Efficiency Increase Rate of Standard Pattern Making in Garment Industry by Computer

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Abstract: The objective of this research to studied the increase rate the skills of a garment with a computer. The comparisons of the pattern making skills; five basic styles by computer of students between the fashion design major and the textiles and clothing major in department of textiles and clothing, faculty of Home Economics Technology of Rajamangala University of Technology Thanyaburi. The results showed that; the students in fashion design major has the highest skills, with an average speed of 5.97 minutes, and students of textiles and clothing with an average speed of 6.96 minutes. Finally, the efficiency rate of pattern making by computer to increase also. In addition, two groups of students showed rate skills which found that the rate of increase difference was statistically significant at the .05 level.

Keyword: Efficiency, Increase Rate, Standard Pattern Making, Garment Industry, computerizes pattern making

1. Introduction

Advances in science and technology contribute to the social and economic development of nations. Technological change refers to the changes in production techniques and production equipment. The same for learn how to make patterns from clothing. The change for pattern making is still done on paper by hand to the present using the computerized pattern making. It can generated sewing patterns to create perfect patterns to create an individual pattern based on the body measurements. The garment is manufactured and shipped to the store where a single fitting ensures customer satisfaction. Scan data and patterns for each customer are stored for reorders. Garment factories in Thailand, most people lack the ability to make a pattern with the computerized pattern making. To prepare workers for the technology-infused, high productivity workplaces of advanced manufacturing, science, technology for the garment manufactured is important. For the new model of holistic "people-centered development" to promote the knowledge, culture and technology this standard for creative economy through culture and technology. The studies of efficiency increase rate of standard pattern making in garment industry by computer are interest. The aim of this study was to select the clothing styles in basic item for 5 items that is shirt, polo shirt, T-shirt, Hawaiian shirt and v-neck shirt. This type of pattern can be constructed and produced. The comparisons of the pattern making skills for five basic styles by computer and compare the average speed for each style on five students in each group. This can be applied to increase the efficiency of garment factories in Thailand. The training comparisons of the pattern making for preparation workers are employed in garment factories. Consistent with Thailand's policy the National Research Policy and Strategies (2008-2011) has been developed by the National Research Council of Thailand (NRCT). The research goals of this nation strategy concern knowledge management and development for national competitiveness and self-reliance

base on basic and applied science and technology. Research activities will focus on enhancing potential of Thailand's research excellence and competency, local wisdom application for commercial and public uses, and also on capacity building in various fields to keep abreast with global dynamism.

2. Methodology

2.1 Population

In group A (Fashion Design) is the 4 th years undergraduate students in the Bachelor of Home Economics Program in Fashion Clothing & Textile Design that enrolment in Technology in Computerized Apparel Design amount 30 students. In group B (Textile and Clothing) is the 3 th years undergraduate students in Bachelor of Home Economics Program in Textiles and Clothing that enrolment in Computerized Pattern Making, Grading and Marker amount 25 students. There are almost 55 students.

2.2 Materials and equipment

1. Pattern making software (Richpeace PDS) from Richpeace Group Co., Ltd.
2. Paper 1 Roll 60 inch
3. Tape measure size 60 inches
4. Invoice and The details of basic shirt item for 5 items

2.3 Experimental Procedures

2.3.1 This study was to select the clothing styles in basic item for 5 items that is shirt, polo shirt, T-shirt, Hawaiian shirt and v-neck shirt.

2.3.2 The comparisons of the pattern making skills for five basic styles by computer and compare the average speed for each style on five student. As with all population from group A (Fashion Design) amount 30 students and group B (Textile and Clothing) amount 25 students. There are almost 55 students. In a study using pattern making software (CAD/CAM) from Richpeace Group Co., Ltd. Richpeace PDS (Pattern Design System) is a professional pattern design system for garment & textile industry based on windows platform.

2.3. Data collection and analysis of the sample population of students. Record at an average speed for calculate the rate constant of pattern making by computer and compare for each style on five students in each group.

2.3.4 Data analysis

The performance analysis of computerized pattern making and using the t-test assesses whether the means of two groups are statistically different from each other.

3. Results and Discussion

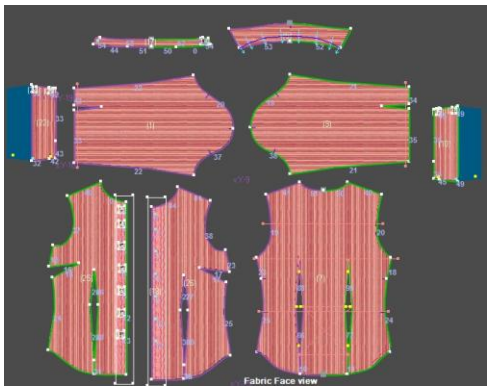
The aim of this study was to select the clothing styles in basic item for 5 items that is shirt, polo shirt, T-shirt, Hawaiian shirt and v-neck shirt using the computerized pattern making. A comparison study of the pattern making skills for five basic styles by computer and compare the average speed for each style on five students in each group. As with all population is showed Table 1. The results are as follows.

Table 1: The following table shows the sample population of students in two groups.

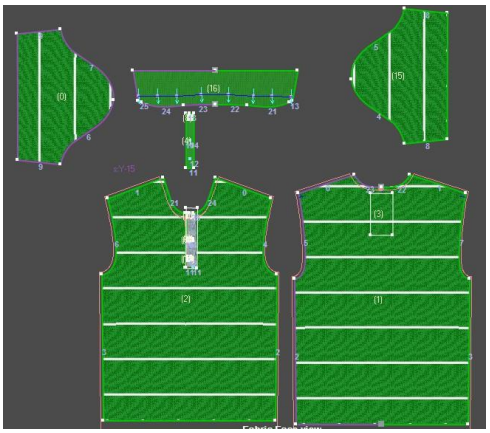
Population		Amount (people)
Group A (Fashion Design)	The students (4th years) in the Bachelor of Home Economics Program in Fashion Clothing & Textile Design that enrolment in Technology in Computerized Apparel Design.	25
Group B (Textile and Clothing)	The students (3th years) in Bachelor of Home Economics Program in Textiles and Clothing that enrolment in Computerized Pattern Making.	30

3.1 Using the computerized pattern making for the clothing styles in basic item for 5 items.

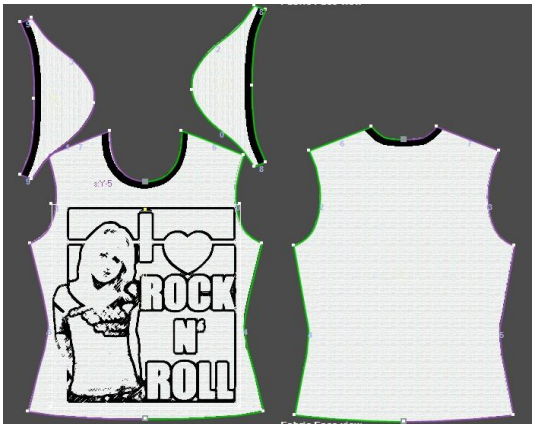
3.1.1 Precisely cut the patterns of shirt by using the computer software.



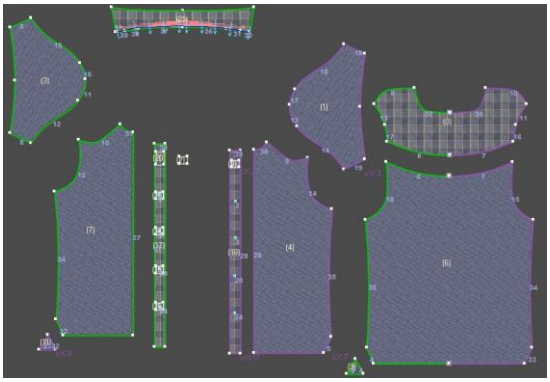
3.1.2 Precisely cut the patterns of polo shirt by using the computer software.



3.1.3 Precisely cut the patterns of T-shirt by using the computer software.



3.1.4 Precisely cut the patterns of Hawaiian shirt by using the computer software.



3.1.5 Precisely cut the patterns of v-neck shirt by using the computer software.

3.2 A study on the work efficiency of pattern making by computer for each style on five students in each group.

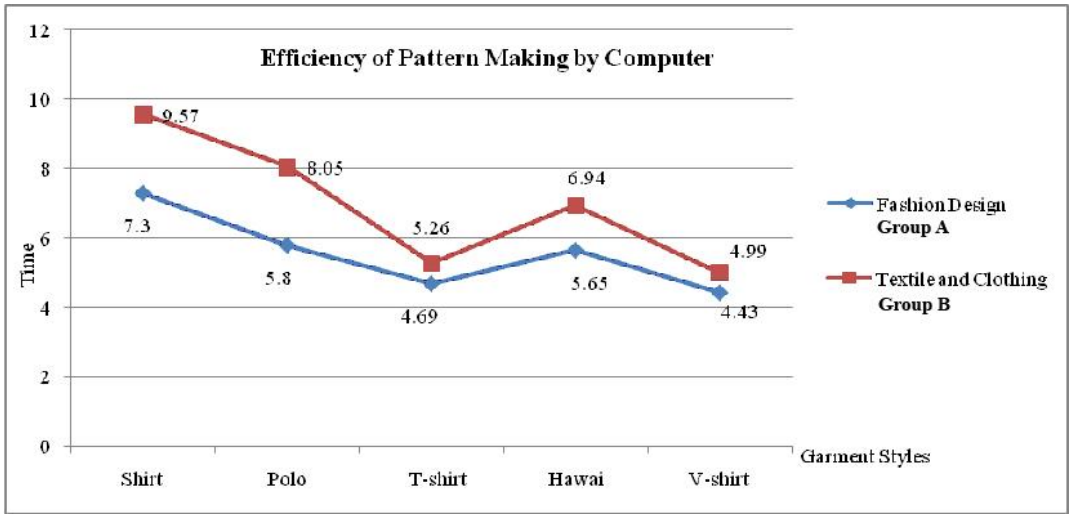


Figure 1 Efficiency of pattern making by computer for each style on five students in each group

Figure.1 showed a study on the work efficiency of pattern making by computer for two groups of Bachelor of Home Economics Program. The graft showed students group A (Fashion Design) use less time than students group B (Textile and Clothing). The results showed that students in fashion design major have the highest skills, with an average speed of 5.97 minutes, and students of textiles and clothing with an average speed of 6.96 minutes.

3.3 Results were statistically analyzed using t-test. There was a statistically significant difference in pattern making efficiency between students group A (Fashion Design) and group B (Textile and Clothing) is showed in Table 2.

Table 2: The performance analysis of computerized pattern making these results were statistically analyzed using t-test.

Major in	Amount	$\bar{X}$	S.D.	t-test	Sig. (2 tailed)
Students group A (Fashion Design)	30	5.57	1.13	-3.65	.022
Students group B (Textile and Clothing)	25	6.96	1.92		

Table.2 showed work efficiency of pattern making when comparing the groups affecting on computerized pattern making of Bachelor of Home Economics Program major in Fashion Design (group A) and Textile and Clothing (group B), there was found to be statistical significant difference at the level of .05 in group of student. This is because the computer skills which the students group A have more than group B. In addition, the basics of design pattern by hand make have important step to design by computer. So the basic knowledge is the main factor to improve efficiency of pattern making by computer for each style.

4. Conclusions

This study was to select the clothing styles in basic item for 5 items that is shirt, polo shirt, T-shirt, Hawaiian shirt and v-neck shirt by comparing the groups affecting on computerized pattern making by using the students of Bachelor of Home Economics Program major in Fashion Design (group A) and Textile and Clothing (group B). All of the studies conclude that efficiency of pattern making in basic item for 5 items for each group students can improve efficiency through practice for five times. The result showed that students have patterns making for five times use less time on average than one time. However, the improve efficiency of pattern making can also be seen from less time on average. It was found that all of students used time of pattern making in a short time with v-neck shirt, in the second with T-Shirt and use for long time with shirt. And the comparisons of the efficiency on computerized pattern making; five basic styles by computer. Finally found an efficiency rate of pattern making by computer to increase also. In addition to two groups of students showed rate skills which found that the rate of increase difference was statistically significant at the .05 level.

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