



Contribution of Understanding Design Principles and Control of Design Media Use on Aesthetic Quality Design Students of Fashion Vocational School in Kudus

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Abstract

Understanding the basic material of design and mastery of the media if it is technically adequate, it can be ascertained that the design of the clothes produced by students looks more aesthetic. The purpose of research: (1) determine the contribution of understanding of the design principles of the aesthetic quality fashion design, (2) determine contributions mastery media use design to the aesthetic quality of fashion design, (3) determine contributions jointly between the understanding of design principles and mastering the use of design media for the aesthetic quality of fashion designs made by fashion students of Vocational School in Kudus. The pattern used in this study is correlation with a quantitative approach. The studies population is 76 second grade student of dressmaking study program of SMK N 1 Kudus. The research sample is 38 students inclass XI TB 1 SMK N 1 Kudus. In this study there are 2 independent variables namely Understanding the Principles of Design and Mastery of Use of Media Design. Meanwhile the dependent variable is Aesthetic Quality Design. In doing validation, there are 2 ways, namely: (1) Expert Validation (2) Trial Validation. Reliabilias items made by using Alpha formula. The data analysis technique uses the correlation analysis formula. Reliability performen this study using a test of consistency cohen's kappa. There contributed between 1st assessors and 2nd assessors on the aesthetic quality of design with koefiseincohen's kappa value of 0.200 which means there is no agreement among 1st assessors and 2ndassessors in assessing the aesthetic quality fashion design. The results showed that based on calculations $\pi_{x1y.x} = 0,296$, dan $\rho = 0,040 < 0,05$ which indicates that it is significant, supported by data (accepted). The values obtained show an understanding of design principles contributing positively to the aesthetic quality of fashion designs. Based on calculations $\pi_{x2y.x1} = 0,808$, $\rho = 0,00 < 0,05$ which indicates that it is significant, supported by data (accepted). The value obtained shows mastery of the use of design media contributes positively to the aesthetic quality of fashion designs. Based on the calculation of the correlation test in the third hypothesis, $R = 0.989$, with $F_{count} = 732,482$, and $\rho = 0,00 < 0,05$, thus the correlation coefficient is positive, the relationship is in the same direction between the two variables. That is, there is a positive relationship between understanding the principles of design and the use of media with the aesthetic quality of fashion designs. After comparing it with a table, it is concluded that it has a very high correlation. This implies that the influence of the independent variable (X) on the dependent variable (Y) is 97,8 %, the rest is influenced by other variables.

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INTRODUCTION

Vocational High School (SMK) is a formal education institution that has responsibility for a skilled work force. However, every Vocational student does not necessarily have the same talents and skills. Fashion is one of the majors in SMK that prepares skilled workers, one of whom is to become a fashion designer. Factors of talent and good skills will form the basic abilities for students in education through Vocational School majoring in fashion. Students' understanding and skills can be developed through learning and practicing designing clothes, in addition to the talent in these students.

The indicator of basic design learning products that are creating good design works in accordance with aspects, elements and design principles. Hestiworo (2013: 15) states that it is easy to read the design and make it clear. The design consists of several elements to realize it into a tangible outcome.

Mastery of basic design material is the basis of students' ability to create a fashion design. The self must understand the scope of the design, design aspects, design elements, design principles, tools and materials required, engineering drawing parts of clothing, coloring techniques and the final completion of the design so that a student can create a nice design, nice and right. Understanding the basic material of design and mastery of the media if it is technically adequate, it can be ascertained that the design of the clothes produced by students looks more aesthetic.

Students' work will be maximal when they understand the basic design material is supported by the skill of mastering the use of design media. The design media in question are drawing table, coloring pencil, 2B pencil, ruler, pencil sharpener, paper glue, HVS paper, brush, mechanic pen and design reference materials, magazines and designs related to design as additional material to get an overview and other information.

The success of students in making fashion design works is also supported by students' perceptions of aesthetic. The displacement means the situation is pleasing to the eye; beautiful; interesting (KBBI 2016). The synonym of aesthetic in English words is beautiful. In English the term aesthetic (beauty) is often used and the beautiful (beautiful things or things).

Fashion program in SMK N 1 Kudus is responsible for preparing a skilled work force. Therefore, it is expected that graduate students majoring in fashion are competent and qualified. Based on the results of field observations in the fashion department, the results of students' work are still not optimal and are still far from expectations and consumer demands. Student design still looks rigid and disproportionate. Another thing that is a weakness of students' fashion design work is that there are still many students who have not mastered the use of media (pencils, brushes, color pencils, etc.), minimal concepts and unequal student perceptions about good design.

The quality and aesthetic of student design works is still minimal due to various things. Based on the results of interviews with fashion teachers it is known that there are still many students who have not mastered the basics and techniques for completing fashion designs. Not only that, researchers suspect that students' perceptions of beauty contribute to producing design work.

Research on design has been carried out by many researchers including Dahliani (2008), Mustaqim et al (2013), Aryani et al (2013), Kusumarini (2015), Rachmaniyah et al (2016), and Sitio (2017). However, all of these studies have not answered the problem regarding understanding design principles, mastering the use of design media, and aesthetic qualities of design. Observing such conditions, the researchers felt compelled to conduct research on the contribution of understanding the principles of design and mastery of the use of design media to the aesthetic quality of the design students of the Fashion Design Vocational School in Kudus.

The purpose of research: (1) determine the contribution of understanding of the design principles of the aesthetic quality fashion design, (2) determine contributions mastery media use design to the aesthetic quality of fashion design, (3) determine contributions jointly between the

understanding of design principles and mastering the use of design media for the aesthetic quality of fashion designs in Fashion Design Vocational School in Kudus.

METHODS

The pattern used in this study is correlation with a quantitative approach. The population of the research is a class XI student of SMK N 1 Kudus totaling 76 people, divided into two classes dressmaking program 2017/2018 teaching school year. The research sample is 38 people of XI students TB 1 class of SMK N 1 Kudus. In this study there are 2 independent variables namely Understanding the Principles of Design and Mastery of Use of Media Design. Meanwhile the dependent variable is Aesthetic Design Quality. Data collection using the observation method is to obtain data relating to the mastery of the use of design media and the aesthetic quality of designs. The interview was aimed at students of class XI TB 1 SMK N 1 Kudus to find out the understanding of design principles and mastery of the use of design media on the aesthetic quality of design. The documentation method is carried out to obtain data relating to the design work of the students of SMK N 1 Kudus. Tests are carried out to understand the understanding of design principles by testing 25 multiple choice questions In doing validation there are 2 ways, namely: (1) Expert Validation by Dr. Sri Utaminingsih, M.Pd and NurFajrie, S.Pd., M.Pd. (2) Trial Validation.

Tabel 1. Expert Validation Test Results

Validator	Rated aspect					Score	Criteria
	1	2	3	4	5		
Dr. Sri Utaminingsih, M.Pd.	8	8	7	7	7	37	Valid
Nur Fajrie, M.Pd.	7	8	7	7	7	36	Valid
Total						73	Valid

The questions were tested first on 10 students of class XI TB 1 SMK N 1 Kudus. The trial of the questions was held at SMK N 1 Kudus on August 29, 2017. The questions tested were in the form of 30 multipel choices questions. Calculation of validity and reliability uses the Microsoft Excel program.

Reliability items made using Alpha formula, namely:

$$r_{11} = \left(\frac{n}{(n-1)} \right) \left[1 - \frac{\sum \sigma_t^2}{\sigma_t^2} \right]$$

Information:

- N : Number of questions
- R₁₁ : Reliability sought
- ∑σb² : Number of score variants each item
- σ²t : Total variant

Performance reliability in this study used the consistency test of cohen's kappa. From the output obtained a significance value of 0,000, while cohen's coefficient of value kappa of 0.200. The significance level used is 5%.

Tabel 2. Kappa Test

Symmetric Measures					
		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.
Measure of Agreement	Kappa	,200	,074	4,510	,000
N of Valid Cases		38			

The initial hypothesis used is that there is no significant relationship between 1st assessors and 2nd assessor. From the table using calculations, it is shown that the value of the calculated coefficient is more than the significance value, 0.200 > 0,000.

The cohen's kappa coefficient value is 0.200. After being compared with a table, it is concluded in the poor agreement category.

The data analysis technique uses a multiple linear regression analysis formula. The linear regression formula used in the study is $y = a + b_1 x_1 + b_2 x_2$

Information:

Y = aesthetic quality of design

a = constants

b = regression coefficient

x_1 = understanding of design principles

x_2 = mastery of media usedesign

Partial correlation analysis is used to determine how much influence the relationship between two different variables.

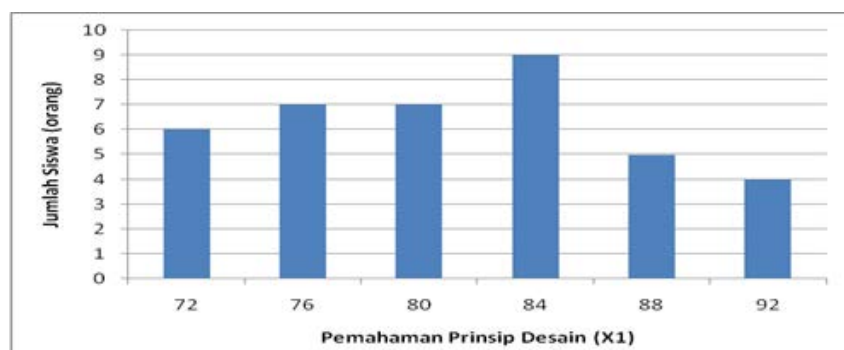
RESULT AND DISCUSSION

Understanding the Principles of Design

The value of understanding design principles (x_1) is obtained by means of tests. There are 25 questions tested to measure the understanding of design principles (x_1). The value of the test results is as follows

a. Average score (Mean)

Based on the results of the test of understanding design principles (x_1) on 38 research samples obtained an average value of 81,263. The average value obtained shows that the research sample has good ability to understand the design principle (x_1).



Picture 1. Distribution of Understanding Value Principles of Design

b. Standard Deviation

Based on the average value of the test of understanding the design principle (X_1) of 38 research samples obtained the standard deviation value of 6.315.

c. Variant

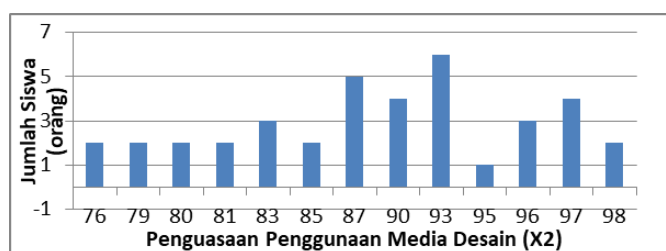
Variant is the square of standard deviation. Its function is to know the level of distribution or variation of data. Based on the standard deviation value, the variance value is 39,879.

Mastery of Use of Media Design

Students' ability in mastering the use of design media (x2) is obtained by observation. There are 27 observation items to measure the mastery of the use of design media (x2). The results of the observation of mastering the use of design media (x2) are as follows

a. Average value (Mean)

Based on the results of observations mastery of the use of design media (x2) on 38 research samples obtained an average value of 88,635. The average value obtained shows that the research sample has good ability in mastering the use of design media (x2).



Picture 2. Distribution of Mastery Score in the Use of Design Media

b. Standard Deviation

Based on the average mastery value of the use of design media (x2) from 38 research samples obtained the standard deviation value of 6.772.

c. Variant

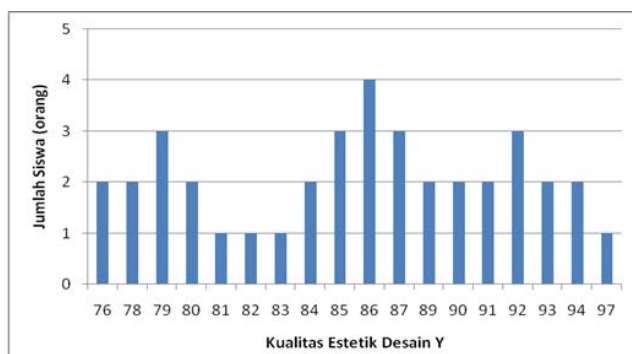
Variant is the square of standard deviation. Its function is to know the level of distribution or variation of data. Based on the standard deviation value, the variance value is 45,859.

Aesthetic quality of design

The aesthetic quality of design (y) is known by observing the work produced by students. There are five observation items to measure the aesthetic quality of design (y). The results of observations of the aesthetic quality of design (y) are as follows

a. Average value (Mean)

Based on the observations of the aesthetic quality of design (y) on 38 research samples obtained a value of 85,737. The average value obtained shows that the work produced by the research sample has good aesthetic design quality (y).



Picture 3. Distribution of Design Aesthetic Quality Values

b. Standard Deviation

Based on the average score of aesthetic quality of design (y) from 38 research samples obtained the standard deviation value of 5.734.

c. Variant

Variant is the square of standard deviation. Its function is to know the level of distribution or variation of data. Based on the standard deviation value, the variance value is 32,878.

Normality test

The research data collected was tested using the normality test to determine the normality of the data. Furthermore, the results of the normality test are used as a reference for selecting statistical tests in testing the hypothesis. The normality test is as follows H_0 value variable is normally distributed and H_a value variable is abnormally distributed.

The level of α used is 5% or 0.05. The desired criteria for the value of $L_0 < L$ are critical. The results of the normality test are calculated using the Microsoft Excel program. The first normality test is performed on the Understanding of Design Principles (x1) variable. The results of the x1 variable normality test can be seen in the table below.

Table3. Normality Test Results of Understanding Design Principles (x1)

average	81,263	Ltab	0,144
s	6,315	Alfa	0,050
Lo	0,140	Lilifors	0,886
Conclusion	<i>Normal</i>		

Information:

Rata (mean) : average
 S : standar deviasi
 L : liliefors
 Ltab : L tabel

Table 3 show a test of the value of $L_0 < L$ critical, it can be concluded that H_0 is accepted so that the sample comes from a population that is normally distributed.

The second normality test was carried out on the Mastery of the Use of Media Design variable (x2). The results of the normality test of the Mastery Use Media Design variable (x2) can be seen in the table below.

Table 4. Normality Test Results Mastery of the Use of Media Design (x2)

average	88,635	Ltab	0,144
s	6,772	alfa	0,050
Lo	0,089	lilifors	0,886
Conclusion	<i>Normal</i>		

Information:

Rata (mean) : average
 S : standar deviasi
 L : liliefors

L_{tab} : L tabel

Table 4 show a test of the value of $L_o < L$ critical, it can be concluded that H_o is accepted so that the sample comes from a population that is normally distributed.

The second normality test is carried out on the Quality of design e- variable (y). Variable normality test results the aesthetic quality of design (y) can be seen in the table below.

Table 5. Normality Test Results Quality of Design Aesthetic (y)

average	85,737	L _{tab}	0,144
s	5,734	alfa	0,050
L _o	0,098	lilifors	0,886
Conclusion	Normal		

Information:

Rata (mean) : average

S : standar deviasi

L : liliefors

L_{tab} : L tabel

Table 5 show a test of the value of $L_o < L$ critical, it can be concluded that H_o is accepted so that the sample comes from a population that is normally distributed.

Hypothesis Test

The first hypothesis

The first hypothesis t erdapat research is a positive and significant contribution in the understanding of the design principles of fashion design aesthetic quality.

Table 6. Correlation Test of Understanding the Principles of Design with Aesthetic Quality Design is controlled by Mastery of Use of Media Design

Independent Variable	Dependent Variable	π	t	ρ	Keterangan
X 1	Y	0,296	1,806	0,040	Signifikan
X 2					

Based on the calculation obtained the value of $1 \pi_{x1y.x2} = 0,296$, $\rho = 0,04 < 0,05$ which indicates that the meaning is supported by data (accepted) . Based on the criteria, it can be stated that the understanding of design principles contributes significantly to the aesthetic quality of the design controlled by the mastery of the use of media design . This shows that the first hypothesis is accepted.

Second hypothesis

The second hypothesis of the study is that there are contributions positive and significant between mastery of media use design with fashion design aesthetic quality.

Table 7. Test of Mastery Correlation in the Use of Media Design with Aesthetic Quality Design is controlled by Understanding of Design Principles

Independent Variable	Dependent Variable	π	t	ρ	Keterangan
X 1	Y	0,808	8,00	0,0	Signifikan
X 2					

Based on the calculation obtained the value of $\pi_{x2y.x1} = 0,808$, $\rho = 0,00 < 0,05$ which indicates that the meaning is supported by data (accepted) . Based on the criteria it can be stated that the use of totalmedia design with quality of estetik design controlled design shows that significant secondhypothesis (supported by the data) and received.

Third hypothesis

The third hypothesis there is a positive and significant contribution simultaneously between the understanding of design principles and mastery of media use design to fashion design aesthetic quality.

Table 8. Correlation Test

R	R Square Change	F _{hitung}	ρ	Keterangan
0,989	0,977	732,482	0,00	Signifikan

Based on the calculation of the correlation test on the third hypothesis obtained $R = 0.989$, with F count = 732.482, and $\rho = 0.00 < 0.05$. Thus the correlation coefficient is positive. That is, there is a significant relationship supported by data (accepted) between understanding the principles of design and the use of media on the aesthetic quality of design.

After being compared with a table, it is concluded that there is sufficient correlation. This is also indicated by a large coefficient of determination 0.112 which implies that the influence of the independent variable (trust / X) on the dependent variable (participation / Y) is 11.20%, the rest is influenced by other variables.

Discussion

Understanding the design principles for Vocational High School students is a basic knowledge that must be mastered. The knowledge of students about the design basis adds the ability of students to make design work with the principles of design. High knowledge affects students in design work. Based on the results of the test of understanding design principles (x1) from 38 research samples obtained an average value of 81,263. The average value obtained shows that the research sample has good ability to understand the design principle (x1).

Based on the results of observations mastery of the use of design media (x2) on 38 research samples obtained an average score of 88,635. The average score obtained shows that the research sample has good ability in mastering the use of design media (x2).

The aesthetic quality of design is subjective because it deals with beauty. Understanding the design principles and mastery of the use of design media by students proved to contribute positively and significantly to the aesthetic quality of design.

The results of the study of the aesthetic quality of fashion designs in SMK students in Kudus Regency reinforced the findings of Sulaeman and Mona (2017) who found that Vocational Schools were superior, not easily replicated, and succeeded in achieving sustaining survival. Kudus 1 Vocational School as one of the educational institutions supported by Djarum Foundation has increasingly established the position of Kudus N 1 Vocational School as one of the leading vocational schools in Kudus Regency which is reflected in the community's enthusiasm for the

program; improve the economy of the community of Kudus; and appreciation of both regional and central government.

Assessment of the aesthetic quality of design from student design work is very subjective. Therefore the results of this study support the research of Mustaqim et al (2013) which concluded that art and design research is still in a long debate to get a better form of recognition from the scientific world. This study is stated to be supportive because the basis of design as a research variable is still debateable because of its subjective and dynamic nature.

The subjectivity of beauty or aesthetics is also revealed by the research of Salma and Eskak (2012) who concluded that based on aesthetic studies, batik design works "Salak Semarak has beauty values, both the beauty of the form and beauty of the content or meaning contained in the work. The meaning contained in this batik design is: "A typical Sleman batik that portrays the vibrant dynamics of life in Sleman in the form of earth fertility, prosperity of life, and welfare that is just and equitable for all its citizens in a noble tradition of sustainable culture" ..

CONCLUSION

Based on the analysis of data from the research and hypothesis testing conducted it can be concluded that (1) There is a contribution between the understanding of design principles and the aesthetic quality of the design controlled by mastery of the use of design media obtained values $\pi_{x_1y.x_2} = 0.296$, and $\rho = 0,040 < 0,05$ show the meaning that it is significant, supported by data (accepted), (2) There is a contribution between mastery of the use of design media with the aesthetic quality of design controlled by understanding design principles obtained values $\pi_{x_2y.x_1} = 0,808$, $\rho = 0,00 < 0,05$ which shows the meaning that significant, supported by data (accepted), (3) Based on the calculation of the correlation test in the third hypothesis obtained $R = 0.989$, with $F_{count} = 732.482$, and $\rho = 0,00 < 0,05$. Thus the correlation coefficient is positive. That is, there is a significant relationship supported by data (accepted) between understanding the principles of design and the use of media on the aesthetic quality of design.

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