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The Use Of Social Media And Its Relationship With Vocational School Learning Outcomes

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Abstract. This study aims to determine whether there is a relationship between the use of social media and student learning outcomes at SMK Negeri 1 Tondano. This type of research uses a quantitative approach with a correlational design. This research is correlational because this research seeks to investigate the correlation between two variables. Quantitative research is a study that uses numbers to collect data and provide an interpretation of the research results. The results of the research are based on descriptive analysis that has been carried out using social media. Students of SMK Negeri 1 Tondano from 45 samples, there is a maximum value of 85 with a mean of 50.81. This means that most students use social media. In this study, it was obtained that the student learning outcomes of SMK Negeri 1 Tondano averaged 77.38 which indicated that the score was above the minimum passing criteria. Thus the Relationship between Social Media Use and Student Learning Outcomes Based on simple linear regression analysis, there is a significant negative relationship between social media use and Student Learning Outcomes.

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1 Introduction

The rapid development of information technology in the current era of globalization has an undeniable impact on the field of education. The demands of the global world require the education sector to constantly adapt to technological advancements in order to improve the quality of education [1], especially in terms of utilizing Information and Communication Technology (ICT) in the learning process [2]. In this context, it is related to the use of social media, which is more specific in terms of using applications or software that we commonly know as Facebook, Twitter, and Instagram. Social media is online media where users can easily participate, share information, and create content including blogs, social networks, wikis, forums, and virtual worlds [3]. While traditional media uses print and broadcast media, social media relies on the internet, social media invites anyone interested to participate by contributing and providing feedback openly, giving comments, and sharing information quickly and without limitations. As internet and mobile phone technologies advance, social media also grows rapidly. Now, accessing platforms like Facebook or Instagram can be done anywhere. The speed of social media has started to replace the role of conventional mass media in disseminating news [4].

The rapid development of social media is due to the fact that anyone can have their own media platform like Tiktok [5]. A social media user can access and utilize various social media and internet networks [6]. As users of social media, we are free to edit, add, modify, and create various types of content, including text, images, videos, graphics, and other models [7].

Some important things in the development of personality and individual behavior. The unavoidable progression of information technology during today's era of globalization has profound implications for the field of education [8]. The global requirements necessitate educational institutions to consistently embrace technological advancements [9], aiming to enhance the quality of education. This involves aligning the utilization of information and communication technology in education, particularly within the realm of learning [10].

Basically, social media is the latest development of new internet web development technology that makes it easy for everyone to communicate, participate, share and go online to spread their content [11]. The use of alternative social media to support learning outcomes is expected to have a significant impact on learning outcomes and student grades [12]. Mobile learning had a positive effect on improving learning outcomes and changes students' study habits for the better [13].

Based on observations during the Professional Practice Learning and interview results at SMK Negeri 1 Tondano, it has been found that many students currently experience learning outcomes that are lacking during the learning process. The presence of smartphones or smart mobile phones enables everyone, including students, to access social media anywhere. Students have become increasingly interested, and many of them use social media for information exchange, business matters, and even as a form of entertainment.

Furthermore, in addition to the curriculum delivered by teachers, students are also required to actively seek information about the learning materials through the internet. With this research, it is hoped that we can understand the influence of social media on students' learning outcomes. This is what sparked the researcher's interest in conducting this study about the relationship between social media usage and students' learning outcomes at SMK Negeri 1 Tondano.

2 Method

The research utilized a quantitative approach with a correlational design. This research aims to investigate the correlation between two variables. Quantitative research is a type of study that employs numerical data collection methods and interprets the research findings using statistical analysis [14].

In accordance with this research study, the researcher processed the data using statistical data analysis techniques. This study utilized quantitative data obtained from questionnaires. Simple linear regression analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 16.0. The following methods were employed:

2.1 Descriptive Data Method

The examination of data involved employing the technique of simple linear regression analysis [15]. This approach was utilized to ascertain the impact of the independent variable (social media) on the dependent variable (students' learning outcomes). Before executing the simple linear regression analysis, prerequisite assessments were conducted to verify the normality, homogeneity, and linearity of the data.

The normality test aimed to establish whether the collected data adhered to a normal distribution. This evaluation employed the Lilliefors test, which involved examining the Kolmogorov-Smirnov values through the use of the SPSS 16.0 software program. The hypothesis for the normality test was as follows:
Ho: The sample data follows a normal distribution
Ha: The sample data does not follow a normal distribution
If the p-value > 0.05, the research data is considered to follow a normal distribution.

The homogeneity test was conducted to assess whether the data to be analyzed in terms of regression had relatively small variances. The homogeneity test is important as it is a fundamental assumption of the regression analysis. The homogeneity test was performed using the Homogeneity of Variance test in the SPSS Statistic 16.0 program. If the probability value > 0.05, the data is considered homogeneous. Conversely, if the probability value < 0.05, the data is considered non-homogeneous.

After conducting the prerequisite tests for regression analysis, the next step involved performing the regression analysis. Regression analysis was conducted to determine whether there was an influence

of Instagram social media on students' photography skills. The appropriate regression analysis method used was simple linear regression analysis. It is used to determine the influence of the independent variable on the dependent variable.

Formula: Y = a + bX

Explanation:
Y = Dependent variable subject being predicted
a = Value of Y when X = 0 (Constant)
b = Direction number/Regression coefficient, indicating the increase (+) or decrease (-) in the criterion variable based on the predictor variable.
X = Subject on the predictor variable with a specific value.

2.2 Hypothesis Testing

Hypothesis is a temporary answer formulated in response to the research problem, where the research problem is stated in the form of a question (Sugiyono, 2016: 96).

Based on the theoretical review and framework of thinking above, the following hypotheses can be formulated: 1)There is a significant relationship between the usage of social media and students' learning outcomes at SMK Negeri 1 Tondano; and 2) There is no significant relationship between the usage of social media and students' learning outcomes at SMK Negeri 1 Tondano.

2. 3 Validity and Reliability of Research Instruments

Validity Test

Validity is a measure that indicates the level of validity or accuracy of an instrument (Arikunto, 2013: 96). An instrument is considered valid if it can be used accurately to measure what it intends to measure. In other words, validity is also related to the "appropriateness" of the measuring tool. With a valid instrument, valid data can be obtained as well.

To test validity, the item-total statistic (r-value) needs to be considered. An instrument can be considered valid if the calculated r-value is greater than the tabled r-value at a significance level (α) of 0.05. If the calculated r-value is negative for a particular item, it indicates that the item is invalid, and therefore, that item should not be used or should be eliminated.

The formula used in the validity test is the product-moment correlation formula as follows:

$$r_{xy} = (N\Sigma_{xy} - \Sigma_x\Sigma_y) / \sqrt{[(N\Sigma_{x^2} - (\Sigma_x)^2)(N\Sigma_{y^2} - (\Sigma_y)^2)]}$$

Technical Explanation:
r_xy: Coefficient of correlation "r" (Product Moment correlation)
N: Number of cases
Σ_x: Sum of all X scores
Σ_y: Sum of all Y scores
Σ_xy: Sum of all XY scores

Tabel 1. Validity Criteria

Interval Koefisien	Kriteria
0,80< rxy≤ 1,00	Very Low
0,60 < rxy ≤ 0,80	Low
0,40 < rxy ≤ 0,60	Moderate
0,20 < rxy ≤ 0,40	High
0,00 < rxy ≤ 0,20	Very High

Reliability is a measure of consistency for a set of measures or a measuring tool when the measurement is repeated using the same instrument (Sugiono, 2016). Reliability testing examines the extent to which a test consistently measures the intended target.

To test the reliability of an instrument, the Cronbach's alpha formula is used as follows:

$$r11 = [K / (k-1)][1 - (\sum \sigma b^2) / (\sum \sigma t^2)]$$

Explanation:
r11: Instrument reliability
k: Number of item questions
Σσb: Sum of item variances
Σt: Total variance

First, calculate the variance for each item by using the formula:

$$\sigma = (\Sigma(x^2) - (\Sigma X)^2/N) / N$$

Explanation:
α: Variance of each item
X: Sum of scores
N: Number of respondents

Next, consult the obtained reliability value of the research questionnaire with the critical value of the product-moment correlation at a significance level of 5%. If the value of r11 is greater than the critical value, the instrument can be considered reliable.

3 Results and Discussions

The questionnaire used to gather data on the relationship between social media usage and students' learning outcomes at SMK Negeri 1 Tondano consisted of 30 statement items, each statement item had 5 alternative answers: a (Score 5), b (Score 4), c (Score 3), d (Score 2), and e (Score 1).

Validity test was conducted. Validity is an index that indicates whether a measurement tool is accurate and can measure what it is intended to measure. A valid instrument means that the measurement tool used to obtain data is valid, meaning it can measure what it is supposed to measure. After piloting the 30 test items, it was found that all 30 items were valid. Table 1 is the calculation for the pilot test of item number 2.

Table 2. Tabulation of Questionnaire Item Validity Scores for Item Number 1

NO	X	Y	X2	Y2	XY
1	1	36	1	1296	36
2	1	23	1	529	23
3	4	51	4	2601	102
4	4	85	16	7225	340
5	4	44	4	1936	88
6	4	48	4	2304	96
7	4	40	4	1600	80
8	4	59	4	3481	118
9	4	48	4	2304	96

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NO	X	Y	X2	Y2	XY
10	1	33	1	1089	33
11	4	67	4	4489	134
12	1	27	1	729	27
13	1	34	1	1156	34
14	3	72	9	5184	216
15	4	45	4	2025	90
16	3	72	9	5184	216
17	1	25	1	100	25
18	4	41	4	1681	82
19	4	59	4	3481	118
20	4	57	4	3249	114
21	4	59	4	3481	118
22	4	59	4	3481	118
23	4	40	4	1600	80
24	4	51	4	2601	102
25	4	60	4	3600	120
26	4	54	4	2916	108
27	1	30	1	900	30
28	4	41	4	1681	82
29	4	41	4	1681	82
30	1	32	1	1024	32
31	4	59	4	3481	119
32	3	76	9	5776	228
33	4	68	4	4624	136
34	4	62	4	3844	124
35	4	84	16	7056	336
36	4	57	4	3249	114
37	4	46	4	8464	92
38	1	26	1	676	26
39	4	56	4	3136	112
40	1	28	1	784	28
41	1	57	1	3249	57
42	4	49	4	9804	98
43	4	57	4	3249	114
44	4	47	4	2208	94
45	1	34	1	1156	34
N= 45	∑X= 144	∑Y=1 912	∑ X² =1 81	∑Y²=13 4208	∑XY=4 652

□ . ∑□□−∑ □ ∑ □
√{□ . ∑□2−(∑X)2}{□ .∑□2−(∑y)2}
□□□= 45 . 4652−144.1912
√{45 . 288−(144)2}{45 .134208−(1912)2}
= 0.542

From the above calculation, it is known that rxy is equal to 0.542. To determine its validity, it is continued by referring to the table of Product Moment correlation coefficients with a sample size (N) of 45 at a significance level of 5%. The critical value (r table) is 0.294. Since the calculated rxy value of 0.542 is greater than the table value of 0.294, it can be concluded that questionnaire item number 1 is valid.

The validation testing for other questionnaire items is performed in the same manner as above. Table 3 shows the overall validity testing:

Table 3. Overall Tabulation of Questionnaire Score Validity

No	Item	r *hitung*	r *tabel*	Interpretasi
1	Question no. 1	0,542	0,294	Valid
2	Question no. 2	0,460	0,294	Valid
3	Question no. 3	0,529	0,294	Valid
4	Question no. 4	0,361	0,294	Valid
5	Question no. 5	0,307	0,294	Valid
6	Question no. 6	0,382	0,294	Valid
7	Question no. 7	0,483	0,294	Valid
8	Question no. 8	0,531	0,294	Valid
9	Question no. 9	0,488	0,294	Valid
10	Question no. 10	0,372	0,294	Valid
11	Question no. 11	0,378	0,294	Valid
12	Question no. 12	0,457	0,294	Valid
13	Question no. 13	0,543	0,294	Valid
14	Question no. 14	0,573	0,294	Valid
15	Question no. 15	0,412	0,294	Valid
16	Question no. 16	0,576	0,294	Valid
17	Question no. 17	0,280	0,294	Valid
18	Question no. 18	0,436	0,294	Valid
19	Question no. 19	0,378	0,294	Valid
20	Question no. 20	0,408	0,294	Valid

No	Item	r *hitung*	r *tabel*	Interpretasi
21	Question no. 21	0,418	0,294	Valid
22	Question no. 22	0,576	0,294	Valid
23	Question no. 23	0,531	0,294	Valid
24	Question no. 24	0,361	0,294	Valid
25	Question no. 25	0,307	0,294	Valid
26	Question no. 26	0,382	0,294	Valid
27	Question no. 27	0,372	0,294	Valid
28	Question no. 28	0,378	0,294	Valid
29	Question no. 29	0,457	0,294	Valid
30	Question no. 30	0,543	0,294	Valid

After obtaining 30 valid items on the questionnaire, the research instrument is further tested for reliability using Cronbach's Alpha. The variance sum of the items is calculated as:

$$\sum \square\square 2 = 22.0956$$

Total variance =

$$s\_t^2 = 150023 - (2693^2/45)$$
$$= 248.882$$

Cronbach's Alpha Coefficient is calculated as:

$$r = K / (K-1) * (1 - \sum\_Sb\text{▒}2) / S\_t^2$$
$$= 23 / (23-1) * (1 - 22.0956) / 248.882$$
$$= 0.952$$

Based on the calculation above, the Cronbach's Alpha coefficient is found to be 0.952 at a significance level N = 45, which exceeds the critical value of 0.294. Therefore, it can be concluded that the items in the instrument are reliable.

From the data analysis in this study, the following results were obtained:

Social media is an online platform where users can share, participate, and create content such as blogs, wikis, forums, social networks, and virtual worlds supported by advanced multimedia technology. Based on the descriptive analysis conducted on the social media usage of students at SMK Negeri 1 Tondano from a sample of 45 students, the maximum value obtained was 85 with a mean of 50.81. This indicates that the majority of students use social media. Interviews with some parents revealed that their children frequently access social media platforms, especially Instagram, Facebook, and Twitter, leading to negligence in studying and religious practices.

In this study, the average score for students' learning outcomes at SMK Negeri 1 Tondano was 77.38, indicating that the scores are above the Minimum Passing Criteria (KKM). This implies that learning outcomes can also be influenced by other factors, such as basic abilities, attitudes, and appearance. Sometimes, students are very active, while at other times, students are reserved and quiet. Unfortunately, some students with low motivation to learn fall into this category. Motivation also affects learning outcomes. Additionally, infrastructure and facilities also play a role in learning outcomes. Infrastructure refers to everything that directly affects the smoothness of the learning process, such as learning media, educational tools, school supplies, etc., while facilities encompass aspects indirectly supporting the success of the learning process, such as school lighting, restrooms, and others.

Based on the simple linear regression analysis, a significant negative relationship was found between social media usage and students' learning outcomes at SMK Negeri 1 Tondano. However, these results are not consistent with the study conducted by Tommy Wijayanto [15], which explored the relationship between students' activity on Facebook and their learning outcomes in the field of architectural drawing in Class XI at SMK N 1 Seyegan, Yogyakarta. The analysis in that study found a significant positive relationship between students' activity on Facebook and their learning outcomes. Therefore, due to the contrasting results, the relationship between social media usage and learning outcomes needs further investigation, considering previous studies that have shown a negative correlation between the two.

4. Conclusions

Based on the field research and data analysis conducted, the following conclusions are drawn: There is a significant relationship between the usage of social media and students' learning outcomes at SMK N 1 Tondano. The obtained result of t = -4.106, with a negative value, indicates an inverse relationship between social media usage and students' learning outcomes. This inverse relationship can be interpreted as follows: the higher the usage of social media, the lower the students' learning outcomes, and vice versa. The contribution of social media usage to learning outcomes is 24.8%, while the remaining 75.2% is explained by other variables not studied in this research. From this study, the hypothesis (Ha) that there is a significant relationship between social media usage and students' learning outcomes at SMK N 1 Tondano is supported. Thus, it can be concluded that there is a significant relationship between social media usage and students' learning outcomes at SMK N 1 Tondano.

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