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Comparison of Physical Education Learning Motivation between The Science Department and The Social Sciences Department

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Abstract: This study aims to determine whether there are differences in motivation to study physical education between science majors and social studies majors at SMA Negeri 1 Subang. The research method used is non-experimental (ex post facto) with a comparative design, namely the research is directed to compare one sample group with another group. In this study, researchers wanted to compare the level of motivation to learn science majors with social studies majors at SMA Negeri 1 Samarinda. The populationin this study were students of class XII IPA and XII IPS SMA Negeri 1 Samarinda, totaling 364 students with a sample taken of 20% of the population, namely 69 respondents. The instrument used in this study was a motivational questionnaire which was tested for validity and reliability by the author with the results of 25 valid items out of 27 existing item items and a reliability level of 0.902. In this study, thehypothesis was tested using the independent sample t-test formula with a result of 0.002 < 0.05, so with these results there was a significant difference between the motivation to study physical education majoring in science and social studies at SMA Negeri 1 Samarinda (exceeding the classical completeness standard). The results of this research show that animated learning media can improve responsiveness and science learning outcomes in special sports classes.

Keywords: Animated learning media; Science learning outcomes; Special sports classes; Student responsiveness

Introduction

Physical education in schools has the same goal, namely that they both aim to achieve educational goals. As stated by Rosdiani (2012) that physical education is an important part of the educational process. In the physical education learning process, many things can be developed, such as motor skills, knowledge and healthy and active living behavior, sportsmanship and emotional intelligence (Wen & Lu, 2013). The goal to be achieved in physical education is overall individual development. This means that the scope of physical education is not only physical aspects but also cognitive, affective and psychomotor aspects. Apart from that, physical education also includes mental, emotional, social and spiritual aspects. Physical education must be able to form positive characters in students that can stimulate students' motivation and interest to do better during the learning process at school and in their daily lives and even in society.

Basically, physical education is physical activity carried out through learning that is directed and encouraged by educators so that all students' potential grows and develops to achieve a goal completely and comprehensively. This is in accordance with what is stated in Law Number 20 of 2003 concerning the

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National Education System which states that: Physical education is a medium to encourage physical growth, psychological development, motor skills, knowledge and reasoning, appreciation of values (emotional mental attitude). Sportsmanship-spiritual-social), as well as habituation to a healthy lifestyle which aims to stimulate the growth and development of balanced physical and psychological qualities.

Based on in this description, physical education has an important role in improving human quality both individually and in groups, whether physical, mental, spiritual, material and maturity of thinking, in other words to improve the quality of human resources. Mulyanto (2016) said that: the general objectives of physical education are in line with educational objectives. Therefore for To achieve this goal, a teacher is required to be active, creative and innovative in order to create interesting learning so that students will be motivated in following the learning process which will have an impact on achieving a learning goal (Budianto et al., 2015; Melville et al., 2018; Rahman et al., 2019; Saido et al., 2015; Sutama et al., 2019; Zaharah & Susilowati, 2020).

Cognitive aspects in the form of knowledge, affective aspects namely attitudes, and psychomotor in the form of skills. movements displayed by students. Motivation is very necessary, because someone who does not have motivation to learn will not be able to carry out learning activities (Gardeli et al., 2017; Handgraaf et al., 2017; Agolla, 2018; Kitamura et al., 2017; Senkbeil, 2022; Smith & Darvas, 2017; Siong & Osman, 2018). Motivation can be analogous to the driving force that exists within a person to carry out activities to achieve a goal (Kothe et al., 2019; Pham et al., 2022; Salim et al., 2022; Steinhorst & Klöckner, 2017). Meanwhile, in learning activities, motivation can be thought of as a driving force within students which creates, ensures continuity and provides direction to learning activities, so that existing goals can be achieved.

It can be concluded that motivation is an encouragement that every individual has, consisting of intrinsic motivation, namely motivation that comes from within and extrinsic motivation that comes from outside or the environment whose function is very important, namely as a driver to carry out all activities that the individual has, because if not If there is motivation, the individual will not be able to carry out these activities so that it will have an impact on the less than optimal achievement of a learning goal in physical education. This can be seen in the process of teaching and learning activities taking place if the child does not have the motivation to learn then no learning activities will occur in the child, thereby hindering the achievement of a learning goal in physical education.

From the results of observations and interviews with PJOK teachers conducted by researchers at SMA Negeri 1 Samarinda, students majoring in science from previous years had achievements in the field of sports compared to social studies majors, but currently students studying in the science major are less enthusiastic about the physical education learning process compared to majoring in Social Sciences, this can be seen from the lack of attention of students in paying attention and following the learning process. Then Fauziah et al. (2017) explained that the decline in students' learning motivation occurred because there was no sense of interest, which made students not pay attention to the lesson. Febriani & Kustiyono (2022) stated that the Science Department is a department that studies or reveals natural phenomena by applying scientific steps. Meanwhile, the Social Sciences major is a science that studies human behavior and studies humans as members of society.

This is in accordance with what is stated in the Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 59 of 2014 (Febriani & Kustiyono, 2022) that for the Science study program the typical subjects are Mathematics, Physics, Chemistry and Biology. Meanwhile, the Social Sciences study program consists of History, Geography, Economics and Sociology subjects, and subjects related to social sciences. The character of science class students is different from the character of social studies class students, this can be seen from the way they think, science class students think scientifically, reasoning patterns based on certain targets regularly and carefully due to their daily habits. get the tools for scientific thinking such as mathematical logic and statistics, while social studies class students think naturally, reasoning patterns based on daily habits from the influence of the natural surroundings. Based on the differences between students majoring in science and majoring in social studies, physical education learning can be used as a means to support students in developing their knowledge and mindset, as stated in the Minister of Youth and Sports Decree Number 053 A /Menpora/1994, Education Physical education is an educational process that is carried out consciously and carried out systematically in order to acquire physical skills, physical growth, intelligence and character.

Based on the problems found in the field and the differences between the science and social studies majors as stated above, the researcher was interested in finding out how much motivation the science and social studies majors had towards learning physical education, in connection with this the researcher took the title Comparison of Physical Education Learning Motivation Between Departments Natural Sciences with Social Sciences Department at SMAN 1 Samarinda.

Method

This research was carried out at SMAN 1 Samarinda Jl. Drs. H. Anang Hasyim, Air Hitam, Kec. Samarinda Ulu, Samarinda City, East Kalimantan 75124. The existence of SMA Negeri 1 Subang began with the obsession of Subang community leaders who longed for a high school level educational institution in Subang Regency. The method used in this research is non-experimental (ex post facto) using a quantitative approach. According to Maksum (2012), non-experimental research (ex post facto) is research in which the researcher does not have the opportunity to provide treatment or manipulate variables that can play a role in the emergence of symptoms, because the observed symptoms have already occurred.

The design in this research is a comparative design. Maksum (2012) explains that in a comparative design, research is directed at comparing one sample group with another group. In this study, researchers wanted to compare the level of learning motivation for science majors with social studies majors at SMAN 1 Samarinda. The population in a study is a collection of individuals or objects that share common characteristics. In this case, Arikunto (2018) explains that in a comparative design, research is directed at comparing one sample group with another group. In this study, researchers wanted to compare the level of learning motivation for science majors with social studies majors at SMAN 1 Samarinda. The population in a study is a collection of individuals or objects that share common characteristics.

The population is the entire research subject. Meanwhile, Sugiyono (2010) explains that population is a generalization area consisting of: objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn. So after understanding the explanation above, the population in this study was 346 students in class.

According to Arikunto (2018), the sample is a portion or representative of the population to be studied. The sampling technique in this research uses a probability sampling technique, namely a sampling technique that provides an equal opportunity for each element (member) of the population to be selected as a sample member. According to Sugiyono (2010), there are various probability sampling techniques, namely simple random sampling, proportionate stratified random sampling, disproportionate stratified random, area (cluster) sampling. Taking samples for research according to Arikunto (2018) if the subjects are less than 100 people, all of them should be taken, if the subjects are large or more than 100 people, 10-15% or 20-25% or more can be taken. So that all classes can be represented, samples are taken from each class in the same proportion, namely 20% from each class. The reason the researcher used 20% in determining the sample size was because It was impossible to take all 346 students into the sample, so that all classes were represented in the sample.

The sampling technique uses proportionate stratified random sampling technique. The reason for using this technique is because the population in the research is class XII students of SMA Negeri 1 Samarinda who are divided into 10 classes (7 science classes and 3 social studies classes). The instrument used in this research is a questionnaire which respondents must answer directly to express their experiences. The type of questionnaire that researchers used was a closed questionnaire. Being closed means that the questionnaire has been prepared with clear, firm, limited, concrete, complete statements and is presented in such a form that respondents can provide answers in accordance with what they expect and experience. The questionnaire used is a motivational questionnaire adopted from research by Risyanto (2014). The research instrument is a motivation test in the form of a questionnaire.

Results and Discussion

In the data description section, motivation data for science and science class students will be presented social studies class on physical education learning at SMA Negeri 1 Samarinda. Based on the research results obtained from the motivation questionnaire for science majors and social studies majors towards physical education learning, the scores are then put into categories according to the interval scale and the percentage results for science majors and social science majors can be obtained as table 1.

Table 1. Frequency & Percentage of Motivation of Students majoring in Science and Social Sciences majoring in Physical Education Learning

Interval Class	Category	Science Major		Social Sciences Department	
		F	P (%)	F	P (%)
106-125	Very high	5	10	8	40
86-105	Tall	17	35	6	30
66-85	Currently	17	35	5	25
46-65	Low	7	14	1	5
25-45	Very low	3	6	0	0
Amount		49	100	20	100

Note: F (Frequency); P (Percentage)

The table above shows the motivation of students majoring in science at SMA Negeri 1 Samarinda towards physical education learning and the results of students

who have very high motivation are 5 students or 10%, 17 students or 35% of students have high motivation, 17 students or 35% of students have moderate motivation , 7 students or 14% of students have low motivation, and 3 students or 6% have very low motivation. The following is a graph of the motivation level of students majoring in science.

Meanwhile, the motivation for social studies majors at SMA Negeri 1 Samarinda towards physical education learning is 8 students or 40% of students who have very high motivation, 6 students or 30% of students have high motivation, 5 students or 25% of students have moderate motivation, 1 student or 5 % of students have low motivation, and there are no students who have very low motivation. The following is a graph of the motivation level of students majoring in Social Sciences.

After knowing the comparative percentage of motivation for science majors and social studies majors, the researcher then carried out a statistical calculation analysis using the help of Microsoft Excel 2010 and IBM SPSS Statistics 26 programs and obtained a description of the data results from the motivation of science majors and social studies majors towards physical education learning at SMA Negeri 1 Samarinda as table 2.

Table 2. Results of statistical calculations of student motivation for science majors and social studies majors towards studying physical education

Description	Statistics	
	Science major	Social Sciences Department
Number of Students (N)	49	20
Average (Mean)	80.96	97.45
Lowest Value (Min)	44	64
Highest Value (Max)	121	121
Standard Deviation	19.53	17.76

Based on the results of the analysis in Table 2, it can be seen that the motivation of the group of students majoring in science towards learning physical education at SMA Negeri 1 Samarinda has a mean value of 80.96 with a standard deviation of 19.53, then the lowest score is 44 and the highest score is 121. Meanwhile, the motivation of the group of students majoring in Social studies for physical education learning at SMA Negeri 1 Samarinda has a mean score of 97.45 with a standard deviation of 17.76, then the lowest score is 64 and the highest score is 121. From the results of the analysis and explanation above, it can be assumed that there is a significant difference between the motivation of students majoring in science and majoring in social studies. In the table above, it can be seen that the motivation of social studies majors is better than the motivation of science majors towards physical education learning. The difference in the motivation of students majoring in science and social sciences majoring in physical education learning is shown by calculating the mean value of the motivation scores distributed to students. And the mean score obtained for the group of students majoring in science was 80.96 and the group of students majoring in social sciences was 97.45. From these results, it can be seen that there is a significant difference between the physical education learning motivation of students majoring in science and majoring in social studies at SMA Negeri 1 Samarinda.

Normality Test

In this section, the normality test will be explained based on the results of data obtained from the motivation questionnaire for the science department and social studies department towards physical education learning at SMA Negeri 1 Samarinda. The normality test was carried out using the Kolmogorov-Smirnov method. The following are the results of examining the residual data distribution with SPSS as table 3.

Table 3. Normality Test

Group	Sig.	Information
Natural science	0.165	Normal
Social Sciences	0.200	Normal

Based on the normality testing table above, the significance value (Sig.) for the science department is 0.165 and the significance (Sig.) for the social sciences department is 0.200. The output results can describe whether the test results have a normal data distribution or not. The decision-making criteria are: if significance value > 0.05, then the research data is normally distributed; if significance value < 0.05, then the research data is not normally distributed.

From the decision-making criteria above, it can be concluded that the sig. science major 0.165 > 0.05 and sig. Social Sciences major 0.200 > 0.05. Thus, the data is normally distributed.

Homogeneity Test

Because the data above is normally distributed, in this section the researcher will carry out a homogeneity test to determine whether the data from two different variances are homogeneous or not, based on the results of the data obtained from the motivation questionnaire for the science department and social studies department towards physical education learning at SMA Negeri 1 Samarinda. In testing homogeneity, researchers used the Levene's Test. The following are the results of homogeneity testing with SPSS.

Table 4. Homogeneity Test

Group	Sig.	Information
IPA-IPS	0.938	Homogeneous

From the results of the homogeneity test above, a significance value (Sig.) of 0.938 was obtained. The output results above can illustrate whether the test results have the same variance or not. The decision-making criteria are: if significance value > 0.05, then the data distribution is homogeneous; significance value < 0.05, then the data distribution is not homogeneous.

From the decision-making criteria above, it can be concluded that the significance value (Sig.) is 0.938 > 0.05. Thus, the data is homogeneous.

Hypothesis Testing

In this section, the results of the data obtained from the motivation questionnaire for science majors and social studies majors towards physical education learning will be presented to determine whether there is a significant difference between the motivation of science majors and social studies majors. Then the results are processed and analyzed using IBM SPSS Statistics 26 to answer the hypotheses that have been made. submitted, the analysis test used is the Independent-Samples T-Test (difference between groups) with the value used in calculating the Independent-Samples T-Test is the value of each group (Motivation of science majors and social studies majors) towards physical education learning. And the following data was obtained.

Table 5. Results of Independent Sample T-Test Analysis

Group	Sig. (2-tailed)	Information
IPA-IPS	0.002	Significantly Different

From the results of the Independent Sample T-Test calculation between the motivation of students majoring in science and social sciences majoring in physical education learning, a value of Sig. (2-tailed) of 0.002. Guidelines for decision making in the Independent Sample T-Test based on the significance value (Sig.) of the SPSS output results, are: if the Sig value. (2-tailed) < 0.05, then there is a significant difference between the learning motivation for physical education majors in science and social studies majors; Conversely, if the Sig. (2-tailed) > 0.05, then there is no significant difference between the motivation to study physical education in science majors and social studies majors.

From the decision making above it can be concluded that 0.002 < 0.05. These results prove that there is a significant difference between the learning motivation of science majors and social studies majors towards physical education learning.

Based on the results and discussion above, the results of this research show that there is a significant difference between the learning motivation for physical education majoring in science and social science majoring at SMA Negeri 1 Samarinda. The findings of this study support previous research. Fitriani (2011) through his research revealed that the stress level of science students is higher than that of social studies students. Then, Heiman & Kariv (2005) also explained that academic stress is caused by academic stressors in learning activities, for example: pressure to go to class, long periods of studying, anxiety about facing exams, lots of assignments that have to be completed, getting bad test scores, complicated bureaucracy, the decision to determine a career major, and time management. In line with the opinion above, according to Vivin (2019) in their research, they explain that anxiety affects students' learning motivation. Motivation to learn is a psychological factor that is non-intellectual. The typical role of learning motivation is in terms of growing enthusiasm/passion and feelings of joy in carrying out learning activities. Students who have strong learning motivation generally have a lot of energy to carry out learning activities compared to those with low learning motivation (Kahar et al., 2021; Lay & Osman, 2018).

High motivation to learn should be present in all students at school, regardless of their social and economic background, or the major/specialization they choose. Majoring in Senior High School (SMA) is actually due to awareness of the importance of individual differences in all students so that because of these differences, they need a platform that can support them in carrying out educational activities at school according to their condition. The learning process will achieve success if students have good motivation to learn (Astuti, 2017; Chen & Chou, 2015; Dreijerink et al., 2022; Kothe et al., 2019; Ling & Xu, 2020; Margetts & Kashima, 2017; Soliman et al., 2018). Therefore, learning motivation is very important for every student to have, both intrinsic and extrinsic motivation.

Conclusions

Based on the results of the research and discussion, it can be concluded that: The level of motivation of science majors and social studies majors towards physical education learning at SMA Negeri 1 Samarinda is different, namely that the science major has a moderate level of motivation, while the social studies major has a high category of motivation. There is a significant difference between the motivation of science majors and social studies majors towards physical education learning at SMA Negeri 1 Samarinda.

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Conceptualizing research, E., and M.; designing, E., R.F., and I.H.S; collecting Data,E.; analyzing data, E., and M; writing—original draft preparation, E.; writing—review and editing, M., R.F., and I.H.S.

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All authors declare that there is no conflict of interest.

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