JHER Vol. 20, September 2014, pp. 48 - 54

Safety Enhancement in Fashion Design and Clothing Construction Laboratory in Tertiary Institutions in Anambra State

Emeka-Okafor E. N.
Department of Fashion Design and Clothing Technology
Federal Polytechnic, Oko

Abstract

The study focused on safety enhancement in fashion design and clothing construction laboratories in tertiary institutions in Anambra state. It was a survey. Three research questions guided the study. The population for the study was 27 lectures of Home Economics, Fashion design and clothing technology in three tertiary institutions in Anambra State and 423 students from these departments. Questionnaire was used for data collection. Data were analyzed using mean. Major findings include that carelessness and lack of repairs were major risk factors in the laboratory, while putting on protective garments, laying down strict safety rules will enhance safety.

Introduction

Safety refers to the absence of risks that could potentially damage someone's health. According to Obodo (2001), it is the protection of the physical well being of people. Work environment can be seen as a place where an individual carries out an activity directed towards achievement of a goal. The work usually consists of those materials and equipment required by the individual to enable him/her carryout his/her works.

Ile (2002) sees work environment as the surroundings especially the material, and other influences which affect the growth, development and existence of a living being. Okorie (2000) opined that work environment comprises the worker, machine, equipment, tools, products, building and other relevant facilities. Here, the worker is seen as the chief factor with the responsibility of organizing other factors to make the environment safe.

Safety in the work place requires that worker be safety conscious in order to avoid unwanted accident. The work place should be built with a firm sense of security for the interest of the people working there in. safety in the work place should be the primary concern whether in the clothing laboratory or in an office. According to Banbuka (2002), It is a valuable asset that should be present in every aspect from the conception and design of machinery and equipment, and should directly involve employee or those handling the equipment. Safety in a work place is concerned with all safety mechanism put in place by employers and workers to ensure as much as possible the avoidance or elimination of accidents in work place.

One of the objectives of enhancing safety in work environment is to remove all possible cause of accidents in work environments which can cause health hazard to workers. Clothing construction

laboratory is a place where equipment for sewing are kept, where drafting of patterns, clothing construction, mixing of chemicals for tye and dye and dye production takes place. Different kinds of work are carried out in clothing laboratory. All these equipment and tools need to be handled with caution to prevent accidents. A lot of activities are also carried out in the clothing construction laboratory such as designing, printing, cutting, weaving, knitting, drafting, sewing etc. All these activities require adoption of safety measures to avoid unnecessary accident in the fashion design and clothing construction laboratory.

There should be good source of light preferably florescent builds in the clothing laboratory. While engaged in printing, an operative must bend many times and keep moving around the whole department when dyeing and the arm raised in order to position the fabric correctly (Adamtay 2009). Clothing operative suffer from fatigue as a result of the need to maintain a high degree of concentration on monotonous work which prevent them, on one hand and the other interacting with Colleagues and the other from working at a pace governed by human convenience (Adamtey 2009). The risk of accidents arises from the possibility of slipping on wet slippery floors, being knocked or crushed or carrying heavy loads. Some of these safety enhancement measures to be taken according to utility guild at work place (2000) include:

- Routine inspections and identification of possible risk.
- Monitors tidiness and employee's education
- Keep away unwanted tools and equipments from the work place
- Carryout regular maintenance exercise on machine.
- Find out the cause of any unusual noise or sign on machines before they get damage.
- Use correct tools for appropriate job
- Repairing all electrical appliances
- Covering ones nose while mixing chemicals
- Putting on protective garments and articles when handling chemicals
- Laying down strict rules in relation to safe working practice and behaviours.

This study focused on safety enhancement in fashion design and clothing construction laboratory. There are lots of factors that cause accidents in the clothing laboratory. There is need for proper enhancement of safety measures to ensure the safety of workers in their work environment. Alpine Electronic Incorporation (2013) also observed that routine inspections and identification of possible risks in the work place, unexpected accidents are avoided. The real key to accident prevention lies in creating a climate of opinion from top to bottom in the organization where the safe way of doing things is discussed. This is also in line with Environment Health and Safety Incorporation (2013) which enables the research and educational processes through training and consultation, facilitating loss prevention programmes and providing a framework for work place hazard analysis and control.

Purpose of the study

The major purpose of this study was to evolve safety enhancement in fashion design and clothing construction laboratories within tertiary institutions Anambra state.

Specially, the study indentified.

1. Factors that cause accidents in fashion design and clothing construction laboratories.
2. Safety enhancement measures that could be adopted in fashion design and clothing construction laboratories.

Research questions

The following research questions guided the study;

1. What are the possible causes of accidents in the clothing construction laboratory
2. What are the various ways of enhancing safety in the clothing construction laboratory?

***Methodology*:** A survey research design was adopted for the study. The area of the study was Anambra State. The study was conducted in three tertiary institutions in Anambra State offering Home Economics. These institutions were selected based on the fact that they offer courses and training in clothing construction.

***Population for the study*:** The population of the study was twenty seven (27) lectures teaching in Home Economics, fashion design and clothing technology department in three tertiary institutions in Anambra State. The institutions include Federal Polytechnic Oko, Federal College of education (technical), Umunze and Nwafor Orizu college of education Nsugbe. The population of students was 423 offering Home Economics, fashion design and clothing technology.

***Sample for the study*:** A sample random sampling technique was used to select 251 lectures and students from the tertiary institutions offering Home Economics, fashion design and clothing technology. They include seven (7) lectures and eighty students from Federal Polytechnic Oko, Eight (8) lectures and eighty (80) students from federal collage of Education Technical Umunze, six lectures and seventy students from Nwafor Orizu College of Education Nsugbe.

***Instrument for data collection*:** The instrument for data collection was a structured questionnaire. It was developed based on the purpose of the study and review of literature. The instrument was validated by five experts in related fields. Three from Federal Polytechnic, Oko, and two from Federal Collage of Education (technical) Umunze.

***Method of data collection*:** Two hundred and fifty one s(251) copies of the instrument were administered by hand with the help of three field assistants. The 251 copies of the questionnaires were completed and returned on the sport.

***Method of data Analysis*:** Frequency distribution and mean scores were used for data analysis. The mean scores were used to determine the assumed importance level as expressed on a 5-point scale for each of the items. A mean value of 3.00 was used for decision making. thus any item with mean value above 3.00 was accepted and any mean value below 3.00 was rejected.

Findings:

The following findings were made:

I. **Causes of accidents in clothing, construction laboratory**

Table 1: Mean score of respondents on the possible causes of accidents in the clothing construction laboratory.

Number of respondents (N=251)

S/No	Possible causes of accidents in clothing Construction laboratory.	$\bar{x}$	Remark
1	Forgetfulness	3.38	Cause
2	Carelessness	4.49	"
3	Bad equipments	4.23	"
4	Slippery floor	4.38	"
5	Lack of repairs	3.43	"
6	Faculty electrical appliances	3.72	"
7	Faulty switches	2.60	'"
8	Laziness	3.20	"
9	Carrying heavy load	4.39	"
10	Ignorance on the use of equipments	3.96	"
11	Lack of training	3.88	"
12	Fatigue	3.21	"
13	Lack of concentration	3.74	"
14	Poor vision	4.31	"
15	Bad posture	4.26	"
16	Stress	4.29	"
17	Wrong use of chemicals	4.36	"
18	Noise	3.50	"

Table 1 shows that 1 to 6 and 8 to 18 had their mean ranging from 3.20 to 4.49 which falls within the response category considered as a cause of accident. This indicates that forgetfulness, carelessness, bad equipments, slippery floor, lack of repairs, faulty electrical appliances, laziness carrying heavy load, ignorance on the use of equipments, lack of training, fatigue, lack of concentration, poor vision, bad posture, stress, use of chemicals and noise are possible causes of accidents in the clothing construction laboratory. Item 7 had a mean of 2.60 which is less than 3.00 and therefore was not accepted as one of the causes. This indicates that a faulty switch is not a possible cause of accidents in the clothing construction laboratory.

II. Ways of enhancing safety in clothing construction laboratory.

Table 2: means score of respondents on the various ways of enhancing safety in clothing laboratory.

Number of respondents (N=251)

S/No	Ways of enhancing safety in Clothing construction laboratory	$\bar{x}$	Remarks
1.	Keep away from unwanted tools and equipments from the working Surface enhancing	3.73	Safety measure
2	Carry out regular maintenance on Machine	3.11	Safety measure
3	Use correct tools for appropriate Job measures	3.74	Safety measure
4	Repair all electrical appliances	3.56	Safety measure

5	Put off electrical switches when not in use	3.47	Safety measure
6	Cover the nose with a mask while mixing chemicals	3.64	Safety measure
7	Find out causes of unusual noise or Signs from machines	3.88	Safety measure
8	Put on protective garments and articles when handling chemicals	4.05	Safety measure
9	Keep the work environment Ventilated	3.37	Safety measure
10	Keep the work environment Ventilated	3.37	Safety measure
11	Provide safety policy for the users of the laboratory	3.77	Essential

Total number of respondents (N) =251, $\bar{x}$ = Mean

Table 2 shows that item I to 2 had their mean ranging from 3.11 to 4.05 which falls within the response category of safety measure. This indicates that keeping away from unwanted tools for appropriate job, repairing all electrical appliances, putting off electrical switches when not in use, covering the nose with a mark while missing chemicals, finding out causes of unusual noise or signs on machines before they get damaged, putting on protective garments and articles when handing chemicals, keeping the work place tidy, keeping the work environment ventilated, providing safety policy for the users of laboratory are various ways of enhancing safety in clothing construction laboratory.

Discussion of findings

The study shows possible causes of accident in clothing construction laboratory. These causes of accident include carelessness, carrying heavy loads, slippery floor, ignorance of the use of equipment, lack of training, lack of concentration, faulty electrical appliances, lack of repairs, poor vision, bad posture, stress, wrong use of chemicals and noise. The data revealed that all these factors constituted to accident in clothing construction laboratory. The findings are in line with Adamtay, (2009) who pointed out that the risk of accidents arises from the possibility of slipping on wet slippery floors, being knocked or crushed, or putting a muscle by handling heavy loads. According to Nordas (2003) knitting machines must be equipped with differentiated controls, photo electrical cells and emergency buttons.

Carelessness, forgetfulness, laziness fatigue and lack of concentration are human factors that cause accidents. The findings are in line with Adamtey, (2009) who pointed out that human factors are the way in which we behave at work. This according to Boone and Kurtz (1991) has massive impact on the health and safety of ourselves, those working near us and any customer we serve. Boone and Kurtz (1991) also pointed out that physical and mental state of a person can be critical in the way that they perform at work, the way in which a task is approached can change due to stress and anxiety. It can be difficult to focus and concentrate when suffering from stress.

Table 2 of the study revealed various ways of enhancing safety in clothing laboratory. Notable among these are putting on protective garments and articles when handling chemicals, and providing safety policy for the users of clothing laboratory to back them up in case of any possible risk occurrence. The findings are in line with utility guide at work place (2012) which emphasizes "zero" risk in the work place by improving the work

environment and assisting towards employee's health, continuously reducing risks by evaluating risks arising from hazards, setting objectives and making efforts to minimize risks within the scope of activities. The study also revealed keeping away unwanted tools and equipment from working surface, use of correct tools for appropriate jobs and repairing all electrical appliances as ways of enhancing safety. According to Nwachukwu (2001), putting off electrical appliances when not in use, covering the nose with mask while mixing chemicals, finding out the causes of unusual noise or signs on machine before they get damaged and keeping the work place tidy are ways of enhancing safety in clothing laboratory. These conform with Nwachukwu (2001) who stated that all safety precautions must be in place in clothing laboratory. These include both safety of machines, tools, equipment and human beings handling these machines. On provision of safety policy for the employee to back them up in case of any risk occurrence; Regular maintenance on machine and equipment should be carried out to ensure its workability. This is supported by the opinion of National Safety Council (2014) which states that the journey to safety excellence is a process of continuous improvement and maintenance. Ile (2002) opined that employees at times face some risks in their place of work and they need safety policy that will back them up in case of any risk occurrences. He stated that it is the duty of employers of labour to provide safety policy to the employees. Also Adamtey (2009) recommended that windows should be large enough and not too high. Artificial lightening must be in place to give adequate light over all working positions. There should also be good source of light, preferably fluorescent bulbs should be in place in order to prevent accidents.

On the use of protective garments and articles, Ile (2002) suggested that employers must provide staff with personal protective equipment, when their role involves working in situations or with substances where personal protective equipment are needed. An employee must also report any fault or defects on the personal protective equipment to the employer.

Conclusion

The study has investigated safety enhancement in fashion design and clothing construction laboratory in Anambra State. It is obvious from the study that a lot of factors are responsible for causing accident in clothing construction laboratory in Anambra State. It is also important that strategies for safety enhancement are put in place for the good of those working in clothing laboratory. This will go a long way in promoting the physical and mental wellbeing of workers in clothing laboratory.

Recommendations

Based on the findings of this study, the researcher made the following recommendations for safety enhancement in fashion design and clothing construction laboratory.

- Manufacturer's instructions should be followed carefully while handling chemicals and personal protective equipment to be used as required to prevent injury through direct contact or inhalation.
- Knitting machines must be equipped with differentiated controls, photo electric cells and emergency buttons.

- Safety policy should be provided for the users of clothing construction laboratory to back them up in case of any risk occurrence.
- Unwanted equipment should be kept away from working surface while correct tools for appropriate jobs should be used.
- All electrical appliances must be repaired and electrical appliances put off when not in use.
- Staff and students should be trained on the appropriate use of machines.

References

Iyare, F.O. (2000). Teaching Home Economics in Contemporary Times. *A Practical Perspective Journal of Educational Systems Research and Development* 4:2.35-36.

Kadoplh, S.T. (1998).*Quality Assurance for Textile and Apparel*. New York: Fair Child.

Anyakaoha, E.U and Eluwa, M. (1995). *Home Management for School and Colleges*. Onitsha Africana FEB Publisher Limited PP 15-18.

Nwachukwu T.E. (2001). *Designing Appropriate Methodology in Vocational and Technical Education for Nigeria* Nsukka. Fulladu Publishing Company PP 118-119.

Boone, L.E. and Kurtz, D.L. (1991). *Principles of Management*. New York Random House Inc.

Obodo, N.A. (2001). *Modern Approach to Office Administration and Management.* Nikal Printing and Publishing Co. Enugu.

Ile, M. (2002). *Fundamentals of Management:* Theories Practice. Chiezugo Ventures. Enugu.

Okorie, J.U. (2000). *Development Nigerians Work Force*. Calaba MCNKY Environ Publishers PP 83-85.

National Safety Council (2014). Retrieved on 15/3/2014 from www.nsc.org/safety-workpages/home.aspx.

Alpine Electronic Incorporation (2013). *Work Place Enhancement* Retrieved on 15/3/2014 from http/www.alpine.com/e/esr/ Individuality Health.

Environmental Health and Safety Incorporation (2013). *Environments Health and Safety*. Retrieved on 15/3/2014 from http.www.ucop.edu/risk-services/Loss Prevention-Control.

Biesse (2013). *Continuous Safety Enhancement in the Work Place*. Retrieved on 15/3/2014 from http/www.biesse.com/en/ corporate. The Company/Quality-and-Sustainability.

Bambuka, E.A. and Singh N. (2002). *Environment and Health Education for Sustainable Development in Nigeria.* A paper presented at National Conference Organization by the School of Science, College of Education, Jalingo, from 29th – 30th October, 2002.

Utility Guide at work place 2012 *Utility Guide at work place.* Retrieved on 15/3/2014 from www.gloveguard.com.

Adamtey, S.O. (2009). *Fashion design, Pattern drafting and adaptation.* Sika Futoro Enterprise Akropong: Ghana.

Nordas, H.K. (2003) *The Global Textile and clothing industry*. Post the agreement on Textile and Clothing. Retrieved on 15/3/2014 from http:www.wto.org/English /res-e/booksp-e/discussionpaper.