Competencies Needed by Clothing Laboratory Assistants of Tertiary Institutions in the South-East Zone

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

and

Igbo C.A
Department of Home Economics
University of Nigeria, Nsukka

Abstract

This study investigated the competencies needed by clothing laboratory assistants of tertiary institutions in South East Nigeria. Three research questions were answered. It was a survey. The population for the study was 45 clothing laboratory assistants in tertiary institutions in the area. Instrument used for data collection was questionnaire. Data were analysed using mean. Major findings include that clothing laboratory assistants required skills in all the 29 areas identified. It was recommended that government and administrators of tertiary institutions offering clothing and textile courses should organize seminars and workshop for clothing laboratory assistants in order to build their capacity for effective performance on the job.

Key words: Competencies, clothing, laboratory, assistants, tertiary institutions.

Introduction

Competency is a set of related behaviours that impact job performance which can be measured against established standard and can be improved through training and development (Wise, 2007). Experience has shown that knowledge, skill and attitudes are generally needed by clothing laboratory assistants to carry out their job in the laboratory effectively. A competent Clothing laboratory assistant is one who possesses the knowledge and skill to carry out clothing related task. Competency can be divided into two major categories which include work based competencies which involving job specific characteristic skills and abilities such as fluency at work with job package.

Competency is a standardized requirement for an individual to properly perform a specific job/task. Lab rules (2015) described competency as the ability to do something well, measured against a standard ability acquired through experience or training. Competency comprises of knowledge/ known how required for job occupation, skills in the application of knowledge successfully in one's sphere of work in order to accomplish occupational roles. (Okoro 2006) it is also the abilities of powers and authority of skills, knowledge, attitudes that are needed to accomplish tasks (Achilike and Okwuanaso 2004).

Competency is the ability of an individual to do a job properly. It is a set of defined behavior that provide a structured guide enabling the identification, evaluation and development of the behaviours in individual employee. (Mc Clelland 2010). It is also what people need to be successful in their job. It includes all the related knowledge, skills, abilities and attribute that forms a person's job. A need is something that is required or wanted. It is a circumstance in which something is necessary. Something that is essential and very important rather than just desirable.

A laboratory is a room or a building equipped for scientific experimentation, research, testing or manufacture of drugs and chemicals. Clothing laboratory is a room where equipment for sewing are kept, where drafting of pattern, clothing construction, mixing of chemicals for

tye & dye production takes place. A laboratory is a facility that provides controlled conditions in which scientific or technological research, experiment and measurement may be performed (Pearce 2014).

Clothing laboratory is a place where equipment for sewing are kept, where drafting of patterns, clothing constructions, mixing of chemicals for tye and dye production take place (Adampty 2009). Clothing laboratory is a hand-on space where students engage in different methods of apparel construction fitting and visual analysis lab rules. The clothing laboratory is equipped to provide students with adequate space and equipment similar to that which would be in sample room for major apparel manufacturing companies lab rules.

Facilities available in the clothing laboratory according to Uzozie, Ezike, Bob - Eze (2014) covered every aspect of manufacture from cutting, to making up of garment. The facilities range from cutting, pressing, fusing equipment to advanced machines such as auto-feed buttons etc. laboratory facilities according to Pearce (2014) refers to equipment and tools used by scientist working in a laboratory. They are usually used to perform an experiment or to take measurement and gather data.

Facilities available in the clothing laboratory according to Okeakwa (2011) include the following work table, full length mirror, ironing and sleeve board, iron, pressing cloth, sewing machine, storage place, dress stand, scissors, tape measure, pins,

needle etc. Many jobs are carried out in the clothing laboratory such as cutting of fabric, pattern drafting, sewing of garment, ironing of clothes, mixing of chemicals for tye and dye, storage of sewing tools and equipment etc.

A laboratory assistant is a person who performs the practical hand-on work in laboratory. The main duties include using the laboratory, cleaning and maintaining various types of equipment and tools, handling and storing chemicals, and other materials (Answers Cooperation 2013).

Clothing Laboratory assistants are those employees who work in a clothing laboratory in an institution of higher learning and other clothing outfit. Their major job is to maintain and carryout simple repairs on laboratory equipment. They also help both lecturers and students in practical works and other jobs that might be assigned to him/her.

Laboratory assistants are individuals who serve, assist or work in a laboratory room for scientific work. Their job is to monitor disruption of any kind and proper functioning of the laboratory equipment, keeping the laboratory clean, honour reasonable request about operations of the laboratory and conduct minor repairs. In the absence of laboratory personnel, the science teacher will be everything, thus the lesson is eroded, student's practical work is replaced by demonstration, expensive and available apparatus are under utilized or left idle to pick dust for want of use and maintenance.

Their jobs in the clothing laboratory according to Kadolph (1998) include, maintenance of laboratory, strictly monitor access to the laboratory, monitor the laboratory, keeping an eye out for theft and vandalism etc. The job of laboratory assistants is such that it bridges the gap between theory and practice as they compliment the efforts of the lecturers (Njoku 1994). A well trained and effective laboratory assistant according to Njoku (1994) is of immense help to the teacher, for he or she takes a great load of work off the teacher by helping to organize practical classes, service and supervise equipment and materials. This he said allows the teacher time to prepare lesson and be more available to the learner. The responsibility of laboratory personnel are so great and if properly discharged will lead to improved effectiveness of teaching. Arubayi (2014) asserted that clothing and textiles is characteristically skill and activity oriented which when properly taught with relevant tools and equipment will equip the learner with saleable skills needed for self reliance. Clothing laboratory assistants when properly equipped with these skills can be of immense help to both the students and teachers as they help in organizing materials and equipments for practicals. Nwazor (2012) stated that for Nigeria to achieve the millennium Development goals, capacity building of students, through adequate skill acquisition in various fields of study especially in clothing textile, there is need for skill acquisition. This can also apply to

clothing laboratory assistants of tertiary institutions. The job of clothing laboratory assistants in tertiary institutions according to Emeka-Okafor (2013) include:

❖ Seeing that the laboratory is kept clean
❖ Taking inventory of all items under their care, checking tools and equipment
❖ Getting tools and equipment ready for practical lessons
❖ Promote safety standards of the laboratory
❖ Repair equipment if the need arises.
❖ Set up equipment and ensure that they will work before the lesson starts
❖ Supplying materials to students during practical lessons
❖ Helping students with private problems on equipment handling
❖ Labeling of items/substances and keeping them in order
❖ Keeping records of loaned items and reporting breakages or damages of items.
❖ Reporting breakages or damaged items.
❖ Arrive on time and open the laboratory to ensure its cleanliness
❖ Maintains a register for entry of students and has to be careful when practical are being conducted
❖ Make sure students do not carry any eatables inside the laboratory
❖ Has to keep record for the laboratory supply

❖ Has to shut down all running systems and switch off lights whenever not in use.
❖ Should educate students to keep the laboratory neat and clean maintain standards

However, the competencies they need to carry out their job effectively according to Njoku (1994) include competency in operation of modern sewing machine, repairs of machine, maintenance of machine, clothing maintenance, mixing and application of dye etc. Care and maintenance of clothing laboratory can be defined as the daily and periodic care of the laboratory and equipment in the laboratory and equipment in the laboratory that helps to extend their life span. Care and maintenance include daily cleaning, removing of cobwebs, cleaning the drawers, dusting the tables machines, cleaning to mirrors.

As the clothing laboratory assistants are equipped with identified skills or competences, they will help students during practical classes. One of the objective of teaching and learning skill oriented courses like clothing and textile in institutions is to inculcate skills into students which will eventually help them to earn a living on graduation. Laboratory assistants are charged with the responsibility of manning clothing laboratory equipment and they play an active part in the teaching and learning process by helping students in practical classes. Some of the clothing laboratory assistants are at

lost on the requirements of their job in the clothing laboratory. This situation may have negative influence on their job performance. This situation is even made more complex as new technologies in many cases have replaced some of the obsolete clothing equipment and machines that these clothing laboratory assistants need to be equipped with adequate skills or competency to handle new machines and equipment. The job of laboratory assistance is such that it bridges the gap between theory and practice as they compliment the efforts of the lecturers. There is need for clothing laboratory assistants to know how o repair some minor faults in clothing machines especially with the new technologies. Presently, minor faults in these machines and equipment hinder performance especially when laboratory technicians are not readily available. The acquisition of technical skills will enhance maximum efficient performance of laboratory assistants.

Osinem and Nworji (2005) stated that some people in particular job or occupation lack the necessary required skill to carry out specific task. As education is dynamic, laboratory assistants may not have been exposed during their formal education to have the necessary skill and competences to handle modern laboratory equipment and carry other functions that may be assigned to them. There is need for clothing laboratory assistance to be competent in the identified competent in the identified competent in the identified competencies to cope with the institutional requirements especially in tertiary institution like Universities, Colleges of education, polytechnics and other industrial out fits where their services are needed.

Purpose of the Study

The major purpose of the study was to evolve the competencies needed by clothing laboratory assistants of tertiary institutions in the South-East zones. Specifically, this study determined the:

❖ Skills needed by clothing laboratory assistants of tertiary institutions in the South East for care and maintenance of laboratory facilities.

❖ Skills needed for assisting lecturers/ instructors

❖ Skills needed for assisting students during practicals.

Research Questions

1. What are the skills needed by clothing laboratory assistants in the South-East zones in care and maintenance of clothing laboratory facilities.

2. What are the skills needed for assisting lecturer's instruction

3. What are the skills needed for assisting students during practicals.

Methodology

Design of Study: The study adopted a survey research design.

Area of Study: Area of the study was South East of Nigeria. The study was carried out in institutions of higher learning in South East Nigeria. The study covered ten tertiary institutions

which offer Home Economics, clothing and textile, Fashion design and Clothing technology. The institutions include University of Nigeria Nsukka, Federal College of Education, Ehamufu, State College of Education (Technical) Enugu, Federal Polytechnic Oko, Federal College of Education (Technical) Umunze, Nwafor Orizu College of Education Nsugbe, Ebonyi State University Abakaliki, Alvan Ikoku College of Education, Owerri, Federal University of Agriculture Umudike, Institute of Management and Technology (IMT) Enugu.

Population for the Study: The population for the study was 45 clothing laboratory assistants in three colleges of Education, two polytechnics and five universities in the zone. The whole population was used for the study because of the manageable size, therefore, there was no sampling for the study. Most of these laboratory assistants are school certificate holders, National Diploma in Fashion design and Higher National Diploma in Fashion design and clothing technology.

Instrument for Data Collection: Questionnaire was used for data collection. It was develop based on literature review and the purposes of the study. The questionnaire was divided into two parts. Part one contained three items designed to seek background information about the respondents. The second part was divided into two sections.

This section consisted of 27 items based on literature review. The questions sought information on competencies needed by clothing laboratory assistants in the institutions of higher learning in South East Nigeria. The response options were based on a 4-point rating scale. It was validated by three experts in related fields.

Method of Data Collection: Forty five copies of questionnaire were distributed by hand to the respondents, with the help of two assistants. The 45 copies were all retrieved. This gave 100% return rate.

Method of Data Analysis: The data were analysed using mean to answer the research questions. The mean scores were used to determine the perceived importance level expressed on a 4-point scale for each of the item. A mean rating of 2.50 was used for decision making.

Findings
The study identified the following:
15 skills needed by clothing laboratory assistants in the South East zones in care and maintenance.
Six skills needed by clothing assistants for helping lectures/ instructors and
Five skills needed by clothing laboratory assistants for helping students.

Table 1: Mean responses on skills needed by clothing laboratory assistants of tertiary institutions in the South East zones, for care and maintenance of laboratory facilities.

S/N	Laboratory facilities related skills	Mean	Remark
1.	Repairs of Sewing machines	2.65	Needed
2.	Operation of sewing machine	2.72	Needed
3.	Oiling of sewing machine	3.07	Needed
4.	Regulating of tension	2.75	Needed
5.	Activating sewing machine	2.68	Needed
6.	Replacement of needles	3.03	Needed
7.	Cleaning of Laboratory and sewing Equipment	3.05	Needed
8.	Storage of equipment and tools	2.79	"
9.	Arrangement of seats in the laboratory	2.67	"
10.	Security of equipment in the laboratory	2.79	"
11.	They put back all the equipment and tools used after practicals	2.57	"
12.	Proper monitoring of laboratory	2.75	"
13.	Proper inventory of equipment and tools in the laboratory	2.85	"
14.	They promote safety in the laboratory	2.67	Needed
15.	Arrangement of machines and tools in the laboratory	2.87	"

Table I shows that all the items (skills) have means ranging from 2.60 to 3.05. This shows that the mean value of each item was above the cut-off of 2.50. This means that clothing laboratory assistants required all the 15 skills in order to care and maintain laboratory facilities.

Table 2: Mean responses on skills needed by clothing assistants for helping lecturers/instructors.

S/N	Skills needed for helping lecturers/instructors	Mean	Remark
1.	Getting tools and equipment ready for practical lessons	3.02	Needed
2.	Labelling of items/substance and keeping them in order for teachers use.	2.72	"
3.	Helping lectures to prepare chemicals for practical	2.67	"
4.	Set up equipment and ensure that they work before lesson starts	3.01	"
5.	Improvise equipment and materials required by lectures	2.50	"
6.	Help lectures to supervise students during practical Lessons	2.80	"

Table 2 reveals that all the items (skills) are needed by clothing laboratory assistants in assisting lecturers/ instructors. However the item with the lowest mean of (2.50) deals with improvisation. The table also shows that clothing laboratory assistants are of the opinion that getting tools and equipment ready for practical lessons are skills needed with the highest mean score of 3.02.

Table 3: Mean Responses on Skills Needed for Helping Students**.**

S/N	Skills needed for helping students	Mean	Remark
1.	Supplying materials to students during practical lesson	2.72	Needed
2.	Helping students with private problems on equipment handling.	2.68	Needed
3.	Teaching students on how to pedal sewing machine	2.52	Needed
4.	They ensure that students adhere to safety rules in new the laboratory.	2.62	Needed
5.	Helping students on private problems on the practice clothing and fabric construction	2.55	Needed

Table 3 shows that all items were agreed upon as needed by clothing laboratory assistants in assisting students with item 1 having the highest mean.

Discussion of Findings
The study shows competencies needed by clothing laboratory assistants of tertiary institution in the South East zones. The findings of this study revel that clothing laboratory assistants of tertiary institutions in the south East zones needed skills in repairs of sewing machines, operation of sewing machines, oiling of sewing machines, regulating of tension, activating of sewing machine, replacement of needles, cleaning of laboratory and sewing equipment, storage of equipment and tools, arrangement of seats in the clothing laboratory, security of equipment in the laboratory, proper monitoring of laboratory proper inventory of equipment and tools in the clothing laboratory; and arrangement of tools and machine in the laboratory.

These findings were in agreement with the opinion of Wise (2007) who said that for effective performance of clothing laboratory assistants they should posses skills in the operation of sewing machines, maintenance of laboratory and laboratory equipment. Clothing laboratory assistants should be skilled in proper maintenance of sewing equipment. This is in line with the opinion of Anyakoha (2006) who said that sewing machines and other

tools for sewing must be carefully handled and maintained to prolong their life span. The findings were also in agreement with the opinion of Okafor (2001) who opined that school laboratory and equipment needed skilled and careful maintenance which science teacher may not be able to offer. She said that the responsibilities of the clothing laboratory personnel are so great and if properly discharged will lead to effectiveness of science teaching.

Findings revealed that clothing laboratory assistants need competences in helping lectures and instructors such as getting tools and equipment ready for practical, labeling of items/substance and keeping them in order for the lecturer, helping lecturers/instructors to prepare chemicals for practicals, setting up equipment and ensure that they work before lesson starts, improvise equipment and materials required by lecturers and helping lecturers/instructors to supervise students during practical lessons. This is in line with the opinion of (Lab rules 2015) which says that laboratory assistants prepare laboratory in advance before the lesson starts. They perform this duty by reading the experimental procedure and any additional information given by the lecture or instructor.

Findings showed that clothing laboratory assistants needed competences in assisting students such as supplying materials to students during practical lessons, helping students with private problems, on equipment handling, teaching students on how to pedal sewing machines, ensuring that students adhere to safety rules helping students on proper threading of the sewing machine and finally helping students on private problems on clothing construction and fabric construction (Lab rules 2015) asserted that laboratory assistants show the students how to use some of the equipment and tools used in the laboratory. They ensure that students adhere to safety rules in the laboratory. Laboratory assistants works in a laboratory and as the name depicts, he is responsible for assisting in various tasks that are conducted in a laboratory, (Job description 2010). This person is appointed to work in the schools, colleges and other educational institutions. He is concerned with taking care of laboratory materials and to keep chemicals and other substance out of reach of students as well as help students in their practicals.

Conclusion
Fifteen (15) skills were needed by clothing laboratory assistants in the South East zone for care and maintenance of laboratory facilities. Six (6) skills were needed by clothing laboratory assistants for helping lecturers/instructors while six (6) skills were needed by clothing laboratory assistant for helping students.

Recommendations

Based on the findings of this study, the following recommendations were made

1. Newly employed clothing Laboratory assistants should be trained using identified skills in clothing and textile.
2. Qualified clothing Laboratory assistants should be employed to work in clothing and textile section/department of the tertiary institutions.
3. All the clothing Laboratory assistants in tertiary institutions offering clothing and textile should be re-trained or sent for further training based on the findings of the study.
4. Government and administrators of tertiary institutions offering clothing and textile should organize seminars and workshop for clothing Laboratory assistants in order to build their capacity for effective performance on the job.

References

Achilike, A.N. & Okwanaso, S.L. (2004) Competencies Expected of National Diploma Accounting Graduates of Polytechnics, as perceived by Employers of Labour. *Journal of Business and Office Education 1(2)* 43.

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

Anene – Okeakwa, J.E. (2011) *Textiles and Clothing Construction*. Benin city: Ambik press.

Answers Co-operation (2013) Workplace. Retrieved on 8/08/2015 from http/www.ecohs.ca/osh

Anyakoha, E.U. (2006) *Practical Tips for Economic Empowerment and survival* Nsukka AP Express.

Arubayi, D.O. (2014) *The place of funding in the teaching of Home Economics programme in Nigeria. American Journal of Food Science and Nutrition Research* 1(1) 7 – 11.

Chuta, C.R. (1992). *Comparative Assessment of the Training Needs of Senior Agricultural Extension*. Department of Agricultural Extension. University of Nigeria Nsukka.

David Mc Clelland (2010). Work Force. Retrieved on 8/8/2015 from www.hr.wa.gov.Dataandplanning

Emeka-Okafor, E.N. (2013), In service Training Needs of Clothing Laboratory Assistants of Tertiary Institutions in South-East Nigeria. M.ed. thesis, U.N.N.

Job description (2010) Retrieved from http://www.samplejobdescription.org lab-assistants on 10/7/2015.

Kadolph, S.T. (1998). *Quality Assurance for Textile and Apparel*. New York. Fair child.

Lab Rules (2015) http//ecenter.masstate edu/maker/index.php. Retrieved on 8/08/2015.

Njoku, S.N. (1994) *Development of Self Evaluation Instrument for Basic Clothing Construction Techniques for tertiary Institutions in Enugu Stat*e. An unpublished M.Ed. Thesis, Department of Vocational Teacher Education, University of Nigeria, Nsukka.

Nwazor, J.C., (2012) Capacity Building Entrepreneurship and Sustainable Development, *Journal of Emergency Trends in Educational Research and Policy Studies (JETERAPS) 3(1) 5*1

Ogwo, K. (2002). *Management in Nigeria* Ibadan: Macmillan Nigeria publishers Limited.

Okafor, L.N. (2001) *Clothing and Textile for Schools and Colleges*. Enugu Strong Tower publisher.

Okoro, F.N. (2006) Entrepreneurial Competencies Needed by Business Education Students for Self reliance. Imperative for curriculum Development. HERAN pg. 152.

Osinem, E.C. & Nworji C.U. (2005) *Students Industrial Work Experience in Nigeria Concepts, Principle and Practice*, Enugu. Cheston Agency Ltd.

Pearce J.M. (2014) Laboratory equipment: Cut cost with open source hardware. *Nature 505*.

Uzozie C.E., Ezike, P., Bob-Eze A. (2014). Basic Clothing Construction Processes. Awka. Fab. Anieh Nigeria Ltd.

Wise (2007). *Using a competency based Approach: Linking core competencies to your business strategy*. Retrieved January 2010 from http:/www. thinkwise. analem/ng.