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## THE EFFECT OF INTERNET USE ON PHYSICS LEARNING OUTCOMES IN TERMS OF STUDENT LEARNING STYLES

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**Abstract:**

The learning environment changed from in-person lessons to online classes during the Covid-19 pandemic. The Internet is a boundless sea of various information, both "positive" and "negative" information. This study aims to determine the influence of internet use on physics learning outcomes in terms of student learning styles (including visual learning styles, auditorial learning styles, and kinesthetic learning styles). This study was conducted on 314 junior high school students in Tana Toraja Regency. Data collection techniques in the form of questionnaires and documentation. The data from the study were analyzed using the SPSS version 22 computer application. The results showed: (1) there was a positive and significant influence of internet use on the learning outcomes of physics students at Tana Toraja Regency Junior High School; (2) there is no influence of internet use on physics learning outcomes in terms of the learning styles of junior high school students in Tana Toraja Regency; and (3) the learning style that has the most decisive influence on the physics learning outcomes of junior high school students in Tana Toraja Regency is the visual learning style with a total percentage of 33.8 and the real influence of internet use on learning outcomes in terms of the visual learning style of students of 82.9%.

**Keywords:** Internet Use, Learning Styles, Learning Outcomes.

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## INTRODUCTION

During the Covid-19 pandemic, the learning process shifted from face-to-face to online. This automatically becomes an obstacle for teachers and students in learning. Fortunately, at that time, information and communication technology had developed rapidly so that difficulties in learning could be overcome by utilizing the internet. This learning pattern automatically forces teachers to change their learning process from face-to-face to online learning using the internet.

Online learning utilizes the internet network and technology such as multimedia, videos, virtual classes, animated online text, voice messages, e-mail, telephone and online streaming videos. Online learning requires students and teachers to communicate interactively by utilizing information and communication technology, such as computer media, cell phones and laptops with the internet. The learning system is carried out through a personal computer (PC), cellphone, or laptop connected to an internet network connection. Teachers can do learning together at the same time using groups on social media such as WhatsApp (WA), telegram, Instagram, zoom application, google meet, or other media as learning media. This way, teachers can ensure learners follow the learning simultaneously, even in different places. Teachers can also give measurable tasks on the objectives of the material presented to students.

The Internet is a global system of computer networks that provides a wide variety of information and learning resources. In addition, the internet also provides various applications that allow interactions such as one-to-one, one-to-many, and many-to-many interactions.

The Internet is a boundless sea of various information, both "positive" and "negative" information. Therefore, before consuming information on the internet, internet users should observe, analyze, and select the information needed and junk information, especially if the information is related to education, which significantly impacts students. On this basis, it is significant for Physics teachers in junior high schools to master the use of the internet in physics learning. This is by the contents of the Annex to the Regulation of the Minister of National Education (Permendiknas) Number 16 of 2007 concerning Academic Qualification Standards and Teacher Competencies, which states that mastery of information and communication technology is one of the elements of pedagogic competence and professional competence that teachers must have.

The positive influence of the internet for students is that those who write can publish it via blog. Writing on the internet will be an all-time reference, in the hope that it can be helpful from generation to generation. Of course, teachers prefer to use internet media to learn because it is exciting, practical and efficient. Meanwhile, internet use's most dangerous negative influence is that students are addicted to playing games and others. This is also experienced by many students in schools from elementary to college without knowing their gender.

Students who use the internet often make them lazy to learn and even forget their duties and responsibilities as students. Conditions like these can affect learners' concentration and learning outcomes, except those who use the internet properly. Robin and Linda (in Deni, 2015: 28) explained that every student's tendency to use internet media is not only required to use it without abusing the site in it but regarding the activeness of each student to use the internet according to the needs of learning creativity.

In general, using the internet makes it easier for students to obtain information through various facilities, such as downloading lesson materials and watching learning videos primarily related to physics material in junior high school (SMP). Supriyanto (2007:2) explained that using the internet in learning in schools helps students complete their knowledge, while teachers can look for innovative teaching materials. Students can search for anything on the internet to increase their knowledge according to their respective learning styles.

Learning style is a cognitive, affective, and psychomotor behavior characteristic as an indicator that acts relatively stably for learners to feel interconnected and react to the learning environment (Gobai, 2005:1). Meanwhile, Gunawan (2006: 139) explained that learning style is the way we prefer to do thinking activities, processing and understanding information.

Deporter & Hernacki (2002) explain that learning style combines how students absorb and then organize and process information. A person's learning style is critical to developing performance at work, school, and in interpersonal situations. Each child has more than one learning style used to achieve their goals. We can not force a child to learn in the atmosphere and way we want because each child has their type or style of learning. Students can increase their knowledge by learning in terms of the internet and their respective learning styles to improve their learning outcomes.

In general, learning styles consist of: visual learning styles, auditorial learning styles, and kinesthetic learning styles. Visual learning styles access visual imagery, which is both created and remembered. This modality stands out because of colors, space relationships, mental portraits and images. A highly visual person may be characterized by: (1) being organized, paying attention to everything and maintaining appearance; (2) remembering images and preferring to read rather than read aloud. Moreover, (3) requires an overarching picture and purpose and capturing details, remembering what is seen. In general, a visual learning style is a learning style that relies on its learning activities to the subject matter it sees.

Auditorial learning styles access all kinds of sounds and words, created and remembered. Music, tones, rhythms, rhymes, internal dialogues and sounds stand out here. A person who is highly auditorial can be characterized by: (1) his attention is easily divided; (2) speaking with a rhythmic pattern; and (3) learning by listening, moving lips/making a sound while reading. Generally, auditorial learning styles rely more on their learning activities to the subject matter they hear.

Meanwhile, kinesthetic learning styles access all kinds of movements and emotions are created and remembered. Movement, coordination, rhythm, response, and emotional and physical comfort stand out here. A person who is very kinesthetic often: (1) touches people and stands close together and moves a lot, (2) learns by doing, pointing at writing while reading and responding physically; and (3) remembers as you walk and look. In general, the kinesthetic learning style is a learning style that relies on learning activities to movements.

According to Bendler and Grinder, 1981 (in De Porter, 2000: 85), although most people have access to all three modalities, namely visual, auditorial, and kinesthetic, almost everyone tends to one learning modality that acts as a sieve for learning, processing and communication. Whereas Markova of 1992 (in De Porter, 2000: 85) says people are not only inclined to one modality, they also take advantage of certain combinations of modalities that give them certain natural talents and shortcomings. Everyone tends to one modality. Teachers also have the same tendency to teach modalities as their learning styles. A learner will easily absorb information according to his learning style.

Sudjana (1991:22) states that learning outcomes are the abilities students have after their learning experience. Nasution (1994:24) states that learning outcomes are a change that occurs in individuals who learn, not only changes in knowledge but also to form skills and rewards in the person who learns. From this understanding, it can be explained that learning outcomes are something that students achieve or obtain thanks to effort or thought, which is expressed in the form of mastery, knowledge and basic skills that exist in various aspects of life so that they appear to the individual. Learning outcomes can also be defined as a result of one's learning process. Learning outcomes are related to changes in the person who learns. The form of change as a result of learning is in the form of changes in knowledge, understanding, attitudes and behaviors, skills and ways to solve problems.

However, is it true that using the internet and each other's learning styles will positively influence student learning outcomes, especially in Physics lessons, which is inevitable that most students do not like these lessons? Or does internet use negatively influence students with declining learning outcomes? Based on the background of the problem above, the researcher is interested in conducting a study entitled "The Influence of Internet Use on Physics Learning Outcomes in Terms of Student Learning Styles."

## METHODS

According to the study's objectives, it is classified as expose facto research. Data obtained from internet use and learning outcomes (in the form of final semester exam scores) regarding students' learning styles. This study's population was all class VIII junior high school students in Tana Toraja Regency whose learning process used the internet. The study sample amounted to 25% or amounted to 314 people of the total population. This study had three variables: the use of the internet as a free variable, learning outcomes as a bound variable, and learning style as an intermediate variable. Researchers took three types of data, namely non-test data (internet use and student learning styles) and learning outcomes test data. Learning data using the internet and student learning styles are collected with instruments like attitude scales and learning outcomes data in Physics report cards.

The instrument is given directly to learners who give answers by selecting one of the available answers to the attitude scale and documentation for learning outcomes.

Descriptive statistics are used to analyze data on internet usage, learning styles, and student physics learning outcomes, including mean values, standard deviations, variances, ranges, minimum values and maximum values. The data was analyzed using the help of the SPSS version 22 computer application. Data on internet usage, learning styles, and learning outcomes of Physics students with the score range used for each item is 1 - 4. The scores obtained for internet learning and learning styles are then converted into the following categorization:

Very frequent category = when  $> (M+1SD)$

Moderate category = when  $(M-1SD)$  to  $(M+1SD)$

Low category = when  $< (M-1SD)$

In addition to descriptive analysis, analytical techniques are used in data analysis requirements and research hypothesis tests. Test data analysis requirements include normality tests and linearity tests. Meanwhile, the research hypothesis test uses the Anova and Sobel tests.

**RESULT AND DISCUSSION**

**Internet Usage.** Analysis of internet usage data was obtained from internet usage questionnaires given to students, and then the data was analyzed using the help of SPSS 22. For more details, the analysis of internet usage data is presented in table 1.

**Table 1.** Score Distribution, Frequency, Categorization, Percentage of Internet Use

No	Score	Frequency	Percentage	Category
1	> 83	140	44,59%	Very Often
2	66 - 83	150	47,77%	Often
3	< 66	24	7,64%	Infrequently
	Amount	220	100%	

Source: Author Data

Based on table 1 above, it was found that there were 140 students out of 314 people who were categorized as using the internet very often with a percentage of 44.59, 150 students% who were categorized as using the internet frequently with a percentage of 47.77 %, and 24 students who were categorized as rarely using the internet with a PERcentage of 7.64. %.

**Learning Styles.** The learning style data was analyzed from the learning style questionnaire given to students, and then the data was analyzed using the help of SPSS 22. Data on learners' learning styles are presented in table 2.

**Table 2.** Score distribution, frequency, and categorization of learners' learning styles

No	Learning Styles	Frequency	Percentage (%)
1	Visual	152	48,41
2	Kinesthetic	162	51,59
3	Auditorial	0	0
Sum		314	100

Source: Author Data

Based on table 2 above, it can be seen that out of 314 students, there are 152 students or 48.41%, whose learning styles are classified as visual learning styles, and 162 students or 51.59%, whose learning styles are classified as kinesthetic learning styles. Moreover, there are no learners whose learning style is classified as auditorial learning style.

The data was shown from a questionnaire consisting of 24 statement numbers, 10 statement numbers each about visual style, six numbers of auditorial learning style statements and eight numbers of kinesthetic style statements, which were distributed to 314 learners, and it turned out that most of the learners answered statements on visual styles agreeing and strongly agreeing with scores of 3 and 4. On kinesthetic statements also, some learners answered very much in agreement and agreed. While in auditorial style statements, learners tend to answer disagree and even disagree.

**Learning Outcome.** Analysis of physics learning outcomes data obtained from the report card scores of students after conducting a final exam. Data on student learning outcomes are presented in table 3.

**Table 3.** Distribution of scores, frequency, categorization, and percentage of learning outcomes

No	Score	Frequency	Percentage (%)	Category
1	> 88	98	31,21	Tall
2	76 – 88	153	48,73	Currently
3	< 76	63	20,06	Low
	Amount	314	100	

Source: Author Data

Table 3 shows that out of 314 learners, there were 98 people or 31.21%, whose learning outcomes were categorized as high. 153, or 48.73% of learning outcomes, were classified as moderate, and 63 people or 20.06% of students whose learning outcomes were classified as low. The data shows that the physics learning outcomes of junior high school students in Tana Toraja Regency are relatively good.

**Test the linearity of internet use and physics learning outcomes.** The results of testing the linearity of internet use and learning outcomes using the SPSS 22 application are presented in Table 4.

**Table 4.** Linearity test of internet use and learning outcomes

			Sum of Squares	df	Mean Square	F	Sig.
Learning outcomes * Internet use	Between Groups	(Combined)	715.758	14	51.126	6.468	.010
		Linearity	562.465	1	562.465	71.155	.000
	Within Groups	Deviation from Linearity	153.293	13	11.792	1.492	.306
		Total	55.333	7	7.905		
			771.091	21			

Source: Author Data

Based on the results of linearity testing in table 4.4 above, it was obtained that the signification value was  $0.306 > 0.05$ . This means that internet usage and learning outcome variables have a linear relationship.

**Test the linearity of internet use, visual learning styles, and physics learning outcomes.** To determine whether the variables of internet use and learning outcomes have a linear relationship or are not significant in visual learning styles, the Anova linear test and path analysis was carried out with the help of the SPSS 22 application. For analysis of the path, I can be seen in table 5.

**Table 5.** Test the linearity of internet use and visual learning styles

			Sum of Squares	df	Mean Square	F	Sig.
Visual style * Internet use	Between Groups	(Combined)	427.857	11	38.896	3.112	268
		Linearity	91.127	1	91.127	7.290	114
		Deviation from Linearity	336.730	10	33.673	2.694	301
		Within Groups	25.000	2	12.500		
		Total	452.857	13			

Source: Author Data

Based on the results of linearity testing in table 4.5 above, a significant si value of  $0.301 > 0.05$  was obtained, so it can be said that the Variable of internet use with visual learning styles has a linear relationship. Path II analysis was carried out to find out whether internet use and visual learning styles have a linear relationship or not significantly to learning outcomes. The results of these tests can be seen in Table 6.

**Table 6.** Uji linearity of internet use and visual style toward learning outcomes

			Sum of Squares	df	Mean Square	F	Sig.
Learning outcomes * Visual Style	Between Groups	(Combined)	220.014	8	27.502	.682	.700
		Linearity	172.593	1	172.593	4.278	.093
		Deviation from Linearity	47.421	7	6.774	.168	.982
		Within Groups	201.700	5	40.340		
		Sum	421.714	13			

Source: Author Data

Based on the results of linearity testing using SPSS 22 in table 4.6 above, a signification value of  $0.982 > 0.05$  was obtained. It can be said that internet use and visual learning styles have a linear relationship with student learning outcomes.

**Test the linearity of internet use, kinesthetic learning styles, and physics learning outcomes.**

This linear test was to find out whether the variables of internet use, kinesthetic learning style, and learning outcomes have a linear relationship or not significantly. The Anova linear test was carried out with the help of SPSS 22 and using path analysis. For the analysis of the path, I can be seen in table 7.

**Table 7.** Test The Linearity of Internet Use Kinesthetic Learning Styles

			Sum of Squares	df	Mean Square	F	Sig.
Kinesthetic Style * Internet Use	Between Groups	(Combined)	95.875	4	23.969	1.284	.436
		Linearity	46.409	1	46.409	2.486	.213
		Deviation from Linearity	49.466	3	16.489	.883	.539
		Within Groups	56.000	3	18.667		
		Sum	151.875	7			

Source: Author Data

Based on the results of linearity testing in table 7 above, a significance value of  $0.539 > 0.05$  was obtained. It can be said that the Variable of internet use has a linear relationship with the kinesthetic learning style of students. The path II analysis results were carried out to determine whether internet use and kinesthetic learning styles have a linear relationship significantly with student learning outcomes. The results of these tests can be seen in table 8.

**Table 8.** Test the linearity of internet use and kinesthetic style on learning outcomes

			Sum of Squares	df	Mean Square	F	Sig.
Learning outcomes * kinesthetic style	Between Groups	(Combined)	44.750	3	14.917	8.230	.035
		Linearity	32.726	1	32.726	18.056	.013
		Deviation from Linearity	12.024	2	6.012	3.317	.141
	Within Groups	7.250	4	1.813			
	Sum	52.000	7				

Source: Author Data

Based on the two-track linearity test results in table 4.8 above, a significance value of  $0.141 > 0.05$  was obtained. It can be said that internet use and kinesthetic learning styles have a linear relationship with the learning outcomes of physics students.

**Test the linearity of internet use, learning styles, and physics learning outcomes.** The linear test aims to find out whether two variables have a linear relationship or not significantly. So the data test was carried out with the ANOVA linear test with the help of SPSS 22. The results of the analysis of path I can be seen in table 9.

**Table 9.** Test the linearity of internet use and learning styles

			Sum of Squares	df	Mean Square	F	Sig.
Learning Styles * Internet Use	Between Groups	(Combined)	468.856	14	33.490	1.564	.283
		Linearity	18.078	1	18.078	.844	.389
		Deviation from Linearity	450.778	13	34.675	1.619	.267
	Within Groups	149.917	7	21.417			
	Total	618.773	21				

Source: Author Data

Based on the results of the linearity test in table 9 above, a significance value of  $0.267 > 0.05$  is obtained, so it can be said that internet use has a linear relationship with learning styles. For the analysis of path II testing, the use of the internet and the learning styles of students on learning outcomes can be seen in Table 10

**Table 10.** Test the linearity of internet use, learning styles, and learning outcomes

			Sum of Squares	df	Mean Square	F	Sig.
	Between Groups	(Combined)	220.014	8	27.502	.682	.700
		Linearity	172.593	1	172.593	4.278	.093

Learning outcomes * Visual Style	Deviation from Linearity	47.421	7	6.774	.168	.982
	Within Groups	201.700	5	40.340		
	Total	421.714	13			

Source: Author Data

Based on the results of linearity testing, as in table 4.9 above, a significance value of  $0.982 > 0.05$  was obtained. It can be said that internet use and learning styles have a linear relationship with the results of learning Physics.

**Heteroskedasticity Test.** The heteroskedasticity test was performed using the Glejser test. To find out the presence or absence of heteroskedasticity, that is, by comparing the significance of each independent Variable of the output of SPSS 22 with the significance level used in this study of 0.05 or 5%. If the significance value generated on each Variable is less than 0.05, it indicates heteroskedasticity. Conversely, if the resulting significance is more than 0.05, then hetero-stability occurs. This test will be carried out twice, namely, lines one and II.

**The use of the internet on physics learning outcomes in terms of the visual style of students.** This test was carried out to determine the presence or absence of heteroskedastic, the use of the internet against visual styles. For the heteroskedasticity test of line I in table 11.

**Table 11.** Test the heteroskedextity of internet use against visual style

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.833	8.609		-.910	.381
	Internet Use	.152	.109	.374	1.395	.188

a. Dependent Variable: absRes

Source: Author Data

Based on the results of the heteroskedasticity test in terms of the Glejser test, it was obtained that the sig value. The independent Variable 0.188 is above or higher compared to the sig value. Used, which is 0.05. Therefore, it can be concluded that there is no heteroskedasticity in the independent variables used in this study. For track II, looking at the use of the internet and the visual learning style of students toward physics learning outcomes can be seen in Table 12.

**Table 12.** Test heteroskedasticity of internet usage, visual style, and learning outcomes

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.539	5.431		3.045	.011
	Internet Use	-.080	.054	-.386	-1.487	.165
	Visual style	-.097	.069	-.364	-1.402	.189

a. Dependent Variable: absRes

Source: Author Data

Based on the results of the heteroskedestity test reviewed from the Glejser test in table 11 above, it was obtained that the sig value. The independent variable Internet usage of 0.165 is above or higher than the GIS value. Used, which is 0.05. Therefore, it can be concluded that there is no heteroskedesity in the independent variables used in this study.

**The use of the internet on physics learning outcomes in terms of kinesthetic learning styles.**  
To determine the presence or absence of heteroskedastitas, the use of the internet against kinesthetic styles can be seen in Table 12

**Table 12.** Test of heteroskedasticity of internet use against kinesthetic style

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-15.626	18.888		.827	.40
	Internet Use	.279	.284	.372	.982	.34

a. Dependent Variable: absRes

Source: Author Data

Based on the results of the heteroskedestiy test in terms of the Glejser test in the table above, it was obtained that the sig value. Independent variables of Internet usage  $0.364 > 0.05$ . This means that there is no heterostability in the independent variables used in this study.

The results of the path II analysis were carried out to determine whether there is heteroskedesity of internet use and kinesthetic learning styles of students towards physics learning outcomes. The results of the data are presented in Table 13.

**Table 13.** Test for heteroskedasticity of internet use, kinesthetic style, and learning outcomes

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.804	9.475		-.401	.705
	Internet Use	.043	.087	.256	.491	.644
	kinesthetic style	.029	.058	.256	.492	.644

a. Dependent Variable: absRes

Source: Author Data

Based on the results of the heteroskedestiy test in terms of the Glejser test, it was obtained that the sig value. The independent Variable of Internet usage of 0.644 is above or higher than the GIS value. Used, which is 0.05. Therefore, it can be concluded that there is no heteroskedastiy in the independent variables used in this study.

**The use of the internet on physics learning outcomes in terms of student learning styles.** In this test, two regression tests of line I and line II will be carried out with the help of SPSS with the Glejser method. The results of the heteroskedestiy test of line I on the internet use of learning styles can be seen in table 14.

**Table 14.** Test for heteroskedasticity of internet use and learning styles

	B	Std. Error	Beta	t	Sig.
1 (Constant)	8.493	6.233		1.363	.189
Internet use	.039	.043	.196	.900	.380
Learning style	-.103	.070	-.321	-1.472	.157

a. Dependent Variable: absRes

Source: Author Data

Based on the results of the heteroskedestity test in terms of the Glejser test, the sig value can be obtained. Independent variable Internet usage  $0.380 > 0.05$ . Therefore, it can be concluded that there is no heteroskedastity in the independent variables used in this study.

**Hypothesis Testing 1.** There is a significant influence of internet usage variables on physics learning outcomes. The hypothesis is tested by looking at significant coefficients. If the sig value  $> 0.05$ ; then  $H_0$  is accepted, and  $H_1$  is rejected. If the sig value  $< 0.05$ ; then  $H_1$  is accepted, and  $H_0$  is rejected. The results of hypothesis testing with SPSS 22 are presented in table 16.

**Table 16.** Hypothesis test result data 1

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	562.465	1	562.465	53.921	.000 <sup>b</sup>
Residual	208.626	20	10.431		
sum	771.091	21			

- a. Dependent Variable: learning outcomes
- b. Predictors: (Constant) internet use

Source: Author Data

Based on the table obtained sig values. For internet use  $0.00 < 0.05$ , it can be concluded that there is a significant influence of simultaneous internet use variables on the variables of student physics learning outcomes.

**Hypothesis Testing 2.** There is an influence of simultaneous use of the internet and visual learning styles on physics learning outcomes. The hypothesis is tested by looking at significant coefficients. Data on the results of hypothesis testing are presented in table 17.

**Table 17.** Hypothesis test result data 2

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	325.382	2	162.691	18.577	.000 <sup>b</sup>
Residual	96.332	11	8.757		
Sum	421.714	13			

- a. Dependent Variable: learning outcomes
- b. Predictors: (Constant), visual learning style, internet use

Source: Author Data

Based on table 17 above, the value of "F-counted" is obtained. Internet usage and visual learning styles amounted to  $18,577 >$ , F-table.  $3,493$ , so it can be concluded that simultaneous internet use and visual learning style variables have a significant influence on physics learning outcomes.

**Hypothesis Testing 3.** There is a variable influence of internet use and kinesthetic learning styles simultaneously on physics learning outcomes. The hypothesis is tested by looking at significant coefficients. Data on the results of hypothesis testing are presented in table 18.

**Table 18.** Hypothesis test result data 3

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	544.841	2	272.421	22.877	.000 <sup>b</sup>
1 Residual	226.250	19	11.908		
Total	771.091	21			

- c. Dependent Variable: learning outcomes
- d. Predictors: (Constant), visual learning style, internet use

Source: Author Data

Based on hypothesis testing such as table 19 data, it was found that the value of, F-count was. Internet usage and learning style 22,877 >, F-table. 3,493 and a sig value. 0.00 < 0.05, then it can be concluded that there is a significant influence of variables of internet use and learning styles simultaneously on the learning outcomes of physics students.

**Sobel test.** The Sobel test is carried out to determine whether the mediation/intervening Variable can significantly mediate the test relationship between independent and dependent variables. The Sobel test, this test is done with the help of SPSS 22 and the help of a Sobel test calculator.

**The influence of internet use on physics learning outcomes in terms of visual learning styles.** To find out whether the mediating/intervening variable of visual learning styles can mediate the variables of internet use and learning outcomes, a Sobel test is carried out using SPSS with the help of a Sobel test calculator. Can be seen in table 4.20.

**Table 20.** Internet usage data and learning outcomes in terms of visual learning styles

Internet Use Test Statistics		Test Statistic	P-Value
a	0,449	1,555	0,119
b	0,338		
Sa	0,201		
sb	0,156		

Source: Author Data

From the sobel test above, the value of the T-count was obtained. Of 1,555 < the value of the T-table. 1.725, and the p-value is 0.119. Thus, it can be concluded that internet use has no significant influence on physics learning outcomes in terms of the visual learning style of junior high school students in the Tana Toraja Regency.

**The influence of internet use on physics learning outcomes in terms of kinesthetic learning styles.** To determine whether the mediation/intervening variables of kinesthetic learning styles can mediate variables of internet use to learning outcomes, a sobel test using SPSS 22 is carried out with the help of a Sobel test calculator. The data on the test results can be seen in table 21.

**Table 21.** Data on internet use, learning outcomes, in terms of kinesthetic learning styles

Internet usage Test statistics		Test statistic	p-value
a	-0,533	1,050	0,293
b	-0,787		
Sa	0,509		
sb	0,191		

Source: Author Data

From the Sobel test above, it obtained a T\_(count) value of 1.050 < T\_table of 1.725, and a p-value of 0.293, so it can be concluded that there is no effect of kinesthetic learning styles being able to mediate internet use on physics learning outcomes for junior high school students in Tana Regency Toraja.

**The influence of internet use on physics learning outcomes in terms of learning styles.** The Sobel test is carried out to determine whether the mediation/intervening learning style variable is significantly capable of being a mediator in the relationship of independent variables to dependent variables. Analysis of hypothesis testing using sobel testing assisted sobel calculator test presented in table 22.

**Table 22.** Internet usage data and learning outcomes in terms of learning styles

Internet usage	Test statistics	Test statistic	p-value
a	0,171		
b	0,068	0,449	0,652
Sa	0,137		
sb	0,141		

Source: Author Data

From the sobel test above, the value of the T-count was obtained. of  $0.449 < T\text{-table. } 1.725$ , and the p-value is  $0.652$ . Thus, it can be concluded that there is no significant influence of the variable use of the internet as a mediator on the learning outcomes of Physics students of junior high school students in Tana Toraja Regency.

**Hypothesis I.** Hypothesis I reads: "There is an influence of internet use on the learning outcomes of physics students in junior high school students in Tana Toraja Regency ."Based on the significance value obtained, the sig value.  $0.00 < 0.05$ , meaning that internet use significantly influences the learning outcomes of physics students in junior high schools in the Tana Toraj Regency.

**Hypothesis II.** Hypothesis II reads: "There is no influence of internet use on physics learning outcomes in terms of the visual learning style of junior high school students in Tana Toraja Regency ."From the Sobel test, the value of T-count is obtained. of  $1.555 < T\text{tabel } 1.725$ , and p-value of  $0.119 > 0.05$ . So it can be concluded that there is no significant influence of internet use on physics learning outcomes in terms of the visual learning style of junior high school students in Tana Toraja Regency or H-1. Rejected and, H-0. Accepted.

**Hypothesis III.** Hypothesis III reads: "There is no influence of internet use on physics learning outcomes in terms of the kinesthetic learning styles of students in Tana Toraja Regency Junior High School ."The Sobel test obtained the value of T-count  $1.050 < T\text{-table. } 1.725$ , and the p-value of  $0.293 > 0.05$ . So it can be concluded that internet use has no significant influence on learning outcomes regarding the kinesthetic learning style of junior high school students in Tana Toraja Regency or H-1. Rejected and, H-0. Accepted.

**Hypothesis IV.** Hypothesis IV reads: "There is no influence of internet use on physics learning outcomes in terms of the learning styles of students in Tana Toraja Regency Junior High School."From the Sobel test, the value of T-count is obtained. of  $0.449 < T\text{-table. } 1.725$ , and the p-value of  $0.65 > 0.05$ . So it can be concluded that there is no significant influence of internet use on physics learning outcomes in terms of the learning styles of junior high school students in Tana Toraja Regency or H-1. Rejected and, H-0. Accepted.

## CONCLUSION

Based on the data analysis above, it can be concluded that internet use has a positive and significant influence on the learning outcomes of Physics for junior high school students in Tana Toraja Regency. There is no influence of internet use on physics learning outcomes in terms of the learning styles of junior high school students in Tana Toraja Regency. When viewed from the calculation of the analysis of pathways I and II, an influence of  $1.1\%$  was obtained. However, when compared to the direct influence of internet use on learning outcomes, it was obtained that the influence of *langsug* was more significant than the influence of internet use mediated by learning styles, so it can be concluded that learning styles do not mediate the influence of internet use on physics learning outcomes of junior high school students in Tana Toraja Regency. Of the two (2) learning styles that have been analyzed, the high learning style influences the learning outcomes of physics students in Tana Toraja Regency is a visual learning style. By looking at the analysis of path

II, the magnitude of the value of visual learning styles on learning outcomes was 33.8%, and the real influence of internet use on learning outcomes in terms of students' visual learning styles was 82.9%.

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