



Comparison of manual and computer based training on garment construction among college going girls

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Abstract

Computer-aided design, also known as computer-aided design and drafting, is the use of computer technology for the process of design and design-documentation. Computer Aided Drafting describes the process of drafting with a computer. Computer Aided Drafting software, or environments, provides the user with input-tools for the purpose of streamlining design processes like drafting, documentation, and manufacturing processes. Computer-aided design may be used to design curves and figures in two-dimensional (2D) space or curves, surfaces, and solids in three-dimensional (3D) objects. Although most designers initially sketch designs by hand, which most of them also translate these hand sketches to the computer? Computer-aided design allows designers to view designs of clothing on virtual models and in various colors and shapes, thus saving time by requiring fewer adjustments of prototypes and samples later.

Keywords: computer based training, garment construction

Introduction

Computer-aided design (CAD) is the use of computer systems to aid in the creation, modification, analysis, or optimization of a design. CAD software is used to increase the productivity of the designer, improve the quality of design, improve communications through documentation, and to create a database for manufacturing. CAD output is often in the form of electronic files for print, machining, or other manufacturing operations. Its use in designing electronic systems is known as Electronic Design Automation, or EDA. In mechanical design it is known as mechanical design automation or Computer-Aided Drafting (CAD), which includes the process of creating a technical drawing with the use of computer software. CAD is an important industrial art extensively used in many applications, including automotive, shipbuilding, and aerospace industries, industrial and architectural design, prosthetics, and many more. CAD is also widely used to produce computer animation for special effects in movies, advertising and technical manuals, often called DCC (Digital Content Creation). The modern ubiquity and power of computers means that even perfume bottles and shampoo dispensers are designed using techniques unheard of by engineers of the 1960s. Because of its enormous economic importance, CAD has been a major driving force for research in computational geometry, computer graphics, and discrete differential geometry.

Objectives

1. To study the knowledge and practices of college going girls about garment construction.
2. To provide manual and computer based training of college going girls on garment construction.

Methodology

The study was conducted in Gorakhpur district of Uttar Pradesh. Two colleges M.G.P.G. College and one college (Department of Home Science of University Campus) were selected out of 90 colleges situated in Gorakhpur district. All students were selected from B.A. II year and III years in age group 18-24 years. Total 237 respondents were selected in this study. Dependent and independent variables such as age, education, caste, Computer Aided Design (CAD) were selected. The statistical tools such as, chi-square, Fisher test, S.D. etc. were used.

Results

Table 1: Distribution of respondents according to their institution, class, medium of study and type of training

Institution	Frequency	Per cent
Department of H.Sc. University Campus	109	46.0
M.G.P.G. College	128	54.0
Total	237	100.0
Class		
B.A. 2 nd year	157	66.2
B.A. 3 rd year	80	33.8
Medium of study		
Hindi	228	96.2
English	9	3.8
Type of training		
C.D. based	109	46.0
Manual based	128	54.0

Two types of training regarding apparel construction of garments were given, out of which manual based training were given to all selected students of M.G.P.G. College and computer based training were imparted to selected students of Department of Home Science, University Campus.

Table 2: Distribution of respondents according the knowledge about different stitching garments

Knowledge of stitch garments	Correct knowledge of students							
	Deptt. of H.Sc., (109)		M.G.P.G. College (128)		Total (237)		Df = 1	
	Frequency	%age	Frequency	%age	Frequency	%age	χ^2	p
Frock	32	29.4	25	19.5	57	24.1	3.11	>0.05
Blouse	19	17.4	16	12.5	35	14.8	1.14	>0.05
Petticoat	56	51.4	42	32.8	98	41.4	8.37	>0.05
Kurta	23	21.1	24	18.8	47	19.8	0.21	>0.05
Salwar	23	21.1	22	17.2	45	19.0	0.59	>0.05

The maximum (41.4 %) of students had taken training about petticoat along with it was 51.4 per cent in Department of Home Science, University Campus students while it was 32.8 per cent among students of M.G.P.G. College and these

difference was found to be highly significant. Similarly only 19.0 per cent and 19.8 per cent of total students had taken training for stitching of salwar and kurta respectively.

Table 3: Distribution of respondents' knowledge regarding different parts and its function of sewing machine before and after intervention

Knowledge regarding different parts and its function of sewing machine before and after intervention	Type of training	Pre (n=191)		First follow up		Second follow up		Z between		
		Frequency	Per cent	Frequency	Per cent	Frequency	Per cent	Pre & 1 st follow up	1 st & 2 nd follow up	Pre & 2 nd follow up
Knowledge about pressure foot, stitch regulator liver, needle plate	Total	168	88.0	173	90.6	184	96.3	0.83	2.28*	3.04**
	C.D.	91	85.8	92	86.8	100	97.3	0.20	1.88	2.07*
	Manual	77	90.6	81	95.3	84	98.8	1.20	1.36	2.40*
	χ^2	1.01		3.99*		2.69				
Knowledge about stitch regulator	Total	95	49.7	139	72.8	179	93.7	4.62***	5.48***	9.54***
	C.D.	52	49.1	74	69.8	101	95.3	3.08**	4.89***	7.51***
	Manual	43	50.6	65	76.5	78	91.8	3.51***	2.73**	5.93***
	χ^2	0.05		1.06		0.99				
Knowledge about feed dog	Total	87	45.5	114	59.7	158	52.7	2.77**	4.97***	7.57***
	C.D.	43	40.6	61	57.5	88	83.0	2.47*	4.06***	6.36***
	Manual	44	51.8	53	62.4	70	82.4	1.40	2.92**	4.24***
	χ^2	2.39		0.45		0.02				
Knowledge about bobbin	Total	163	85.3	164	85.9	180	94.2	0.15	2.74**	2.87**
	C.D.	93	87.7	93	87.7	101	95.3	0.00	1.97*	1.97*
	Manual	70	82.4	71	83.5	79	92.9	0.21	19.0	2.10*
	χ^2	1.09		0.69		0.48				
Knowledge about pressure foot, stitch regulator liver, needle plate	Total	134	70.2	152	79.6	172	90.1	2.12*	2.85**	4.87***
	C.D.	69	65.1	81	76.4	94	88.7	1.81	2.35*	4.07***
	Manual	65	76.5	71	83.5	78	91.8	1.15	1.63	2.73**
	χ^2	2.92		1.47		0.50				

The result clearly shows that there was highly significant improvement in knowledge of students regarding various parts of sewing machine and its functions in both the groups that was students to whom computerized C.D. and manual booklet were provided. It was also observed that there was no

significant variation between the knowledge of students training by computerized C.D. and manual method regarding various parts of sewing machine and its function during pre, follow up first and second respectively in the present study.

Table 4: Distribution of respondents according to opinion about computer based training programme

S. No.	Particular	Frequency	Per cent
1.	Utilization of software in education of home science	Yes	106
		No	0
2.	Use of software increased in awareness in educational system	Yes	105
		No	1
3.	Use of software for stitching technique in home science	Yes	106
		No	0
4.	Usefulness to learn practical work through software	Yes	99
		No	7
5.	Utilization of software in future	Yes	106
		No	0
6.	Attitude towards software	Very poor	-
		Poor	-
	Average	27	25.5
	Good	44	41.5
	Very good	35	33.0

The majority of students have admitted about good utilization of software in education of home science as well as to increase knowledge and awareness for stitching techniques in home science. It was also useful to learn practical work in related subjects as well as improvement in knowledge due to software training programme would be used in future. 100.0 per cent of students are satisfied with the CAD based training programme in the study.

Conclusion

Computer Aided Design (CAD) is the use of computer systems to aid in the creation, modification, analysis, or optimization of a design. CAD software is used to increase the productivity of the designer, improve the quality of design, and improves communications through documentation and to create a database for manufacturing. CAD output is often in the form of electronic files for print, machining, or other manufacturing operations. The term CADD (for Computer Aided Design and Drafting) is also used.

Recommendation

The in-service training programmes of the CAD system companies often fall short of being adequate, because the trainers are not knowledgeable enough to provide training on pattern making and apparel production; the trainees do not have the proper background; they are not technically equipped to function efficiently within the CAD system. Consequently, they fail to reach expected efficiency targets in using the CAD system. For a lasting solution to this problem, it is recommended that the cooperation between the universities and the industrial organizations be promoted in the short term. As a long-term solution, however, it is essential that comprehensive and relevant training programmes be developed, especially at the college level, and that the technicians completing these programmes should be employed in the apparel industry.

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