
Jurnal Penelitian Pendidikan

<https://journal.unnes.ac.id/journals/JPP>

The Relationship Between Learning Outcomes of Basic Elements of Patterns and Elements of Preparation for Fashion Making

Riski Purwiningsih*, Musdalifah

Universitas Negeri Semarang, Indonesia

*Corresponding Author: riskipurwiningsih@students.unnes.ac.id

Abstract

This study aims to determine the relationship between the learning outcomes of the Basic Elements of Patterns in phase E and the learning outcomes of the Preparation Elements of Fashion Making in phase F in the implementation of the Independent Curriculum at Vocational Schools of Fashion Expertise program. This study uses a quantitative approach with the type of ex post facto correlational research, because the variable data studied has occurred before the research was carried out. The population in this study consists of all students in grade XI of Fashion Dress at SMK YATPI Godong for the 2025/2026 Academic Year which totals 49 students and uses a total sampling technique where the entire population is used as a research sample. The research data was obtained through documentation of student learning outcomes in both learning elements. Data analysis began with a statistical descriptive test to describe the characteristics of the data, then continued with a normality test, and a Spearman Rank correlation test with the help of SPSS Statistics 26 extension. The results of the normality test showed that the data was not normally distributed, so the correlation analysis was carried out using Spearman Rank. The results showed a significant positive relationship between the learning outcomes of the Basic Elements of Patterns and the learning outcomes of the Elements of Preparation for Fashion Preparation with a significance value (Sig 2 tailed) of 0.000 ($p < 0.05$) and a correlation coefficient of 0.618. These findings show that the mastery of basic competencies in phase E contributes to the achievement of advanced competencies in phase F. Thus, learning outcomes in each learning element in the Independent Curriculum are interrelated and sustainable, especially in learning Fashion at Vocational Schools.

Keywords: learning outcomes; basic elements of patterns; elements of preparation for fashion making

INTRODUCTION

Education is a very important learning process in improving the quality of human life. The learning process should be in line with the functions and goals of national education in developing students' potential. As stated in Law No. 20 of 2003 which reads "National education functions to develop abilities and shape the character and civilization of a dignified nation in order to educate the life of the nation, aiming to develop the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens."

As technology develops, the education system or curriculum in Indonesia has also undergone changes to adjust the quality of education. The curriculum is a set of subjects and various educational programs that are applied at the Education level. The curriculum in Indonesia has undergone many modifications due to technological advances, community needs and is oriented towards national development (Usanto, 2022).

From 1947 to 2013, the curriculum in Indonesia has undergone changes up to eleven times due to

the rapid progress of the times. Every shift in the curriculum that occurs is the policy of the party responsible for handling education problems in Indonesia. In its current development, the curriculum used is in the form of an independent curriculum or known as the concept of independent learning (Ardianti & Amalia, 2024).

The independent curriculum is a government policy designed to provide freedom in suppressing the learning process and achieving competencies that are in accordance with the needs of students (Shyafitri et al., 2023). Through this curriculum, learning outcomes are arranged gradually and interrelated, so that learning outcomes on one basic element of competence can affect learning outcomes in the next element of competence.

In the independent curriculum, learning outcomes are grouped into six phases or competency levels in learning. Phase A is for grades 1 and 2 elementary school (SD), Phase B is for grades 3 and 4 elementary school levels, Phase C is for grade 5 and 6 elementary school levels, Phase D is for junior high school (SMP) grades 7, 8 and 9. Then for the high school/K level, it is divided into 2 phases, namely Phase E for grade 10 and Phase F for grades XI and XII (Juniardi, 2023).

Since 2023, SMK YATPI Godong has implemented an independent curriculum in the teaching and learning process at school. Fashion Styling skills competency applies two phases in the learning process, namely phase E and phase F. Phase E is the foundation in the development of basic competencies in Basic Fashion subjects. Meanwhile, phase F is an advanced competency in developing students' skills through the subject of Fashion Design and Production.

In the Basics of Fashion subjects, there are nine learning elements that need to be learned by grade X students. The nine elements are Technopreneur Profile, Fashion Development Industry (DIPM), Branding and Marketing, Fashion Drawing, Fashion Design Basics, Production Processes, Technology Developments and Global Issues, Pattern Basics, and Basic Sewing Techniques.

One of the important elements in phase E of fashion learning is the basis of patterns, because the basis of patterns is one of the important foundations and is an indicator of initial competence in mastering the next practical skills (Safitri & Yulistiana, 2023). In the Basic Pattern element, students learn to understand the simple technique of measuring the body and its application in making the basic pattern of construction engineering. The construction archetypes that need to be mastered by students in phase E include the female body archetype, skirt archetype, and arm archetype before entering the advanced phase.

In the subject of Fashion Design and Production in phase F, there are seven learning elements that are carried out in grades 11 and 12. These elements include Fashion Drawing, Technical Drawing, Design Style and Development, Textile Experimentation and Decorative Design, Preparation for Fashion Making, Sewing Fashion Products, and Preparation of Fashion Collections. In the implementation of the Independent Curriculum learning, teachers have the freedom to adjust the elements to be taught with the learning environment.

One of the important elements in phase F learning is the preparation element for making clothes that has been taught in the odd semester of the 2025/2026 school year. In this element, students are trained to apply technical skills in Compiling Work Steps, taking more detailed body measurements, understanding pattern making, cutting materials to the process of calculating production costs. Learning that is structured on this element has a positive effect on student learning outcomes, as it helps students understand the production workflow according to industry standards (Syaani & Yuniati, 2025)

The ability to learn the basic elements of the pattern is very important because it is the main foundation before continuing to learn to more complex elements, such as the preparation element of fashion making in phase F (Kiong et al., 2025). Mastery of basic elements of patterns includes technical skills such as measuring the body simply, reading designs, and drawing fashion patterns. In line with previous research that emphasizes that vocational skill learning requires in-depth mastery of basic competencies before students are able to achieve learning achievements in the next element or phase with a higher level of complexity (Handayani & Prasetyaningtyas, 2026).

Based on initial observations in grade XI students of Fashion 1 and Fashion 2, there is a difference in the learning outcomes of the basic elements of pattern with the preparation elements of fashion making, so that problems arise regarding the relationship between the basic elements of the Pattern in phase E and the elements of Preparation for Fashion Making in phase F. Although several studies have examined the importance of mastering the basic elements of the pattern in phase E with the elements of preparation for

making clothes in phase F, There is still a lack of research in the form of data analysis techniques that rarely use a correlational approach with quantitative data to test the relationship between learning elements in the independent curriculum. However, this analysis is important to provide strong evidence as well as to strengthen the basic mastery of patterns before entering more complex learning elements.

Thus, this finding tries to close the gap by examining the data empirically and mathematically to find out the existence of a relationship between the learning outcomes of the Basic Pattern element in phase E and the learning outcomes of the Clothing Preparation element in phase F.

METHOD

Research Design

This study is a type of ex post facto correlational research with a descriptive quantitative approach, because the variables studied have occurred before the study began. The researcher did not provide treatment or data changes to the variables to be studied. The research was not carried out to look for manipulative cause and effect, but to explain the level of relationship between variables.

Population and Research Sample

The population in this study is all students of grade XI of Fashion at SMK YATPI Godong for the 2025/2026 Academic Year. The total number of students who have taken the Basic Pattern element material in phase E and the Preparation element of Fashion Making in phase F is 49 students. Grade XI students consist of 25 students in grade XI Fashion 1 and 24 students in class XI Fashion 2. Because the population is less than 100, the researcher uses the total sampling technique in sampling where the entire population becomes a research sample.

Data Analysis Techniques

The data collection technique is in the form of documentation of learning outcome values which become objective quantitative data in the research process (Dinullah et al., 2026). The data on the learning outcomes of the basic elements of the pattern as an object in the basic assessment of students' understanding related to the process of making fashion basics, while the data on the preparation of making clothes as an advanced understanding in the process of making more complex fashion patterns. In accordance with ex post facto research which aims to find out whether or not there is a relationship between variables based on the numerical data that has been obtained (Fatmawati et al., 2024)

Hipotesis

In the basic subjects, the basic elements of fashion (phase e) are the basis for students in the process of making fashion patterns, including techniques for measuring the body and making basic construction patterns. Then in the subject of fashion design and production, the element of Preparation for Fashion Making in phase F plays a role as an advanced competency in the form of the implementation of detailed measurements, breaking patterns, cutting materials and other technical preparations before fashion production. Based on this foundation, the hypothesis of this research can be formulated as follows.

H₀: There was no significant relationship between the learning outcomes of the basic elements of the pattern and the preparation elements of making clothes.

H₁: There is a significant relationship between the learning outcomes of the basic elements of the pattern and the preparation elements of fashion making.

The hypothesis decision is based on a significance value (p-value) with a significance level of 0.05. If the significance value is less than 0.05 ($p < 0.05$), H₀ is rejected and H₁ is accepted. Conversely, if the significance value is greater and 0.05 ($p > 0.05$) then H₀ is accepted and H₁ is rejected.

RESULTS AND DISCUSSION

Descriptive analysis

This study identifies the correlation between the learning outcomes of the basic elements of the pattern in phase E and the learning outcomes of the preparation elements of fashion making in phase F

based on data obtained from 49 students of the Fashion Skills Program of SMK YATPI Godong for the 2025/2026 school year who have taken the learning element. Descriptive analysis is needed to determine the distribution of data on minimum values, maximum values, averages, and standard deviations.

Table 1. Descriptive Stataistic Analysis

Descriptive Statistics						
	N	Range	Min	Max	Mean	Std. Deviation
Basic Pattern	49	13	77	90	82.35	4.22
Preparation for Fashion Making	49	13	77	90	81.43	4.69
Valid N (listwise)	49					

Based on the results of the descriptive analysis in table 1, it shows that the basic elements of the pattern and the preparation elements of fashion making have the same data at the lowest value of 77, the highest value of 90. However, the two elements have different average values and standard deviations. The basic element of the pattern has an average value of 82.35 with a standard deviation of 4.22, while the element of preparation for making clothes has an average value of 81.43 with a standard deviation of 4.69. These results do not affect the results of subsequent correlation tests, but on the contrary, the results can show that the distribution of student learning outcome value data varies in each variable (Subhaktiyasa et al., 2025). Furthermore, further analysis is needed to determine the relationship between the learning outcomes of the basic elements of the pattern and the preparation elements of fashion making.

Normality Test

The normality test stage is carried out with the aim of finding out whether the data is normally distributed or not because it is a requirement in parametric statistical analysis. In this study, the data analyzed amounted to 49 samples, then parametric statistical tests were used as shown in table 2.

Table 2. Hail Test of Normality

Tests of Normality									
Kolmogorov-Smirnov ^a					Shapiro-Wilk				
	stat	df		Sig.	stat	df		Sig.	
Basic Pattern	0.14	9	4	8	0.01	0.92	9	4	3
Preparation for Fashion Making	0.31	9	4	0	0.79	0.79	9	4	0

a. Lilliefors Significance Correction

Based on the normality test in Table 2. produced two calculation techniques, namely Kolmogorov-Smirnov and Shapiro-Wilk, but in this study focused on the Shapiro-Wilk table as a reference. The results of the data calculation showed that the significance value (Sig.) in the variable of the basic element of the pattern was 0.003 and the significance value (Sig.) in the variable element of preparation for making clothing was 0.000. As the basis for decision-making in the normality test if the value of sig. < 0.05 then the research data is abnormal, and if the value of sig. > 0.05 is the normal distributed data. So it can be concluded that 0.003 < 0.05 and 0.000 < 0.05 data are not normally distributed and cannot meet the assumption of normality (Sari et al., 2024). Therefore, the study was continued with a non-parametric statistical analysis technique using the Spearman Rank correlation test.

Spearman Rank correlation test

After it was found that the data on the learning outcomes of the basic elements of the pattern with the preparation elements of fashion making were not distributed normally, the relationship between variables was analyzed with the Spearman Rank correlation. This method is used because it is suitable for statistical tests that do not require the data to be normally distributed and do not meet parametric

statistical assumptions (Akhirudin et al., 2025)

Table 3. Spearman Rank correlation test

Correlations				
		Basic Pattern		Preparation for Fashion Making
Spearman's rho	Basic Pattern	Correlation Coefficient	1	.618**
		Sig. (2-tailed)	.	0
		N	49	49
	Preparation for Fashion Making	Correlation Coefficient	.618**	1
		Sig. (2-tailed)	0	.
		N	49	49

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

Based on the results of the analysis in table 3, a significance value (Sig. 2-tailed) of 0.000 was obtained. The significance value is less than 0.05 ($0.000 < 0.05$), so it can be interpreted that there is a relationship between the basic elements of the pattern and the elements of preparation for making clothes in the learning process of the independent curriculum at the vocational school level of the Fashion Skills program.

In the correlation coefficient table, it shows the level of strength of the relationship between the basic elements of the pattern and the preparation elements of fashion making. With the result of the correlation coefficient value of 0.618, the relationship between variables can be said to be strong. If analyzed at the correlation value, the coefficient is positive, which means that it has a variable relationship with the direction. Thus, the more the quality of student learning outcomes in the basic elements of the pattern will increase, the more likely it will be to increase the quality of student learning outcomes in the element of preparation for making clothes.

Based on this description, it can be seen that H_0 (Null Hypothesis) is rejected and H_1 (Alternative Hypothesis) is accepted, because the results of the study show that there is a significant relationship between the learning outcomes of the basic elements of pattern and the preparation elements of fashion making. In line with education research that uses the Spearman Rank analysis method with a result smaller than 0.05 as the basis for rejecting the null hypothesis and accepting alternative hypotheses (Salsabila et al., 2025).

This finding is in line with previous education research which shows that learning outcomes in each element of the fashion skills program subject are interrelated and sustainable. Wicaksono and Jerusalem (2021) stated that the learning outcomes of industrial fashion theory are closely related to the results of shirt sewing practices as evidenced by correlation tests that have significant and positive value. Similar results were also shown by Fitrianti and Hidayati (2018), that there is a significant relationship between students' sewing competence and consumer satisfaction in teaching factory learning and is proven by using the Spearman Rank correlation test.

The results of this study show that there is a relationship between the learning outcomes of the basic elements of the pattern as well as the learning outcomes of the preparation elements of fashion making. When students understand the basic concepts of the basic elements of patterns, then students will be better prepared to face the process of preparing for making clothes both in terms of understanding theory and more complicated skills. Aligned with research Pangesti and Yudhanegara (2024) which states that there is a significant relationship in learning outcomes between two different subjects. Although the context of the subjects analyzed is different, based on the results of the research there are similarities in the form of the relationship between learning outcomes in one field related to learning outcomes in another field. This is in accordance with the concept of an independent curriculum that is mutually sustainable, that the level of mastery of basic competencies contributes greatly in supporting the success of advanced competency levels.

However, this study still has limitations in both the amount of data and the variables studied. Therefore, the results of this research can be used as a basis for further research that will expand similar studies. With further research, it is hoped that it can make a better contribution to the development of learning, especially in the field of fashion.

CONCLUSION

Based on the results of the research and discussions that have been carried out, it can be concluded that there is a significant positive relationship between the learning outcomes of the Basic Pattern elements in phase E and the learning outcomes of the Clothing Preparation Elements in phase F at the Independent Curriculum Vocational School level. The results of data analysis using the Spearman Rank correlation test on the two elements proved a significance value (Sig 2 tailed) of 0.000 ($p < 0.05$) and a correlation coefficient of 0.618. Thus, this study emphasizes that the mastery of the material in each element of learning is interrelated with each other. Mastery of basic competencies must be used as the initial foundation to improve advanced competencies.

REFERENCES

- Akhirudin, Syuhadak, & Chamidah, D. (2025). The Influence of Self-Confidence through Language Development Programs on Arabic Communication Learning Outcomes of Indonesian Students. *Asalibuna*, 9(01), 143–156. <https://doi.org/10.30762/asalibuna.v9i01.6196>
- Ardianti, Y., & Amalia, N. (2024). Kurikulum Merdeka: Pemaknaan Merdeka dalam Perencanaan Pembelajaran Di Sekolah Dasar. *Innovative: Journal Of Social Science Research*, 4(3), 820–828. <https://doi.org/10.31004/innovative.v4i3.10546>
- Dinullah, A. C., Zamzam, A., & Junaidi, A. (2026). Examining the Relationship Between English Reading Habits and Reading Comprehension Among Vocational School Students. *Edukasiana: Jurnal Inovasi Pendidikan*, 5(1), 30–43. <https://doi.org/https://doi.org/10.56916/ejip.v5i1.2482>
- Fatmawati, F., Safitri, L., Reflinda, R., & Syahrul, S. (2024). The Correlation Between Students' Motivation and Their Writing Ability During Online Learning in 7th Grade at MTsN 2 Payakumbuh. *Jurnal Pendidikan Dan Sastra Inggris (JUPENSI)*, 4(1), 185–199. <https://doi.org/https://doi.org/10.55606/jupensi.v4i1.3368>
- Fitrianti, M., & Hidayati, L. (2018). Hubungan Kompetensi Menjahit Siswa Dengan Kepuasan Konsumen Pada Pembelajaran Teaching Factory Kelas Xi Tata Busana Wirausaha di Smk Negeri 1 Buduran Sidoarjo. *Jurnal Tata Busana*, 07(1), 7–11.
- Handayani, A. G., & Prasetyaningtyas, W. (2026). *Jurnal Penelitian Pendidikan Evaluation of Deep Learning in Textile Products Subjects at*. 43(1), 53–64. <https://doi.org/https://doi.org/10.15294/jpp.v43i1.40668>
- Juniardi, W. (2023). *Pahami Fase Kurikulum Merdeka yang Wajib Diketahui Guru*. Quipper Blog. https://www.quipper.com/id/blog/info-guru/fase-kurikulum-merdeka/?utm_source=com
- Kiong, T. T., Mutalib, N. N. A., Heong, Y. M., Ramli, M. F., & Ramdan, M. R. (2025). Enhancing Visualization Skills and Patternmaking in Fashion Education: A Systematic Literature Review of Studies Tee. *International Journal of Research and Innovation in Social Science (IJRISS)*, IX(III), 1175–1189. <https://doi.org/https://dx.doi.org/10.47772/IJRISS.2025.90300238> Received:
- Pangesti, S., & Yudhanegara, M. R. (2024). Analisis Hubungan Antara Hasil Belajar Matematika Dengan Bahasa Indonesia Menggunakan K-Means Clustering. *Jurnal Didactical Mathematics*, 6(1), 283–293. <https://ejournal.unma.ac.id/index.php/dm>
- Safitri, I., & Yulistiana, Y. (2023). Pengembangan Video Pembelajaran Pembuatan Pola Dasar Rok Sesuai Desain Di Kelas X Tata Busana 1 SMK Negeri 2 Jombang. *Jurnal Online Tata Busana*, 12(01), 73–81. <https://doi.org/https://doi.org/10.26740/jurnal-online-tata-busana.v11i3.50998>
- Salsabila, Rahmawati, M., & Samsi, Y. S. (2025). The Correlation Between Students' Motivation in Learning English and Their Speaking Ability Among Eighth-Grade Students. *INIVASI: Jurnal Sosial Humaniora Dan Pendidikan*, 4(3), 621–629. <https://doi.org/https://doi.org/10.55606/inovasi.v4i2.4687>
- Sari, A. P., Hasanah, S., & Nursalman, M. (2024). Uji Normalitas dan Homogenitas dalam Analisis Statistik. *Pendidikan Tambusai*, 8(3), 51329–51337.
- Shyafitri, M. S., Anggraini, R., Waroza, D., & Mustafiyanti. (2023). Kurikulum 2013 Dan Kurikulum

- Merdeka Mey. *Pengertian: Jurnal Pendidikan Indonesia (PJPI)*, 1(3), 483–490.
<https://doi.org/https://doi.org/10.61930/pjpi.v1i3>.
- Subhaktiyasa, P. G., Candrawati, S. A. K., Sumaryani, N. P., Sunita, N. W., & Syakur, A. (2025). Penerapan Statistik Deskriptif: Perspektif Kuantitatif dan Kualitatif. *Jurnal Edukasi Matematika Dan Sains*, 14(1), 96–104. <https://doi.org/10.59672/emasains.v14i1.4450>
- Syaani, A. L., & Yuniati, M. (2025). Efektivitas Handout Persiapan Pembuatan Busana Pada Siswa Fase F Smk Negeri 1 Jatirejo. *Jurnal Multidisiplin Ilmu Akademik*, 2(5), 78–89.
<https://doi.org/https://doi.org/10.61722/jmia.v2i5.6309>
- Usanto, S. (2022). Implementation of the Merdeka learning curriculum improving students' understanding. *Cakrawala Repositori IMWI*, 5(2), 495.
<https://www.cakrawala.imwi.ac.id/index.php/cakrawala/article/view/142>
- Wicaksono, A. B., & Jerusalem, M. A. (2021). Hubungan Hasil Belajar Teori Busana Industri Dengan Hasil Menjahit Kemeja Peserta Didik Kelas IX Tata Busana SMKN 1 Depok, Sleman. *Prosiding Pendidikan Teknik Boga Busana*, 16(1).
<https://journal.uny.ac.id/index.php/ptbb/article/view/44462%0Ahttps://journal.uny.ac.id/index.php/ptbb/article/viewFile/44462/16520>