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The Relationship Between Learning Independence and The Intensity of 3-Dimensional Drawing Practice with Student Learning Achievement DPIB Department of SMK Negeri 1 Mopuya

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ABSTRACT

The aim of this study was to find out the relationship between learning independence and the intensity of 3D drawing practice using the ArchiCAD application with the learning achievement of DPIB students at SMK Negeri 1 Mopuya. The method used in this study is a quantitative method with data collection techniques used are questionnaires and documentation while the data analysis technique used is multiple regression analysis with the help of SPSS 24. The results showed that there is a positive and significant relationship between student learning independence and the learning achievement of students majoring in DPIB SMK Negeri 1 Mopuya, Bolaang Mangondow Regency, with a t value of learning independence variable (X1) 2.279 ≥ 1 .67943 t table so Ho is rejected and Ha is accepted, meaning that the higher the learning independence, the higher the student achievement, there is a positive and significant relationship between the intensity of 3-dimensional drawing practice using the ArchiCAD application and the learning achievement of students majoring in DPIB SMK Negeri 1 Mopuya Bolaang Mangondown Regency with the t value of the practice intensity variable (X2) 6.381 ≥ 1 .67943 t table , so Ho is rejected and Ha is accepted, meaning that the higher the practice intensity, the higher the student achievement. There is a positive and significant relationship between independent learning and the intensity of 3D drawing practice using the ArchiCAD application with the learning achievement of students majoring in DPIB SMK Negeri 1 Mopuya, Bolaang Mangondow Regency and the contribution of independent

learning variables and intensity of practice to the learning achievement of DPIB students majoring in DPIB SMK Negeri 1 Mopuya, Bolaang Mangondow Regency is 89.7%, while the rest is influenced by other variables that were not studied in this research.

Keywords: Independent learning, Practice Intensity, Learning Achievement

INTRODUCTION

The rapid development and progress of the times demands increasingly qualified human resources. Given this, the Indonesian education system needs reform in a better direction so as to be able to create a generation that is able to compete and can answer the challenges of the times with high achievements. To achieve the quality of human resources that are able to compete must take higher education. Vocational High School (SMK) is one of the vocational education institutions in the field of engineering. At this time teaching staff in vocational high schools is needed, but these teaching staff need serious attention in order to welcome the era of globalization to meet the demands of the world of work which requires a skilled and professional workforce in their field. This gives the role that the success of development is largely determined by human resources.

Student achievement is basically influenced by various factors, both from within the student and from outside the student. One of the factors that can affect learning achievement is learning independence from students Syahputra (2017) , having conducted previous studies on learning independence, he stated that learning independence is very important in the student learning process, problems that can occur from low learning independence that have an impact on achievement decreased student learning, lack of student responsibility and dependence on other people in making decisions and in doing school assignments, so that with good learning independence will always be serious about studying the subject matter given by the teacher while still at school or at home to get better performance. High learning independence will make students willing to learn on their own without anyone telling them, so that student learning behavior is more exploratory, able to make decisions, confident and creative. In other words, independent learning will make students more mature in the learning process.

Based on several definitions of learning achievement, it can be concluded that learning achievement is the result of an assessment of the learning activities that have been carried out and is a form of the final formulation given by the teaching staff to see the extent to which students' abilities are expressed in the form of symbols, numbers, letters or sentences that can reflect results that have been achieved. In addition to the independent learning factor, another thing that influences learning achievement is the intensity of practice. The intensity of practice is the determination of energy deployed for a business. So the intensity of practice can simply be formulated as the effort made by someone with enthusiasm to achieve a goal.

According to Hazim Nurkholif (2005) , that "Intensity is the determination of energy deployed for a business". So intensity can simply be formulated as the effort made by someone with enthusiasm to achieve a goal. Vocational high schools are highly demanded to have skills in certain fields. This skill is of course determined by how much the student does the practicum. To measure practice activities, it can be seen from the intensity of the practice itself.

Based on observations made at SMK Negeri 1 Mopuya, researchers found problems with student achievement. From the results of the documentation of student achievement in very low subjects, namely under the minimum completeness criteria, namely 78, while what is expected is that students are able to achieve the minimum completeness criteria. In addition, students only expect subject matter from the teacher without having the initiative to find their own study material with other sources. This can be seen in students who do not do homework when given assignments by the teacher. Another problem found by the researchers was the lack of intensity of practice with a short duration of time so that students were not proficient in drawing using the ArchiCAD application. Limited time at school requires students to study independently and increase the intensity of independent practice so that student achievement, especially in software application and interior design subjects, can increase.

METHOD

The method used in this research is to use a quantitative approach. This study uses a quantitative approach because it uses a certain population and sample and aims to test hypotheses using numbers. This is in accordance with the opinion put forward by Sugyono (2015), that the quantitative method is a research method based on the philosophy of positivism, which is used to examine certain populations or samples, sampling techniques are generally carried out randomly, data collection uses research instruments, data analysis is quantitative/statistical in nature with the aim of testing established hypotheses.

The variables of this study consist of independent learning as a variable X1, the intensity of 3-dimensional drawing practice as a variable X 2 and student achievement as a variable (Y). The population in this study is the total number of students in class XI and XII of the DPIB Department with a total of 48 students.

The data collection technique used in this study was a questionnaire or questionnaire and was supported by other data collection techniques, namely documentation and observation. Each technique has its advantages and disadvantages. Therefore, it must be adapted to the needs and research problems. Detailed data collection can be explained as follows: "Giving questionnaires to respondents and asking for written answers is easier than getting answers from respondents face to face" Arikunto (2010). This method is a way to obtain data by distributing questionnaires that have been prepared by researchers in accordance with the objectives. The type of question used is a type of question using alternative answers based on a Likert scale. According to Arikunto (2010), documentation comes from the word document, which means written items. This method is used to extract existing data. Documentation is done by taking initial data related to research data such as school documents and student achievement data. In addition, documentation is also carried out by taking pictures related to research data.

According to Arikunto (2013), validity is a measure that advances the levels of validity or validity of an instrument. To test the validity of the instrument (questionnaire), it is intended to find out whether the instrument used can reveal the variable data studied correctly. Testing the validity of the independent learning instrument (X 1), Practice Intensity (X2) and Learning Achievement (Y) using the help of the SPSS 24 application. This test was carried out with the aim of finding out how much influence the independent variable learning independence (X1), Practice Intensity (X2) and Learning Achievement (Y) this test uses the help of the SPSS 24 application.

RESULTS AND DISCUSSION

Descriptive statistics on student learning independence data were collected using a questionnaire which was distributed to the 48 students who were the sample in this study. Questionnaire distributed as many as 20 item questions. Descriptive statistics on learning independence data were processed using the SPSS 24 application with the following results, see table 1.

Table 1. Statistical Description of Learning Independence Data

N	Valid	48
	missing	0
	Means	90.90
	Median	92.00
	Mode	92
	std. Deviation	5,662
	Variances	32053
	Range	21
	Minimum	79
	Maximum	100
	sum	4363

Based on the descriptive statistics table, it can be explained that the results of the independent learning questionnaire have an overall total of 4363 with the highest score (Maximun) 100 while the lowest score (Minimum) 79). Data on the intensity of practice was collected using a questionnaire which was distributed to the 48 students who were the sample in this study. Questionnaire distributed as many as 20 item questions. Descriptive statistics on practice intensity data were processed using the SPSS 24 application with the following results, see table 2

Table 2. Statistical Description of Practice Intensity Data

N	Valid	48
	missing	0
	Means	87.69
	Median	90.00
	Mode	97
	std. Deviation	10.165
	Variances	103,326
	Range	38
	Minimum	61
	Maximum	99
	sum	4209

Based on the table 2 of descriptive statistics, it can be explained that the results of the practice intensity questionnaire have an overall total of 4209 with the highest score (Maximun) 99 while the lowest score (Minimum) is 61.

Learning achievement data was taken from the results of the Mid Semester Examination scores in class XI and XII students of the DPIB Department at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency with the following descriptive statistics:

Table 3. Statistical Description of Learning Achievement Data

		Learning achievement
N	Valid	48
	missing	0
	Means	89.79
	Median	90.00
	Mode	95
	std. Deviation	6,098
	Variances	37,190
	Range	20
	Minimum	75
	Maximum	95
	sum	4310

Based on the descriptive statistics table 3, it can be explained that the learning achievement data has an overall total of 4310 with the highest score (Maximun) 95 while the lowest score (Minimum) is 75.

The technique used in this validity test is to use the Moment product test. The value of rtable (α,n-2) from the product moment table. In the validity test it is known that α = 5% and n is 48, namely the number of respondents. Then, r table (5% (48-2) = 46 = 0.284 . For each item it can be said to be valid if the r table is greater than the r count. This validity test is tested separately on each variable, both the independent learning variable and the intensity variable practice but still uses the same analysis and the same r table value, while the learning achievement variable is not tested for validity because the data is taken directly from the results of the Mid Semester Examination.The following are the results of the validity test, see table 4 dan table 5.

Table 4. Learning Independence Data Validity Test

r Table	r Count	Information
0.284	.643 **	Valid
0.284	.510 **	Valid
0.284	.594 **	Valid
0.284	.610 **	Valid
0.284	.435 **	Valid
0.284	.483 **	Valid

r Table	r Count	Information
0.284	.501 **	Valid
0.284	.568 **	Valid
0.284	.512 **	Valid
0.284	.540 **	Valid
0.284	.502 **	Valid
0.284	.405 **	Valid
0.284	.594 **	Valid
0.284	.590 **	Valid
0.284	.549 **	Valid
0.284	.643 **	Valid
0.284	.502 **	Valid
0.284	.666 **	Valid
0.284	.540 **	Valid
0.284	.471 **	Valid

Table 5. Practice Intensity Data Validity Test

r Table	r Count	Information
0.284	.650 **	Valid
0.284	.566 **	Valid
0.284	.737 **	Valid
0.284	.766 **	Valid
0.284	.750 **	Valid
0.284	.701 **	Valid
0.284	.708 **	Valid
0.284	.807 **	Valid
0.284	.503 **	Valid
0.284	.646 **	Valid
0.284	.743 **	Valid
0.284	.691 **	Valid
0.284	.626 **	Valid
0.284	.850 **	Valid
0.284	.809 **	Valid
0.284	.799 **	Valid
0.284	.774 **	Valid
0.284	.642 **	Valid

r Table	r Count	Information
0.284	.734 **	Valid
0.284	.728 **	Valid

From the results of processing using SPSS 24, it can be explained that item r count > from spada r table, this result can be stated that all question items in variable X_1 (learning independence) are all declared valid. From the results of processing using SPSS 24, it can be explained that the item r count > than r table, this result can be stated that all question items in variable X_2 (practice intensity) are all declared valid.

Reliability testing was carried out on the independent learning variable data and practice intensity variables. The reliability technique used in this study is cornbachs Alpha. To be able to state whether the instrument is reliable or not, it must go through measurements with an alpha value of 0.6. If crocbachs alpha ≥ 0.6 the instrument can be reliable. The tests are carried out separately on each variable. The following is the data reliability test:

Testing the reliability of learning independence data for students at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency, was carried out using the help of the SPSS 24 application with the following results, see table 6.

Table 6. Learning Independence Data Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0.873	20

Based on the results of the learning independence reliability test, the Cronbachs Alpha value was 0.873 ≥ 0.6. From these results it can be seen that these results are reliable. So it can be concluded that the data obtained from the independent learning questionnaire is reliable data. Testing the reliability of practice intensity data for students majoring in DPIB at SMK Negeri 1 Mopuya, Bolaang Mongondow Regency was carried out using the help of the SPSS 24 application with the following results, see table 7.

Table 7. Practice Intensity Data Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0.949	20

Based on the results of the practice intensity reliability test, the Cronbachs Alpha value was 0.949 ≥ 0.6. From these results it can be seen that these results are reliable. So it can be concluded that the data obtained from the practice intensity questionnaire is reliable data. Testing the

normality of the data in this study used the SPSS 24 application with the following results, see table 8.

Table 8. Data Normality Test Results for the Relationship between Learning Independence and Practice Intensity on Student Achievement

Tests of Normality

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	Df	Sig.
Independence_Learn	.125	48	.160	.940	48	.116
Intesitas_Praktek	.149	48	.119	.881	48	.189
Learning achievement	.262	48	.111	.801	48	.116

a. Lilliefors Significance Correction

Based on the results of the normality test, it can be explained that the significance value is greater than the value of 0.05, both in the test using the Kolmogorov or in the Shapiro test, namely in independent learning is 0.160 ≥ 0.05, practice intensity is 0.119 ≥ 0.05 and learning achievement was 0.111 ≥ 0.05 on the Kolmogrov test while on the Shapiro test the value of learning independence was 0.116 ≥ 0.05, practice intensity was 0.189 and learning achievement was 0.116 ≥ 0.05.

Based on the results of the comparison above, it can be concluded that the data normality test, both using the Kolmogorov-Smirnov test and using the Shapiro-Wilk test, all data is normally distributed.see table 9.

Table 9. Data Normality Test Results for Learning Independence Relationships and Intensity of Practice on Student Achievement

Test of Homogeneity of Variances

Test results

Levene Statistics	df1	df2	Sig.
8,227	2	141	0.216

The homogeneity test is used to find out whether the data from the research results on variables X1, X2 and Variable Y have the same variant value or not. It is said to have the same/non-different (homogeneous) variant value if the significance level is ≥ 0.05 and if the significance level is <0.05 then the data is concluded not to have the same/different (non-homogeneous) variant value. From the results of the homogeneity test calculations it is known that the significance value is 0.216. Because the value obtained from the homogeneity test has a significance level of ≥ 0.05, the data has the same variance value. See table 10.

Table 10. Multicollinearity Test Results Data on the Relationship between Learning Independence and Practice Intensity on Student Achievement

Coefficients [a]

Model	Unstandardized Coefficients B	std. Error	Standardized Coefficients Betas	t	Sig.	Collinearity Statistics tolerance	VIF
(Constant)	44,302	6,943		6,381	.000		
Independence_LearnDPIB	-.020	072	-.019	-.279	.782	.976	1,024
Intensity_PraktekDPIB	.540	040	.899	13,466	.000	.976	1,024

a. Dependent Variable: Achievement_LearnDPIB

Determination Criteria: If the tolerance value is greater than 0.10, it means that there is no multicollinearity in the regression model, if the tolerance value is less than 0.10, it means that there is multicollinearity in the regression model

Decision criteria based on the VIF (*Variance Inflation Factor) value:* If the VIF value ≤ 10.00, it means that there is no multicollinearity in the regression model, if the VIF value is ≥ 10.00, it means that there is multicollinearity in the regression model.

The table shows the results that the output tolerance value is 0.976 and the VIF value is 1.024. Based on these results, it can be concluded that between the independent variables there is no multicollinearity, this can be seen in the tolerance not greater than 0.10 and the VIF value less than 10. See table 11

Table 11. Results of Heteroscedasticity Test Data on the Relationship between Learning Independence and Practice Intensity on Student Achievement

Coefficients [a]

Model		Unstandardized Coefficients B	std. Error	Standardized Coefficients Betas	t	Sig.	Collinearity Statistics tolerance	VIF
1	(Constant)	9,322	4,856		1919	061		
	Independence_LearnDPIB	-.028	.050	-.080	-.559	.579	.976	1,024
	Intensity_PraktekDPIB	-.057	.028	-.289	-2017	.150	.976	1,024

a. Dependent Variable: Abs_RES

Determination criteria: If the significance value (sig) is greater than 0.05, the conclusion is that there are no symptoms of heteroscedasticity in the regression model, conversely, if the significance value (sig) is less than 0.05, then the conclusion is that symptoms of heteroscedasticity occur in the regression model. Based on the output value, the significance value (sig) is known. for the learning independence variable (X1) is 0.579 and the practice intensity variable is 0.150.

Because the significance value of the two variables is greater than 0.05, according to the basis for decision making is the Glejser test, it can be concluded that there are no symptoms.

Multiple regression testing was carried out to find out or estimate the magnitude of the relationship between each learning independence variable (X1) and practice intensity (X2) to learning achievement (Y). Multiple regression testing in this study used the SPSS 24 application with the following test results, see table 12.

Table 12. Multiple Regression Test Results

Based on the results of multiple regression testing, the following equation values are obtained:

Y = 44.302 + 0.020 X1 + 0.540X2

Testing on the t test aims to determine the partial/self-relationship of learning independence variables with DPIB learning achievement and practice intensity with DPIB major student learning achievement at Mopuya 1 State Vocational School, Bolaang Mangondow Regency, by comparing t calculated values and values on t table with a significant level (α 5%) with the following hypothesis formula:

The hypothesis formula based on the table at t α = 10% is known that the value of t_{table} df = 48 – 2 – 1 = 45 = 1.67943 (1.67943 is obtained from the t table value in sample df 45 with an accuracy level of 0.05)

The conclusion is that the t value of the learning independence variable (X1) is 2.279 ≥ 1 .67943 t_{table} so Ho is rejected and Ha is accepted. These results indicate that there is a positive and significant relationship between learning independence and student achievement in the DPIB Department at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. Then it can be stated with an error rate of 0.05 it is found that the higher the learning independence, the higher the student learning achievement and conversely that the lower the student learning independence, the lower the student learning achievement of DPIB Department SMK Negeri 1 Mopuya, Bolaang Mangondow Regency calculated t value of the practice intensity variable (X2) 6.381 ≥ 1 .67943 t_{table} so Ho is rejected and Ha is accepted. These results indicate that there is a positive and significant relationship between the intensity of practice and the learning achievement of DPIB students at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. So it can be stated with an error rate of 0.05

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	std. Error	Betas	t	Sig.
1	(Constant)	44,302	6,943		6,381	.000
	Independence(x1)	-.020	072	-.019	2,279	.782
	Intensity(x2)	.540	040	.899	13,466	.000

a. Dependent Variable: Achievement(y)

it is found that the higher the practice intensity, the higher the student achievement and conversely that the lower the practice intensity, the lower the student achievement of the DPIB Department, SMK Negeri 1 Mopuya, Bolaang Mangondow Regency

Testing for determination (R^2) is carried out to find the magnitude of the contribution of the independent learning variable (X1) to learning achievement (Y). The determination test in this study used the SPSS 24 application with the following results, see table 13.

Table 13. Determination Test (R^2) The Amount of Independent Learning Contribution to Learning Achievement

Summary Model [b]

Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	.120 [a]	014	-.007	6.120

a. Predictors: (Constant), Independence_Learning

b. Dependent Variable: Achievement_Learning

The amount of the independent variable's contribution to learning achievement can be determined by the square formula (r^2), with the following formula;

KD = R^2 X 100%

KD = 0.120 X 100%

KD = 12 %

So it can be concluded that the contribution of the independent learning variable to the learning achievement of students majoring in DPIB at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency, is 12%. See table 14.

Summary Model [b]

Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	.896 [a]	.804	.799	2,731

a. Predictors: (Constant), Intensity_Practice

b. Dependent Variable: Achievement_Learning

Table 14. Determination Test (R^2) The Contribution of Practice Intensity to Learning Achievement

Based on the table, it can be explained that the contribution of practice intensity (X2) to student achievement in DPIB majors at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency, is 89.6% (using the same formula). The (R^2) test was conducted to determine the overall contribution of the learning independence variable and the intensity of practice on the learning achievement of students majoring in DPIB at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency . This test was carried out with the help of the SPSS 24 application, with the following results, see table 15.

Table 15. Determination Test Results (R^2) Learning Independence and Practice Intensity with Student Learning Achievement

Summary models

Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	.897 [a]	.804	.795	2,759

a. Predictors: (Constant), Intensity(x2), Independence(x1)

Based on the table, it can be concluded that the magnitude of the contribution of the independent learning variable and the intensity of practice to the learning achievement of students majoring in DPIB at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency, is 89.7%, while the rest is influenced by other variables that are not studied in this study (using the formula the same one).

The F test was conducted to determine the overall relationship between variables X1 and X2 and variable Y. This test was carried out with the help of the SPSS 24 application with the following results, see table 16.

Table 16. F test results

ANOVA [a]

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	1405338	2	702,669	92,300	.000 [b]
	residual	342,579	45	7,613		
	Total	1747,917	47			

a. Dependent Variable: Achievement(y)

b. Predictors: (Constant), Intensity(x2), Independence(x1)

Based on the table 16, it can be explained that the overall test SPSS output results give an F count of 92.300 ≥ F table 0.000 then Ho is rejected and Ha is accepted. From these results it can be concluded that learning independence and practice intensity as a whole or jointly provide a positive or significant relationship with student achievement DPIB majoring in SMK Negeri 1 Mopuya, Bolaang Mangondow Regency.

Learning independence if it exists in every student will increase learning achievement. The indicators of independent learning in this study use the opinion of Thoha in Sundayana (2016) , suggesting eight characteristics of independent learning, namely: the ability to learn to think critically and creatively, not easily influenced by other people's opinions, not avoiding or solving problems, thinking deeply, solving problems don't ask for help, don't feel inferior when you're in conflict with other people, work hard, be disciplined, and be responsible for your own actions. Learning independence is very important for students to have because if students have learning independence it will increase learning outcomes and vice versa if students do not have learning independence then learning achievement will decrease.

The results of this study indicate that learning independence has a positive or significant relationship with the learning achievement of students majoring in DPIB SMK Negeri 1 Mopuya. It can be proven that from the test results the t value of the learning independence variable (X1) is $2.279 \geq 1.67943$ t_{table} so Ho is rejected and Ha is accepted. These results indicate that independent learning has a positive and significant relationship with the learning achievement of students majoring in DPIB at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. So it can be stated with an error rate of 0.05 it is found that the higher the learning independence, the higher the student learning achievement and conversely that the lower the student learning independence, the lower the learning achievement of students majoring in DPIB SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. The magnitude of the contribution of independent learning to student achievement is 12%. The results of this study are supported by previous research, namely research conducted by Mulyaningsih (2014) which states that there is a relationship between learning independence and student achievement. Research conducted by Aini and Taman (2012) also states that there is an influence of independent learning on student achievement. Research conducted by Widiarsih (2017) also states that there is a positive and significant influence on learning independence and learning achievement. From the various facts obtained and supported by previous research, it further strengthens the truth of the results of this study which states that there is a positive and significant relationship between learning independence and learning achievement of students majoring in DPIB SMK Negeri 1 Mopuya, Bolaang Mangondow District.

The intensity of practice is very important for vocational students in improving their knowledge and skills. The intensity of the practice in question is the desire to do the practice, the duration of the practice, the presentation of the activities, the direction of the students' attitude and interest in doing the practice. In the subjects of software application and interior design, students are required to get good practice intensity. The better the intensity of practice on students, the learning achievement of students will increase and vice versa if the intensity of practice is less then learning achievement will decrease.

The results of this study indicate that there is a positive and significant relationship between the intensity of 3D drawing practice and the learning achievement of students majoring in DPIB SMK Negeri 1 Mopuya. It can be proven that the $t_{calculated}$ value of the practice intensity variable (X2) is $6.381 \geq 1.67943$ t_{table} so Ho is rejected and Ha is accepted. These results indicate that the intensity of practice has a positive and significant relationship with the learning achievement of DPIB majors at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. So it can be stated with an error rate of 0.05 it is found that the higher the practice intensity, the higher the student achievement and conversely that the lower the practice intensity, the lower the DPIB student

achievement in SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. The magnitude of the contribution of the practice intensity variable to learning achievement was 89.6%.

The results of this study are supported by research conducted by Farid Musyaffa (2021) which states that the intensity of practice influences learning achievement with a contribution of 20.70%. The results of this study indicate that there is a positive and significant relationship between learning independence and the intensity of 3-dimensional drawing practice using the ArchiCAD application with the learning achievement of students majoring in DPIB SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. This can be proven by the results of the study that the calculated value of the Hypothesis test (F test) is less than 0.05 (0.000 <0.05). -sama provides a positive or significant relationship with the learning achievement of students majoring in DPIB at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency.

The magnitude of the contribution of the independent learning variable and the intensity of practice to the learning achievement of students majoring in DPIB at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency, was 89.7%, while the rest was influenced by other variables that were not studied in this study. The results of this study are in accordance with the results of research conducted by Farid Musyaffa (2021) which states that the intensity of learning independence has an influence on learning achievement.

CONCLUSION

Based on the results of research and discussion, it can be concluded. Learning independence has a positive and significant relationship with student achievement in the DPIB Department of SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. The intensity of the practice of drawing 3 dimensions using the ArchiCAD application has a positive and significant relationship with the learning achievement of DPIB majors at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency. Simultaneously the independence of learning and the intensity of 3-dimensional drawing practice using the ArchiCAD application with the learning achievement of students majoring in DPIB at SMK Negeri 1 Mopuya, Bolaang Mangondow Regency by 89.7 percent.

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