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COMPARISON OF STUDENTS' LEARNING OUTCOMES IN PHYSICAL EDUCATION TOWARDS CERTIFIED AND UNCERTIFIED TEACHERS AT SMA 1 KAMPAR

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Abstract. This study aims to determine the comparison of student learning outcomes taught by certified teachers and uncertified teachers. The problem raised in this study is whether there is a significant difference in student learning outcomes based on teacher certification status. The method used is a quantitative method with a t-test, which is a type of statistical analysis used to test differences between two groups. The population in this study were all students in grades XI and XII of high school with a total of 551 students, consisting of 10 grades XI and 9 grades XII. Sampling was carried out by purposive sampling, namely by selecting one class from grade XI taught by uncertified teachers and one class from grade XII taught by certified teachers. Each class consists of 27 students, so the total research sample is 54 students. The instrument used to measure learning outcomes is student report card scores. Based on the results of descriptive statistics, it shows that the average value of students taught by certified teachers is 92.5185 with a 95% confidence interval indicating that the actual population average is likely to be between 91.6314 and 93.4056. While the average value of students taught by the teacher has not certification as big as 91.0370, with a 95% confidence interval indicating that the true population mean is likely to be between 89.1800 and 92.8941. The scores of students taught by certified teachers have higher average scores compared to the scores of students taught by non-certified teachers. Thus, it can be concluded that there is a significant difference in student learning outcomes based on teacher certification status.

Keywords: Results; Physical Education; Certification



INTRODUCTION

Education is an effort made by humans to develop or to fulfill their life needs in keeping up with the times and to prepare every citizen to become a nation. Through education, students are facilitated, fostered, guided, and directed to become citizens who can realize their rights and obligations and through education, every student can be made to sit at the same low and stand at the same height. According to (Moto 2019) Learning media is a tool used by teachers to convey messages to learners so that the message reaches the learners properly. The use of learning media also greatly influences development of children's potential so that students can develop their potential. This means that the educational process is oriented towards students (student active learning). Potential can be formulated from all the abilities that exist in students, which allow them to develop and be realized in the form of reality. Between one student and another, they do not have the same potential. One person is sharper in mind, or more subtle in feelings, or stronger in will or more upright, stronger in body than others (Amaliyah and Rahmat 2021). Student learning outcomes obtained through education will be able to compete in various activities of community life (Dakhi 2020).

According to (Tambun, Sirait, and Simamora 2020) Education is one of the important elements in the process of improving the human resources of a nation and country. The issue of education is also always used as a measure in knowing the level of progress of a nation. Therefore, education is a natural concern if you want to build civilization and progress. According to (Kurniawan et al. 2022) Education is a learning process as an effort to develop the activities and creativity of students through interactions that produce learning experiences. Education is carried out to improve the development of self-quality, form characters based on religious values and all life values that will ultimately form the identity of an individual. In the world of education, it is incomplete without physical education. Physical education is essentially an educational process that utilizes physical activity to produce holistic changes in the quality of individuals both in terms of physical, mental and emotional (Halim 2019). Physical education is an education to improve motor skills, as well as develop functional values that include aspects: cognitive, affective, psychomotor, and social including healthy eating patterns. According to Ngurah Arya Yudaparmita et al., (2021) Education is an

institution where someone will gain previously unknown experiences and learning that will be obtained at educational institutions.

Physical education plays a crucial role in efforts to develop individual potential as a whole. Physical education, sports, and health are comprehensive learning that uses physical activity as a means of play and sports (Alfyanti et al. 2024). Physical education in schools will be successful if it is implemented by professional physical education and sports teachers and the availability of facilities and infrastructure and supported by sufficient learning resources also contribute to accelerating the achievement of these goals. According to Surahman et al., (2020) "Physical education is learning that is carried out by involving the physical to achieve physical fitness, skills, intellectual development and build social sensitivity/skills. Physical education learning is not just about games and balls.

In other words, on the one hand, the quality of education can be improved if teachers have standard competencies related to their duties and responsibilities. Likewise, physical education teachers must have the competencies to improve the quality of physical education learning in schools. Teachers are also expected to consider students as whole entities, not only separating physical and mental dimensions. The quality of a teacher is reflected in his/her responsibility in teaching, ethics, and commitment in shaping students' potential and advancing the school (Arifin 2017). The emergence of motivation does not solely come from the students themselves but teachers must involve themselves to motivate students to learn. The existence of motivation will provide enthusiasm so that students will know the direction of their learning. (Herawati, Abduloh, and Resita 2021). Motivation In relation to this, teachers must be smart in managing students' learning environment in order to achieve optimal physical education and sports learning. According to Nurdiyan, (2018) "Physical education is a series of movements that not only involve physical but also psychological factors. In this case, total movement occurs when doing or sports activities. Teacher competence is the ability possessed by a teacher so that he/she is worthy of carrying out his/her duties, therefore the quality and results of the teacher's work can demonstrate quality professional actions (Sumiharyati and Arikunto 2019).

One of the weaknesses of physical education and sports teachers is the low understanding of teacher competency mastery in physical education and sports in

schools. As a result, teachers never innovate in physical education and sports learning. Therefore, the low quality of sports is not professional and the government pays less attention to improving the professionalism of physical education and sports teachers. Learning is also of course determine quality education provided a teacher to his students. This is naturally must noticed by the teacher in determine the learning model provided For achieving a sense of security and comfort that can increase quality learning (Sari et al. 2023).

Certification can maintain and be responsible for their existence as teachers who have received a teacher's certificate that meets the competency requirements as teachers to improve the quality of education and not use the teacher's certificate only to receive a higher salary than before by eliminating their sense of responsibility as teachers who have received a teacher's certificate.

According to (Jaenudin 2014) Teacher certification is the process of granting certificate educator to the teacher. Certificate educator given to the teachers who have fulfil standard professional teacher. professional teacher is condition absolute for create systems and practices quality education. While according to (Hasanuddin and Normasunah 2021) Teacher certification is the process of granting certificate educator for teachers/ prospective teachers teacher has fulfil requirements and pass the competency test (Mudlofir and Fatimur Rusydiyah 2016). This program it turns out can it is said as one of the motivation for a teacher for can increase its performance in work. The implementation of the teacher certification program is carried out since in 2007 after publication Regulation Minister of National Education Number 18 of 2007 concerning Certification for In- Service Teachers.

And According to (Herlambang, Gunawan, and Dama 2022) Certification is the process of giving certificate educator to the teachers who have fulfil condition certain , namely own qualification academic competence, healthy physical and spiritual , as well as own ability For realize objective education national, which is accompanied by with improvement decent welfare. While according to (Mohanis 2015) teacher certification is a process for give certificate to the teachers who have fulfil standard competence.

Certification done for to overcome existence injustice in practice education, as example the existence of high-achieving teachers will but given wages small. After the existence of certification This expected teacher welfare increases and of course the

teacher's performance also increases. Doesn't make allowance profession as objective main in certification, but rather allowance is consequence on performance competencies that accompany the teacher.

Student learning outcomes are an important indicator in assessing the success of the learning process, including in Physical Education subjects. One of the factors that influences student learning outcomes is teacher competence and qualifications, especially the certification status they have. Based on findings at SMA 1 Air Tiris, there is a significant difference in the learning outcomes of students taught by certified teachers compared to uncertified teachers. Students who are guided by certified teachers show higher average scores and better understanding of the material. This is inseparable from the professional background of certified teachers who generally have longer teaching experience and have participated in various formal education programs, special courses, workshops, and officially recognized professional training. In addition, certified teachers are also considered more capable of managing classes effectively, increasing student learning motivation, and showing a high commitment to self-development and improving the quality of learning. Thus, teacher certification status has an important role in encouraging improvements in the quality of education, especially in Physical education learning at the high school level.

METHOD

The type of research

This type of research is comparative, which aims to compare two or more groups or variables to understand the differences or similarities between variables. This research was conducted using data collection techniques through a survey of learning outcomes, in the form of student report card scores taught by certified and uncertified teachers.

The goals or targets

The population of this study was 10 classes of grade XI students and 9 classes of grade XII students, with a total population of 551 students. The determination of the sample in this study was carried out using the purposive sampling method, which is a non-random sampling method in which researchers ensure that illustrations are taken by determining specific identities that are in accordance with the research objectives, so that they are expected to respond to research cases (Lenaini 2021). The samples taken consisted of one class in grade XI taught by an uncertified teacher and one class in grade

XII taught by a certified teacher. Thus, the number of samples from grade XI was 27 students and from grade XII was 27 students, so that the total sample used was 54 students.

Research procedures

In this study, the researcher will compare the learning outcomes of physical education students taught by certified and uncertified teachers. To collect research data, the instrument or measuring tool used is the report card score to determine student learning outcomes. Data processing is carried out using the T Test, which functions to determine whether there is a significant difference between the average learning outcomes of students taught by certified teachers and the average learning outcomes of students taught by uncertified teachers.

Instruments

The instruments and data collection techniques in this study are in the form of report card scores used to measure student learning outcomes. The data obtained will be analyzed to determine the differences in learning outcomes between students taught by certified and uncertified teachers. The T-test will be used to analyze the data and determine the significance of the differences between the two groups.

Data analysis techniques

The next step in processing data is analyzing the data so that conclusions can be drawn. The data analysis technique in this study uses quantitative descriptive analysis and T-test. Quantitative descriptive analysis aims to explain data in the form of numbers, such as frequency and percentage (Sudijono, 2011).

The T-test is used to test the significance of the difference in average learning outcomes between two groups of students, namely those taught by certified and uncertified teachers. The T-test formula for two independent samples is as follows:

$$T = (\bar{X}_1 - \bar{X}_2) / \sqrt{((s_1^2 / n_1) + (s_2^2 / n_2))}$$

Information:

- \bar{X}_1 = Average learning outcomes of the first group (certified teachers)
- \bar{X}_2 = Average learning outcomes of the second group (teachers who are not yet certified)
- s_1^2 = First group variance
- s_2^2 = Second group variance
- n_1 = Number of samples in the first group
- n_2 = Number of samples of the second group

RESULT AND DISCUSSION

1. Normality Test

The normality test is a test used to determine whether the data distribution is normally distributed or not. There are many methods that can be used to test data normality and these methods certainly have different decision results. This study aims to compare the results of testing the normal distribution of data using several methods, namely Kolmogorov-Smirnov, Shapiro-Wilk, Anderson Darling, and Skewness-Kurtosis. The Skewness-Kurtosis test is used as a comparison (Sintia, Pasarella, and Nohe 2022) . For this normality test, the Kolmogorov-Smirnov, Shapiro-Wilk tests are used.

Table 1: Tests of Normality

Teacher	Kolmogorov-Smirnov ^a			Shapiro Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
certification	.240	27	.000	.858	27	.002
not certified	.272	27	.001	.804	27	.000

Based on the results of the normality test using these two methods, it can be concluded that both the "certification value" and "non-certification" data are not normally distributed. This can be seen from the significance value (Sig.) which is less than 0.05 in both test methods. Therefore, the normality assumption is not met for both groups of data.

2. Homogeneity Test

The homogeneity test is conducted to obtain information on whether the sample has a homogeneous variance or not. The homogeneity test is used to determine whether several population variants are the same or not. This test is conducted as a prerequisite in the analysis of independent sample t-test and Anova. The underlying assumption in the analysis of variance (Anova) is that the variance of the population is the same. The test of equality of two variances is used to test whether the data distribution is homogeneous or not, namely by comparing the two variances. If two or more data groups have the same variance, then the homogeneity test does not need to be carried out again because the data is considered homogeneous. The homogeneity test can be carried out if the data group is in a normal distribution. The homogeneity test is carried out to show that the differences that occur in parametric statistical tests (eg t-test, Anova, Anacova) actually occur due to differences between groups, not as a result of differences within groups (Usmadi 2020).

The homogeneity of variance test is very necessary before comparing two or more groups, so that the differences that exist are not caused by differences in basic data (inhomogeneity of the groups being compared). There are several formulas that can be used to test the homogeneity of variance, including: Harley test, Cohran test, Levene test, and Bartlett test (Yam and Taufik 2021) . In this study we used the Levene test.

Table 2: Test of Homogeneity of Variance

mark	Levene Statistics	df1	df2	Sig.
Based on Mean	7.045	1	52	.011
Based on Median	3.954	1	52	.052
Based on Median and with adjusted df	3.954	1	30,765	.056
Based on trimmed mean	6,417	1	52	.014

The results of the homogeneity test conducted using the Levene test indicate that the variance between groups is not homogeneous. Based on the average (mean), the Levene Statistic value is 7.045 with a significance value (Sig.) of 0.011. Based on the median, the Levene Statistic value is 3.954 with a significance value of 0.052. When using the adjusted median and degrees of freedom, the Levene Statistic value remains 3.954 with a significance value of 0.056. Finally, based on the trimmed mean, the Levene Statistic value is 6.417 with a significance value of 0.002. The significance level (p-value) is 0.011, indicating evidence to reject the null hypothesis of equal variance (homogeneity of variance).

3. T-test

The t-test is a type of statistical test to determine whether there is a difference between the estimated value and the value of the statistical calculation result. These estimated values have various origins, some of which we determine ourselves, based on issues, requirement values, etc. (Suparyanto and Rosad 2020) .

Table 3: Paired Samples Test

	Paired Differences					t	d f	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 value teacher	9.0277E1	3.85304	52433	89.22610	91.32946	172,177	53	.000

The results of the T-test show that there is a very significant difference at the 95% confidence level, with an average value of the pair difference of 90.277, a standard deviation of 3.85304, and a standard error of the mean of 0.52433. The 95% confidence interval of this difference is in the range of 89.22610 to 91.32946. The t-value of 172.177 with a degree of freedom (df) of 53 and a significance value (2-tailed) of 0.000 confirms a very significant difference.

Table 1: Statistics Descriptive Student Values

Teacher			Statistics	Std. Error
Certification value	Mean		92.5185	.43156
	95% Confidence Interval for Mean	Lower Bound	91.6314	
		Upper Bound	93.4056	
	5% Trimmed Mean		92.5206	
	Median		93.0000	
	Variance		5,028	
	Std. Deviation		2.24243	
	Minimum		89.00	
	Maximum		96.00	
	Range		7.00	
	Interquartile Range		5.00	
	Skewness		-.137	.448
	Kurtosis		-1.628	.728
	No certification	Mean		91.0370
95% Confidence Interval for Mean		Lower Bound	89.1800	
		Upper Bound	92.8941	
5% Trimmed Mean			91.3889	
Median			93.0000	
Variance			22,037	
Std. Deviation			4.69436	
Minimum			80.00	
Maximum			96.00	
Range			16.00	
Interquartile Range			5.00	
Skewness			-1.333	.448
Kurtosis			.916	.872

Based on results statistics descriptive show that average score of students taught by certified teachers of 92.5185 with a 95% confidence interval indicating that the true

population mean is likely to be between 91.6314 and 93.4056. Whereas the average value of students taught by the teacher has not certification as big as 91.0370, with a 95% confidence interval indicating that the true population mean is likely to be between 89.1800 and 92.8941. The scores of students taught by certified teachers have higher average scores compared to the scores of students taught by non-certified teachers.

The results of this study are relevant to research that has been carried out by Harudu (2010) Pre-test results Study student class experiment by 45.97%, while class control of 46.16 with assumption that relatively The same between experiments and controls before the learning-catching-up process ongoing . Next after the learning process in progress a pro-test was held with show results average learning of 71.29 for class experiment and 64.55 for control class . This is show that the TAI type cooperative learning model is more effective increase results Study compared to with learning models conventional in class control . This is in tune with research conducted by Hasanuddin and Normasunah (2021) The results of the study also showed existence significant relationship between teacher certification against Physical Education Teacher Performance Junior High School level throughout the Sub -district Sea Island Regency Kotabaru, South Kalimantan with results analysis mark simple linear regression namely $t = 2.899$ da sig. (p) = 0.009. Where teacher performance experienced improvement with existence certification for teachers.

CONCLUSION

The conclusion of the analysis and discussion on the Comparison of Physical Education Student Learning Outcomes for Certified and Uncertified Teachers in SMA 1 Air Tiris as follows: (1) There is a significant difference in the learning outcomes of students taught by certified teachers compared to students taught by uncertified teachers. (2) The evaluation results show that the average score of students taught by certified teachers is superior to the score of students taught by teachers who do not have certification. (3) Certified teachers generally have longer teaching experience and have participated in various formal education programs and officially recognized professional training. (4) Certified teachers are considered more capable of managing classes effectively and raising students' learning motivation. (5) Certified teachers demonstrate a high commitment to self-development and improving teaching quality. (6) Certified

teachers have also participated in special courses, workshops, and professional training required to obtain certification.

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