

The Relationship Between Teachers' Teaching Styles and Student Learning Outcomes at SD Inpres 1 Kawatuna



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ABSTRACT: This study aims to determine the relationship between teachers' teaching styles and student learning outcomes at SD Inpres 1 Kawatuna. The research method used is a quantitative research method with a descriptive approach. The sample in this study involved three homeroom teachers in grades Four, Five, and Six as respondents to the teaching style questionnaire, as well as 21 students consisting of 6 people for interviews and 15 people for report card score data. The research instruments are in the form of teaching style questionnaires, student interviews, and documentation of odd-semester report card scores in the 2023/2024 school year. Data collection was carried out by distributing a teacher's teaching style questionnaire containing 20 valid and valid statements, as well as student interviews. Data analysis used descriptive analysis and Pearson's product moment correlation test assisted by SPSS version 30. The results of the study showed that there was a significant positive relationship between teachers' teaching styles and student learning outcomes. Thus, teachers' teaching styles play an important role in the effective learning process and the achievement of student learning outcomes. This can be seen from the results of the descriptive analysis, which is 3.73 which is included in the "good" category, and the results of the analysis show a correlation coefficient value of 0.698 with a significance value (sig.) of $0.003 < 0.05$, which means that there is a positive and significant relationship between the teacher's teaching style and the learning outcomes of students. This shows that the more appropriate the teaching style used by the teacher, the higher the learning outcomes achieved by students. Therefore, it can be concluded that the teacher's teaching style has a significant and positive relationship with the learning outcomes of students at SD Inpres 1 Kawatuna.

KEYWORDS: Teacher Teaching Style, Student Learning Outcomes, Correlation Test, Elementary School

INTRODUCTION

Education is one of the main elements in the development of a comprehensive nation and occupies a very strategic position in creating an intelligent, skilled, and competitive society. Education is not just a formal process that takes place in school, but also includes a conscious process to develop human abilities and personalities in various aspects of life. This is in line with the opinion of Basuki (2022) who states that education is a conscious effort to develop human abilities and personalities both inside and outside of school, in order to improve human quality so that they are always able to increase knowledge and skills in the midst of changing times. Basically, education is a process that teaches humans to be more human, and in this process, the role of educators is very important because it helps determine the strategies and approaches used in teaching.

Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System in Article 3 emphasizes that national education aims to develop the potential of students to become human beings who fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. In an effort to realize this goal, teachers as educators have a very vital role in the learning process. Teachers not only function as material presenters, but also as facilitators, motivators, and mentors who help students develop their potential optimally. The success of students in understanding the subject matter and achieving learning objectives in cognitive, affective, and psychomotor aspects is highly dependent on how the teacher delivers learning in an effective and engaging way. The interaction that occurs between teachers and students is two important components in the learning process, which requires teachers to have certain strategies, methods, and teaching styles so that students can easily understand the material and achieve the expected learning outcomes.

Active teachers will always show their mobility, both in the school environment and in the community. Teachers who not only teach mechanically, but also play an active role in educating and shaping the character of students, will try to give the best for their students and themselves as part of future preparation. However, in reality in the field, there are still many teachers who

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have not been able to create a pleasant learning atmosphere. Some teachers still face obstacles in managing classes, using monotonous teaching methods, and lack of variety in delivering materials, resulting in low interest and student participation in learning activities. This has an impact on student learning outcomes that tend to be low or not optimal. Each student has a different character and ability to understand the material delivered by the teacher. Some students are able to catch the lesson quickly, but others require different time and approach. Unfortunately, some teachers still think that students who are slow to receive lessons are underdeveloped students, when in fact these differences are natural and require teachers to be more adaptive in choosing teaching styles. The learning attitude of students is greatly influenced by the teaching style used by teachers. Learning attitudes are not fixed abilities, but they are choices that reflect how students utilize their potential to learn. In this case, students need to adjust to the teacher's teaching style used in the classroom.

Teaching style is the method or method used by teachers in delivering subject matter to students (Suparman 2010). A good and varied teaching style is very important so that students do not feel bored and remain interested in following the learning process (Angganing 2011). The appearance of the teacher's teaching style can be seen from how students are able to digest the knowledge conveyed and respond to it well. Research conducted by Qomario & Nazalia (2022) shows that there is a relationship between teachers' teaching styles and student learning outcomes. Teachers who are competent and able to adapt their teaching style to the needs of students will be more successful in creating an effective and enjoyable learning environment. Thus, students will more easily understand the material taught and respond positively to it, which ultimately has an impact on improving learning outcomes. Harmonious interaction between teachers and students is also an important factor in creating a conducive learning atmosphere and supporting the achievement of educational goals. Learning outcomes are the abilities possessed by students after going through learning experiences, which can be measured through various forms of evaluation, such as tests or other assessments (Sudjana 2010). This ability is a benchmark for learning success which is influenced by many factors, one of which is the teacher's teaching style. Based on the results of observations made by researchers at SD Inpres 1 Kawatuna, it was found that there were differences in teaching styles between teachers in the school. Some teachers tend to use structured lecture methods, while others prefer an interactive approach that encourages discussion in the classroom. These differences in teaching styles have a direct impact on students' level of understanding of the subject matter, as each student has a tendency to respond better to certain styles. Teachers as educators are responsible for shaping students' personalities for the better, especially in the school environment.

Based on this background, the researcher felt interested in studying more deeply how teachers' teaching styles affect students' learning outcomes. Therefore, the author raised the title of the research "The Relationship between Teachers' Teaching Styles and Student Learning Outcomes at SD Inpres 1 Kawatuna" as an effort to find out the extent to which the teaching style used by teachers can affect student learning outcomes, as well as to provide input on more effective learning practices in elementary schools.

LITERATURE REVIEW

The teacher's teaching style is the main component in the learning process that functions to create an effective and enjoyable learning atmosphere. Usman (2002) stated that variation or teaching style is a form of teacher interaction to overcome students' boredom, so that they remain enthusiastic and active in the learning process. Teaching is not only an activity of conveying information, but a moral responsibility to create a conducive learning environment (Murseel in Slameto, Slameto (2003) considers that teaching is the delivery of knowledge, while Hamalik (2003) calls it the delivery of culture, skills, and the organization of the learning environment. Muhson (2005) classifies the meaning of teaching into three meanings: quantitative (knowledge distribution), institutional (structuring teaching ability), and qualitative (learning facilitation). Thus, teaching requires flexibility, innovation, and sensitivity to student needs in order to create meaningful learning.

Teacher teaching style indicators reflect the characteristics and approach of teachers in delivering lessons. Aminah & Wahyuni (2019) said that these indicators include voice variation, concentration, eye contact, limb movements, changes in teacher positions, mastery of material, ability to diagnose student behavior, and the implementation of active learning. Regarding the various teaching styles, Ali (2000) grouped them into four, namely classical, technological, personalized, and interactional styles. The classical style places the teacher as the main source of knowledge with an emphasis on cultural and intellectual values, based on the currents of perennialism and essentialism. The technological style uses technological devices as a means of learning, based on the view that education is a branch of knowledge technology. Teachers play the role of facilitators, while the media is the main tool for delivering material. The personalization style focuses on the individual interests, needs, and experiences of the student with the teacher acting as a mentor, based on a progressive and romantic trend that emphasizes the importance of personal development. Meanwhile, the interactive style emphasizes two-way interaction between teachers and students as well as

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between students, with material that develops from socio-cultural problems. This style develops students' critical thinking through discussion and collaboration.

The combination of indicators and teaching styles plays a big role in creating an effective learning process. For example, in the classical style, indicators such as material mastery, voice variety, and concentration are crucial, while in the technological style, the use of technology and the ability to carry out active learning are the main focus. In a personalization style, understanding student characteristics and an individually-tailored approach is important. Meanwhile, the interactive style requires teachers to create a dialogical atmosphere that allows for the exchange of ideas and thoughts. In the context of learning outcomes, Hamalik (2003) stated that learning is the process of changing individual behavior through interaction with the environment. Learning outcomes include three domains: cognitive, affective, and psychomotor (Sudjana, 2010). According to Bloom, the cognitive realm consists of six levels ranging from knowledge (C1) to evaluation (C6). The affective realm (Kratwohl in Purwanto (2019) includes attitudes and values, while the psychomotor realm of Simpson in Purwanto (2019) deals with physical skills and movements. In this study, the main focus is on cognitive learning outcomes at the synthesis (C5) and evaluation (C6) levels, which are measured through tests and scores obtained by students after the learning process. Learning outcomes are influenced by two main factors, namely internal and external factors (Dalyono, 2009). Internal factors include health, intelligence, talents, interests, motivation, and ways of learning. External factors include the influence of family, school, community, and the surrounding environment. Teachers' teaching styles as part of external factors can have a significant impact on students' motivation and interest in learning (internal factors), which will ultimately affect learning outcomes. Therefore, choosing the right teaching style is an important aspect in supporting the achievement of optimal learning goals.

RESEARCH METHODS

This study uses a quantitative approach with a descriptive type of research. According to Saputra (2013), research is a systematic activity to find, record, analyze, and report results to solve a problem. Saputra (2013) added that research methodology is a series of procedures in acquiring scientific knowledge. Descriptive research aims to describe the value of a variable without comparing or relating it to other variables (Sugiyono in Irsyadi 2012). The quantitative methods used are systematic and structured, and aim to develop mathematical models or hypotheses related to certain phenomena (Siyoto & Sodik, 2015). The design of this study refers to a study by Ni Putu Deviani (2017), which determined two variables: the teacher's teaching style as an independent variable (X) and student learning outcomes as a bound variable (Y). The population in this study is all fourth, fifth, and sixth grade students at SD Inpres 1 Kawatuna in the odd semester of the 2023/2024 school year. The sample consisted of 21 students, namely 6 students (2 students each from each class) as interview resource persons, and 15 other students as sample report card scores. The sample extraction technique is carried out in two ways: purposive sampling and random sampling. Purposive sampling was chosen to determine the interview source based on certain considerations Notoatmodjo (2010) while random sampling was used to select five students per class as a sample of report card scores (Sugiyono, 2021). The supporting subjects in this study were fourth, fifth, and sixth grade homeparents who filled out questionnaires to identify the dominant teaching style used. The types of data in this study are divided into quantitative and qualitative data, with the main focus on quantitative data in the form of student report card scores. The data source consists of primary data (questionnaires and interviews) and secondary data (report card scores).

The operational definition of variables is carried out so that variables can be assessed and measured. The independent variable is the teacher's teaching style (X), while the bound variable is the student's learning outcome (Y). Data collection techniques include documentation of report card scores to measure learning outcomes, questionnaires to identify teaching styles, interviews to strengthen the results of the questionnaire, and documentation in the form of interview sheets and final score data. The research instruments used included questionnaires, interviews, documentation, and learning outcome data. The questionnaire instrument was used to find out the dominant teaching style of the homeroom teacher, while the interview was used to explore students' perception of the teacher's teaching style, with the same indicators as in the questionnaire. The data on learning outcomes was obtained from report card scores, and documentation was used as information support (Sugiyono, 2021). The validity test of the instrument uses content validity with *the product moment correlation technique* through SPSS version 30. The instrument is declared valid if $r_{\text{counts}} > r_{\text{table}}$ (at a significance level of 5%) and is declared invalid if $r_{\text{counts}} < r_{\text{table}}$ (at a significance of 0.05 or 5%) then the instrument is invalid. The reliability test was carried out using the Cronbach Alpha method, with the instrument said to be reliable if the Cronbach Alpha value > 0.60 and if the Cronbach Alpha value < 0.60 , then the research instrument was declared unreliable or inconsistent (Farida & Musyarofah, 2021).

The data analysis technique used is quantitative analysis. Teaching style data and learning outcomes were analyzed using Microsoft Excel and SPSS version 30. Descriptive analysis was used to describe respondents' perceptions of variables X and Y with

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a five-point Likert scale (Sugiyono, 2020). Scoring results were averaged and categorized using a continuum line based on a range of values (1.00–5.00) in categories from "very poor" to "very good".

Table Scale Likert

Alternative Answers	Weight Value
SS (Strongly Agree)	5
S (Agreed)	4
KS (Disagreed)	3
TS (Disagree)	2
STS (strongly disagree)	1

Based on the table above, it can be seen that positive and negative statements have inversely proportional value weights. In this research questionnaire, the researcher will use positive statements so that the answer strongly agrees has a value of 5 (five), agrees has a value of 4 (four), and negative statements with disagree answers have a value of 3 (three), disagree has a value of 2 (two), and strongly agree have a value of 1 (one).

Inferential analysis was carried out with Pearson's *product moment correlation* to determine the relationship between teaching style and learning outcomes. To determine the level of correlation between the teacher's teaching style and student learning outcomes, the product moment correlation formula is used, which is one of the techniques to find correlations between two variables with the following formula.

$$r_{xy} = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{\{n \sum X^2 - (\sum X)^2\}\{n \sum Y^2 - (\sum Y)^2\}}}$$

Information:

r_{xy} : The index number of the moment product (between the variables x and y)

x : Teacher's teaching style

y : Student learning outcomes

n : Number of respondents

$\sum XY$: The sum of the multiplication between X and Y scores

$\sum X$: Total total score X

$\sum$: The sum of the total Y score

Decision-making policy:

If the significance value < 0.05 then it is correlated.

If the significance value > 0.05 then it is not correlated.

Compare the Pearson Correlation with the r table.

Pearson Correlation or r calculate > r table = relational.

Pearson Correlation or r calculate < r table = unrelated.

Hypothesis testing is carried out with a t-test and comparing the significance value with the critical value on the distribution table t. If the significance value < 0.05, then the relationship between the variables is declared significant. In addition, determination coefficient analysis was used to measure the influence of independent variables on dependent variables, using adjusted R-square values (Ghozali, 2018). In the Pearson correlation test, the following t-test statistical formula is used:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Information:

t = test statistical value

r = Pearson correlation coefficient

n = number of data pairs

df = degree of freedom (n - 2)

The significance test aims to find out whether the relationship between the two variables (in this study, namely the teacher's teaching style and the learning outcomes of students) found in the sample is really meaningful and statistically significant, or only happens by chance in the sample.

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RESULT

The teacher teaching style questionnaire instrument containing 20 statements that have been tested to teachers at SDN 3 DOLO totaling 10 people, then validated using SPSS version 30. Based on the results of data processing using SPSS version 30, all items showed significant Pearson correlation values, with a p-value < 0.05 and a correlation coefficient (r) ranging from 0.788 to 0.978. This means that all statements in the questionnaire are declared valid and suitable to be used to measure the variables of teachers' teaching styles in this study. Furthermore, the results of the reliability test also showed that the questionnaire instrument had a very high level of consistency, with a Cronbach's Alpha value of 0.987, which means well above the minimum limit of 0.60. Thus, this instrument is stated to be very reliable and can be used in the collection of research data. Based on the results of the validity test with Pearson's correlation to 20 questionnaire statements, it was found that all items had a positive and significant correlation value to the total score. This is indicated by a p-value of < 0.05 on the entire item, with a correlation coefficient (r) ranging from 0.66 to 0.95. Therefore, it can be concluded that all instrument items are declared valid, and are suitable to be used to measure the variables of teachers' teaching styles in this study.

The reliability test is carried out after the instrument has been validated. Reliability tests are carried out to ensure that each item or question item in the questionnaire does not contradict each other and works consistently in measuring the construct in question. This test is very important to ensure the quality of the instrument before it is used in actual research. In this study, the tester conducted a reliability test using the help of SPSS version 30. The results of the reliability test are as follows:

Table Instrument Reliability Test Results

Reliability Statistic	
<i>Cronbach's Alpha</i>	<i>N of items</i>
0,987	20

Based on the results of the reliability test in the table above, it is known that *Cronbach's Alpha* value is 0.987 on 20 statements. The results of the test showed that *Cronbach's Alpha value* > 0.60 , so it was concluded that the teacher teaching style questionnaire instrument used in this study was very reliable and feasible to be used in further research data collection.

To find out the Relationship Between Teachers' Teaching Styles and Student Learning Outcomes at SD Inpres 1 Kawatuna, the data obtained (attached) will be explained as follows: Based on the results of the score recapitulation from the teacher's teaching style questionnaire, it was found that there were variations in teaching approaches used by teachers at each grade level. In grade four, the most dominant teaching style was *the interactional style*, with a total score of 21, followed by *technological* (20), *personalization* (18), and the lowest was *classical* (11). This shows that sixth grade teachers are more likely to implement learning strategies that encourage interaction between students through discussions and group work, and to start using technology to support the teaching and learning process, rather than using uniform lecture methods. Meanwhile, in fifth grade, the two teaching styles that obtained the highest scores were *personalization* and *interactional*, each with a total score of 20. This reflects the tendency of fifth-grade teachers to tailor learning to the individual needs of students, as well as providing space for students to interact with each other and cooperate in the learning process. *The teaching style of technologists* also scored quite high (19), indicating a significant use of technology, although not as much attention to personal and interactive aspects. The *classical style* was in the lowest position with a score of 15, confirming that the conventional learning approach was not the main choice of fifth grade teachers.

As for the sixth grade, *the technological teaching style* was the most dominant, with the highest score of 23. This shows that sixth grade teachers actively utilize technological devices and media, such as digital presentations, learning videos, and online platforms in the teaching and learning process. *Interactive* (22) and *personalization* (21) styles also show high levels of use, indicating that teachers still prioritize student interaction and attention to individual learning needs. In contrast, *the classical style* again obtained the lowest score (14), reinforcing the finding that uniform learning methods and lectures are no longer the primary approach. In general, from the three classes analyzed, it can be concluded that *interactive and technological teaching styles* are the most dominant approaches used by teachers in learning activities. Classical styles tend to be abandoned, and teachers seem more adaptive in developing learning that is interactive, personalized, and technology-based. These findings show a paradigm shift in pedagogical approaches, where teachers prioritize flexibility, collaboration, and technology integration to increase the effectiveness of learning in the classroom.

After calculating the results of the teacher's teaching style questionnaire, the researcher must determine the scale categories on the continuum line, which are as follows:

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$$\sum p = \frac{\sum \text{Questionnaire Answers}}{\sum \text{Question} \times \sum \text{Responden}} = \text{Average Score} - \text{Average}$$

$$\sum p = \frac{70 + 74 + 80}{20 \times 3} = \text{Average Score} - \text{Average}$$

$$\sum p = \frac{224}{60} = 3,73$$

After the average score is known, the results are entered into a continuum line with the tendency of the respondent's answers to be based on the average score and then the score will be categorized in the following vulnerable scores:

$$\text{NJI (Interval Level Value)} = \frac{\text{Highest Value} - \text{Lowest Value}}{\text{Number of Answer Criteria}}$$

Information:

Highest score = 5

Lowest value = 1

Score range = $\frac{5-1}{5} = 0.8$

Based on the results of the calculation above, it can be known that the categories of table scale are as follows:

Scale	Category
1,00 – 1,80	Very Bad
1,81 – 2,60	Bad
2,61 – 3,40	Not Good
3,41 – 4,20	Good
4,21 – 5,00	Excellent

Based on the results of the calculation above, it can be known that the categories of table scale are as follows:

Scale	Category
1,00 – 1,80	Very Bad
1,81 – 2,60	Bad
2,61 – 3,40	Not Good
3,41 – 4,20	Good
4,21 – 5,00	Excellent

After the average value of the answer has been known, which is 3.73, then the results are interpreted with the continuum line tool as follows: Based on the results of the interpretation on the continuum line and looking at the scale category table, the results of the teacher's teaching style questionnaire are included in the "Good" category which means that the teacher's teaching style in the three classes has been implemented well.

Interviews were conducted on March 19, 2025 with six students from grades Four, Five, and Six , two people each per class to find out the teaching style that teachers most often applied. As a result, students from all classes stated that the teacher's direct explanations were helpful and easy to understand. In fourth grade, teaching styles tend to be classical and interactional, with a predominance of oral methods and little use of technology. Fifth graders are beginning to benefit from digital media such as Quizizz and show a positive response to personalized approaches, such as individual help and discussion opportunities. Although not yet dominant, personalization and technological teaching styles began to be applied in this classroom. In sixth grade, technology-based teaching styles are very prominent. Teachers actively use videos, digital tools, and learning apps. In addition, teachers also consistently apply personalization and interactional styles through individual guidance and group work. Overall, students responded positively to the diversity of teaching styles. Fourth-graders are more traditional, fifth graders are starting to lean toward personalization and technology, while sixth graders are most adaptive in blending all three styles: technological, personalized, and interactional.

In analyzing this working hypothesis, the author takes one form of testing, namely correlation calculation. The data needed to test the hypothesis submitted are the teacher's teaching style questionnaire score and the student's report card score. Before arriving at the calculation of *the r-value calculation*, the values $\sum X$, $\sum Y$, $\sum X^2$, $\sum Y^2$, and $\sum XY$ will be tested using Pearson correlation using a table.

Table Results of Overall Data Analysis

Student	Class	Teacher's Teaching Style (X)	Report Card Score (Y)	X ²	Y ²	XY
S 1	4	70	71	4900	5041	4970
S 2	4	70	76	4900	5776	5320
S 3	4	70	76	4900	5776	5320
S 4	4	70	75	4900	5400	5250
S 5	4	70	85	4900	7225	5950
S 6	5	74	90	5476	8100	6660
S 7	5	74	82	5476	6724	6068
S 8	5	74	80	5476	6400	5920
S 9	5	74	85	5476	7225	6290
S 10	5	74	83	5476	6889	6142
S 11	6	80	86	6400	7390	6880
S 12	6	80	85	6400	7225	6800
S 13	6	80	91	6400	8281	7280
S 14	6	80	82	6400	6724	6560
S 15	6	80	90	6400	8100	7200
		ΣX=1120	ΣY=1237	ΣX ² =83880	ΣY ² =102507	ΣXY=92610

The analysis in the table above, then the correlation between the teacher's teaching style and the learning outcomes of students is sought using the *product moment* formula as follows:

Pearson Product Moment Correlation Manual Test

$$r_{xy} = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{\{n \sum X^2 - (\sum X)^2\} \{n \sum Y^2 - (\sum Y)^2\}}}$$

$$r_{xy} = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{\{n \sum X^2 - (\sum X)^2\} \{n \sum Y^2 - (\sum Y)^2\}}}$$

$$r_{xy} = \frac{15(92610) - (1120)(1237)}{\sqrt{\{15(83880) - (1120)^2\} \{15(102507) - (1237)^2\}}}$$

$$r_{xy} = \frac{1389150 - 1385440}{\sqrt{\{1258200 - 1254400\} \{1537605 - 1530169\}}}$$

$$r_{xy} = \frac{3710}{\sqrt{3800.7436}}$$

$$r_{xy} = 0,698$$

Pearson Product Moment Correlation Test using SPSS

Correlations

		Gaya Mengajar Guru (X)	Hasil Belajar (Y)
Gaya Mengajar Guru (X)	Pearson Correlation	1	.698**
	Sig. (2-tailed)		.004
	N	15	15
Hasil Belajar (Y)	Pearson Correlation	.698**	1
	Sig. (2-tailed)	.004	
	N	15	15

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

This value indicates the strength level of the linear relationship between two variables:

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Interval Cowphysin	Relationship Level
0,80 - 1,000	Very High
0,60 - 0,799	Tall
0,40 - 0,599	Currently
0,20 - 0,399	Low
0,00 - 0,199	Very Low

As can be seen in the table above, the value of 0.698 means that the relationship between teaching style and learning outcomes is strong and *positive*. Based on the results of the manual test of the product *moment correlation statistics* and the frequency of the relationship between the teacher's teaching style and the learning outcomes of students, r calculation = 0.698 was obtained by consulting the tables of *product moment value*, where the r value of the table with $N = 15$ with a confidence level of 95% ($\alpha=0.005$) was 0.440 (see the appendix r of the table). The results showed that the r calculation $> r$ table, namely $0.698 > 0.440$, thus the alternative hypothesis (H_a) which reads that there is a relationship between the teacher's teaching style and the learning outcomes of students at SD Inpres 1 Kawatuna was accepted and the null (H_o) hypothesis was rejected. This means that the results of the analysis above show that there is a relationship between the teacher's teaching style and the learning outcomes of students at SD Inpres 1 Kawatuna.

The results of the *product moment analysis* proved that H_o was rejected and H_a was accepted. The zero hypothesis (H_o) which states that there is no relationship between the teacher's teaching style and the learning outcomes of students at SD Inpres 1 Kawatuna is rejected, and the alternative hypothesis (H_a) which states that there is a relationship between the teacher's teaching style and the learning outcomes of students at SD Inpres 1 Kawatuna is accepted. To find out whether there is a significant relationship between teachers' teaching styles and student learning outcomes, Pearson's correlation analysis was performed by significance testing using the distribution formula t . Significance test aims to ensure that the relationship found in the sample does not occur by mere chance, but is a representation of the relationship in the population. In this study, the value of the Pearson correlation coefficient (r) obtained was 0.698, with a sample of 15 respondents.

Uji signifikansi dilakukan dengan menggunakan rumus:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

The significance test is carried out using the formula:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} = \frac{0,698 \cdot \sqrt{13}}{\sqrt{1-(0,698)^2}} = \frac{0,698 \cdot 3,606}{\sqrt{0,513}} = \frac{2,517}{0,716} = 3,516$$

The degree of truth in this context is indicated by the p -value, i.e. the possible chance of error if H_o is rejected. The calculation results show that the p -value ≈ 0.0038 , which is well below the significance limit of 0.05. This further corroborates the conclusion that the relationship between variables is significant, and that an alternative hypothesis (H_a) is acceptable. This means that with a 95% confidence level, the relationship between teachers' teaching styles and students' learning outcomes can be statistically correct.

After obtaining the $t_{\text{calculated}}$ value = 3.516, the next step is to compare it with $t_{\text{the value of the table}}$. With a significance level (α) of 0.05 and a degree of freedom (df) = $n - 2 = 13$, the t_{table} value for the bidirectional test is 2.160 (can be seen in the appendix). Because $3,516 > 2,160$, H_o is rejected, which means that there is a statistically significant relationship between teachers' teaching styles and student learning outcomes. Thus, the significance test shows that the correlation found did not occur by chance. The degree of truth in this context is indicated by the p -value, i.e. the possible chance of error if H_o is rejected. The calculation results show that p -value = 0.0038, which is well below the significance limit of 0.05. This further corroborates the conclusion that the *relationship between variables is significant*, and that an alternative hypothesis (H_a) is acceptable. This means that with a 95% confidence level, the relationship between teachers' teaching styles and student learning outcomes can be statistically correct.

To find out how much the variable of teaching style contributes to learning outcomes, the determination coefficient (R^2) obtained from the square of the correlation value is used:

$$R^2 = (0,698)^2 = 0,487$$

Thus, about 48.7% of the variation in student learning outcomes can be explained by the teacher's teaching style, while the remaining 51.3% is influenced by other factors that are not discussed in this study. This score shows that the teacher's teaching style contributes significantly to improving student learning outcomes.

DISCUSSION

This study aims to determine the relationship between teachers' teaching styles and student learning outcomes at SD Inpres 1 Kawatuna. To answer the formulation of this problem, the researcher has collected data through a teacher teaching style questionnaire given to homeroom teachers in grades four, five, and six, as well as documenting students' report card scores as an indicator of learning outcomes. Data analysis was carried out quantitatively with a descriptive and inferential approach using Pearson's Product Moment correlation test. The results of these two analyses are the basis for discussion in this chapter. Based on the results of the recapitulation of the questionnaire scores, it is known that fourth grade teachers have a dominant tendency to the interactional style with a total score of 21, followed by the technological style with a score of 20, then the personalization style (18), and classical (11) as the lowest. This shows that fourth-grade teachers prioritize interaction in the learning process and begin to utilize technology, although in interviews, fourth-graders prefer face-to-face methods, feel helped by oral explanations, and are not used to using digital media or learning applications. This discrepancy shows that there is a gap between teachers' perceptions and students' learning experiences that deserve further attention.

Meanwhile, fifth-grade teachers scored highest on balanced interaction and personalization styles, with 20 each, and technological styles scored 19. The results of the interviews revealed that fifth-graders have gotten to know apps like Quizizz and find learning more interesting. Teachers also pay attention individually and often involve students in discussions or group work, demonstrating consistency between the questionnaire and the reality in the classroom. The sixth grade teachers were the most dominant using technological styles (score 23), followed by interactive styles (22) and personalization (21). The students stated that they often learn through videos, digital tools, and learning apps which make the learning process more engaging and enjoyable. Teachers also provide individual guidance and activate group work in learning, reflecting a combination of three styles that are applied in a balanced manner and positively accepted by students. Overall, the average score of the teacher's teaching style questionnaire was 3.73, which based on the continuum line of Sugiyono (2008) was included in the "Good" category. This indicates that in general, the teaching style applied by teachers in the three classes is quite varied and adjusts to the needs and characteristics of students.

Inferential analysis using the *Pearson Product Moment* correlation test showed that the calculated r value = 0.698, while the table $r = 0.440$ with $N = 15$ at a significance level of 5%. Since r calculates $> r$ table, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. Thus, there is a significant relationship between teachers' teaching styles and student learning outcomes. This result was strengthened by a significance test using the distribution formula t , where t calculated = 3.516, greater than t table = 2.160, with p -value = 0.0038 which was well below 0.05. This suggests that the relationships found are not accidental, but statistically correct. The determination coefficient of 0.487 showed that 48.7% of the variation in students' learning outcomes was explained by the teacher's teaching style, while the remaining 51.3% was influenced by other factors not discussed in this study, such as learning motivation, family conditions, and environmental support.

The findings of this study support the constructivistic learning theory that emphasizes the importance of the role of teachers as facilitators who are able to adapt teaching approaches to the needs and learning styles of students. In addition, the results of this study are also in line with the results of previous research which stated that adaptive and varied teaching styles can make a significant contribution to students' academic achievements. Overall, the quantitative data obtained through questionnaires and correlation tests were supported by qualitative findings from student interviews. Students from the fourth grade show a preference for classical and interactional styles, students from the fifth grade like a mix of personalization and technology, while the sixth graders show a high readiness for technology-based learning. The mismatch between teachers' perceptions and students' learning experiences, especially in fourth grade, indicates the importance of continuous reflection and evaluation of the effectiveness of the teaching style used. Thus, this study emphasizes that the success of learning is not only determined by the variety of teaching styles, but also by the harmony between these styles and the learning characteristics and preferences of students, as well as by the teacher's ability to create a communicative, empathetic, and conducive learning atmosphere.

CONCLUSION

Based on the results of the research and the conclusions that have been obtained, the researcher suggests that teachers at SD Inpres 1 Kawatuna can pay more attention to the suitability of teaching styles with the characteristics and needs of students. Teachers are expected to be able to reflect on their teaching practices on a regular basis, including evaluating the effectiveness of the learning approaches that have been used. The flexible incorporation of various teaching styles such as interactional, personalized, and technological styles can create a more engaging learning atmosphere and be able to increase students' active participation. In addition, the school is also expected to provide continuous support to teachers, both in the form of training, workshops, and the provision of adequate learning technology facilities. The optimal use of digital media must be accompanied

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by mentoring so that teachers are not only able to operate technology, but also integrate it pedagogically in the learning process. For students, it is recommended to be more active in providing feedback to teachers regarding the learning methods that are considered the most helpful and fun. Two-way communication between teachers and students will help create more adaptive learning and suit each individual's learning style. As for future researchers, it is recommended to expand the scope of the study with a larger sample size and include more variables, such as learning motivation, family background, and student learning style. The next research is also expected to combine quantitative and qualitative approaches in order to obtain a more comprehensive and in-depth picture of the factors that affect student learning outcomes.

CONFESSION

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REFERENCES

- 1) Ali, H. M. (2000). *Teachers in the teaching and learning process*. PT Sinar Baru Algensindo.
- 2) Aminah, N., & Wahyuni, M. P. I. (2019). *Basic Teaching Skills*. LovRinz Publishing.
- 3) Angganing, P. (2011). *The Relationship between Teacher's Teaching Style and Students' Attitudes with the Learning Achievement of Grade 5 Students in Wonogiri District, Wonogiri Regency*.
- 4) Basuki, W. (2022). *Vocational and vocational technology education management*. The Earth of Scripts.
- 5) Dalyono, M. (2009). *Educational Psychology*, 5th Edition. *Jakarta: Renika Cipta*.
- 6) Farida, A. M., & Musyarofah, A. (2021). Validity and Reliability in Question Item Analysis. *Al-Mu'arrib: Journal of Arabic Language Education*, 1.
- 7) Ghozali, I. (2018). *Multivariate analysis application with the IBM SPSS 23 program*.
- 8) Hamalik, O. (2003). *The teaching and learning process*.
- 9) Irsyadi, A. Y. (2012). The Influence of Career Guidance and Parenting Style on Students' Independence in Choosing a Career in Class XI of the Department of Electrical Power Installation Engineering at SMK Negeri 1 Sedayu. *Research Journal*, 8.
- 10) Muhson, A. (2005). Application of problem solving methods in advanced statistics learning. *Journal of Economics & Education*, 2(3).
- 11) Notoatmodjo, S. (2010). Health Research Methodology, Rineka Cipta. *Jakarta. Indonesia*, 39–43.
- 12) Purwanto, I. (2019). Efforts to improve the competence of target teachers in the preparation of good and correct lesson plans according to the 2013 Curriculum (Kurtilas) semester one of the 2018/2019 academic year at SMP Negeri 9 Mataram through MGMP-based assistance. *Jisip (Journal of Social Sciences and Education)*, 3(1).
- 13) Qomario, Q., & Nazalia, D. (2022). The Relationship Between Teaching Style and Mathematics Learning Outcomes of Grade III Students of SD Negeri 5 Bumi Waras Bandar Lampung. *Nusantara Journal of Behavioral and Social Science*, 1(1), 39–44.
- 14) Saputra, A. (2013). *Academic score information system for thesis guidance*. Elex Media Komputindo.
- 15) Siyoto, S., & Sodik, M. A. (2015). *Basis of research methodology*. Media Publishing Literacy.
- 16) Slameto, B. D. F.-F. Y. (2003). *Affect it*. *Jakarta: Rineka Cipta*.
- 17) Sudjana, N. (2010). *Assessment of the results of the teaching and learning process*.
- 18) Sugiyono. (2021). *Qualitative Quantitative Research Methods and R&D*.
- 19) Sugiyono, M. (2008). *Qualitative quantitative research and R&D*. *Bandung: Alfabeta*.
- 20) Suparman, S. (2010). *Teaching style that delights students*. *Yogyakarta: Pinus Book Publisher*.
- 21) Usman, M. (2002). *Become a professional teacher*. (No Title).



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