belajar

curriculum at Kupang 3 state junior high school, NTT. For further research, it is highly recommended to conduct experimental research related to the use of this problem-based learning model and examine more specific aspects of attitudes such as cooperation, discipline and other knowledge and skills such as gymnastics, fitness activities, rounders, athletics, etc. to study problem-based learning model in Merdeka Belajar Curriculum model can be useful for physical education teachers.

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CONFLICT OF INTEREST

The author states that in this research there is no conflict of interest.

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