The 4th RMUTP International Conference: Textiles & Fashion

3-4 July 2012, Pullman Bangkok King Power, Bangkok, Thailand

INTRODUCTION

ASEAN Free Trade Area (AFTA) and ASEAN Economic Community (AEC) play an important role in economic changes in ASEAN especially in the fields of industrial textiles, garment and fashion. Rajamangala University of Technology Phra Nakhon has realized this issue; therefore, the 4th RMUTP International Conference is hosted on 3-4 July 2012 at Pullman Bangkok King Power Hotel. The conference provides a great opportunity to bring together scientists, scholars, students from academia and industry all over the world to exchange experience, discuss cooperation and poster presentations are encouraged researchers to present work-in-progress or significant work on topics relevant to textiles and fashion.

"Textiles & Fashion," the theme of this year's conference focuses on "Textile Technology & Innovation," "Textile Chemistry & Finishing," and "Eco-Textiles & Fashion Design". Our co-host for this event will be the Technical University of Liberec from the Czech Republic and feature some seventy foreign and thirty-five Thai participants. This conference has three keynote presentations on the topics of Textiles & Fashion: Future Trends in Textile Branch" by Prof. Ing. Jiří Milíčký (Czech Republic), "Trend Forecasting" by Prof. Veronica Bogao (Italy) and "Trends in Technical Textiles" by Prof. Ing. Syaed Ibrahim (Czech Republic).

RMUTP's 4th International Conference looks set to be one of our best ever, and congratulates all of you who have worked hard on making it such a successful project.

With warm regards,
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International Conference: Textiles and Fashion
3-4 July 2012
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ABOUT

RAJAMANGALA UNIVERSITY OF TECHNOLOGY
PHRA NAKHON (RMUTP)

RMUTP was established on 27 February 1975 when the "Vocational Education and Technology College" Act was announced on the Royal Gazette and came into force. The Act aimed to create vocational teachers with a bachelor's degree to teach vocational education at vocational level, undergraduate level and advanced vocational certificate level. The Act also intended to promote vocational research activities and provide technical services to the communities. Over the years, the Vocational Education and Technology College had developed its teaching techniques, produced quality graduates and provided excellent services to the society. It was not until 15 September 1988 when HM the King granted a new name to the college, which then came to be known as the "Rajamangala Institute of Technology".

With the National Education Act, B.E. 2542 (1999) aimed to decentralize management in education institutes to make them more independent and flexible to handle their own affairs under the university council, Rajamangala Institute of Technology subsequently amended the law governing the institution at that time before enacting it as the "Rajamangala University of Technology Act," which HM the King signed on 8 January 2005. The law, announced in the Royal Gazette ten days later before coming into effect on 19 January 2005, combines all campuses nationwide into nine Rajamangala University of Technology; namely, RMUT Thanyaburi, RMUT Krungthep, RMUT Tawan-ak, RMUT Phra Nakhon, RMUT Rattanakosin, RMUT Lanna, RMUT Srinakharin, RMUT Chulalongkorn and RMUT Samut Prakan. The intention is to turn these nine universities into science and technology university offering advanced vocational training in undergraduate and graduate levels to accommodate vocational students and to provide education opportunities to those graduated from community colleges. The integration is aimed to provide an opportunity for students to continue vocational study at the undergraduate level. All nine RMUT

have been under the supervision of the Office of Higher Education Commission, Ministry of Education.

With regard to RMUT Phra Nakhon or RMUTP in short, the university is composed of five campuses; namely, Theewes Campus, Chotiwe Campus, Bangkok Commercial Campus, Chumporn Khet Udom Sak Campus and North Bangkok Campus. RMUTP offers programs in 9 Faculties: Industrial Education, Home Economics Technology, Mass Communication Technology, Business Administration, Science and Technology, Engineering, Liberal Arts, Architecture and Design and Industrial Textiles and Fashion Design at advanced vocational certificate level and undergraduate level. RMUTP also offers Business Administration, Industrial Education and Home Economics Technology, Engineering, Mass Communication Technology at graduate level. At present, RMUTP has more than 13,000 students.

Contact:
Rajamangala University of Technology Phra Nakhon,
No. 399, Sansen Rd., Vachira Phayaban, Dusit, Bangkok
10330, THAILAND
Tel.: +662-282-0014, +662-282-9009-15,
Fax: +662-628-5210
Website: http://www.rmutp.ac.th
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Efficiency Increase Rate of Standard Pattern Making in Garment Industry by Computer

Sakorn Chonsakorn1 Uriwan Khamsingkha1 Kitiyaphan Pholam1

1Department of Textile and Clothing, Faculty of Home Economics Technology, Rajamangala University of Technology Thanyaburi 39 Moo. Rangsit-Nakornayok Road, Klong Hok, Klongluang, Pathumthani 12110

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 for 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 4th 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 3th 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.

2.3.4 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.

<table>
<thead>
<tr>
<th>Population</th>
<th>Amount (people)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A (Fashion Design)</td>
<td>25</td>
</tr>
<tr>
<td>The students (4\textsuperscript{th} years) in the Bachelor of Home Economics Program in Fashion Clothing &amp; Textile Design that enrolment in Technology in Computerized Apparel Design.</td>
<td></td>
</tr>
<tr>
<td>Group B (Textile and Clothing)</td>
<td>30</td>
</tr>
<tr>
<td>The students (3\textsuperscript{rd} years) in Bachelor of Home Economics Program in Textiles and Clothing that enrolment in Computerized Pattern Making.</td>
<td></td>
</tr>
</tbody>
</table>

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 graph 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.

<table>
<thead>
<tr>
<th>Major in</th>
<th>Amount</th>
<th>X</th>
<th>S.D.</th>
<th>t-test</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students group A (Fashion Design)</td>
<td>30</td>
<td>5.57</td>
<td>1.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students group B (Textile and Clothing)</td>
<td>25</td>
<td>6.96</td>
<td>1.92</td>
<td>-3.65</td>
<td>.022</td>
</tr>
</tbody>
</table>
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.

5. Acknowledgements

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References
