

To cite this article: Pam G.T. and Anyakoha E.U. (2022). TECHNICAL SKILLS NEEDED BY HOME ECONOMICS TEACHERS FOR TEACHING BEAD-CRAFT IN SECONDARY SCHOOLS IN PLATEAU STATE, International Journal of Education and Social Science Research (IJESSR) 5 (6): 284-295 Article No. 721, Sub Id 1143

TECHNICAL SKILLS NEEDED BY HOME ECONOMICS TEACHERS FOR TEACHING BEAD-CRAFT IN SECONDARY SCHOOLS IN PLATEAU STATE

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DOI: <http://dx.doi.org/10.37500/IJESSR.2022.5622>

ABSTRACT

The general purpose of this study was to evolve technical skills needed by Home Economics teachers for teaching bead-craft in Junior Secondary Schools (JSS) in Plateau state. Specifically, the study determined the skills needed for designing bead-craft in JSS in Plateau State. One research question and one hypothesis guided the study. The study adopted the descriptive survey research design. It was conducted in Plateau State, The population for the study was 588 Home Economics teachers from the urban and rural JSS and 30 bead-craft experts, sample for the study was 131 Home Economics teachers and 30 bead-craft experts. Two sets of instruments were developed and used for data collection, A structured questionnaire titled Technical Designing Skills for Teaching Bead-Craft in Junior Secondary School Questionnaire (TDSTBCJSSQ) and one Focus Group Discussion guide (FGDG). The TDSTBCJSSQ and the FGDG were face validated by three Home Economists and two experts from Department of Fine and Applied Arts, all from the University of Nigeria Nsukka. Cronbach Alpha Reliability technique was used to test the internal consistency of the instrument (TDSTBCJEEQ). An overall reliability coefficient of 0.80 was obtained. Mean and Standard Deviation were used to answer the research question while t-test was used to test the hypothesis at 0.05 level of significance. The study found out that all the designing skills were needed for teaching jewelry and decorative bead-craft. These skills include sketching out simple drawing. (3.12), arranging motifs to make artistic designs (2.89), sourcing designs on the internet (3.20) among others. There was no significant difference in the mean of skills needed by Home Economics teachers in the rural junior secondary schools and those from the urban secondary schools on the 22 out of the 25 bead-craft designing skill items for effective teaching of junior secondary school students in Plateau State, whereas there were significant $P < 0.05$ difference in the mean skills needed by the two groups of respondents on the remaining items. Based on the findings of the study, recommendations were made.

KEYWORDS: Technical skills, Home Economics Teachers, Bead-craft, Junior Secondary School.

INTRODUCTION

Beads are small pieces of wood, plastic, glass, rolled paper, fired clay among others that have holes which allow strings and wires to pass through them in order to construct bead articles (Wuritka, Dung and Musa 2014). Beads are made from raw materials such as clay, paper and bamboo, textile fibers and straw. The raw materials are processed in beads by soaking, pounding, gumming, moulding, drying, firing, glazing, drilling, filing, smoothing and painting among others depending on the type of bead and medium from which the bead is made from (Balchin, 2000) Beads can be produced in different shapes, forms, colours, and sizes. The shape, colour, form and size of beads depend on what it is to be used for (Wuritka et al, 2014). For the purpose of this study, beads are tiny items made from some available raw materials processed by using the hand or some simple tools ready for production of useful items. Bead making is a craft that requires the application of skills, techniques and tools which are gotten from raw materials into fashionable items.

Bead-craft is the application of different creative and designing activities that are related to making things with one's hands. Lio (2012) stated that beads can be produced using available materials such as stones, bottle covers, clay among others. The uses of beads as stated by Miholic, (2014) include: making of educational toys, counter, musical instruments that produce sound which is used in teaching students rhymes and music, decorating items of royal regalia such as cap, crown and even used to decorate the body of dancers during cultural rural festivals and related activities. Bead products take various forms such as jewelries like necklaces, bracelets, earrings, and rings. Other bead products include hair band, table mats, wall hanger and flower vases (Geary, 2008). The skills involved in producing such articles are taught as creative activity at nursery school level, primary and junior secondary school level. These skills are taught under Home Economics as a pre-vocational subject while at the senior secondary and tertiary levels. Bead-craft is taught under clothing and textiles in Home Economics.

Craft is a piece of handwork which has some claim to beauty; it is a result of a union of the crafter's aesthetic feeling and his skill, craft has been defined by Bot, Charly and Yusuf (2013) as the act of producing objects from locally sourced materials in which skills and techniques are applied with the use of hands. Uzoagna and Ogboji (2005) described craft as one of the pre-vocational subjects taught in secondary schools which involves the use of creative skills on available raw materials to bring out useful articles such as beaded jewelries among others. Craft has several benefits. According to Amit (2014) craft offers the satisfaction of working on the whole production of an article. They also offer a relief from monotony and uniformity of mass production. Bot (2013) stated that people often turn to craft for enjoyment and recreation. Craft also serves as occupational therapy. Many hospital patients as well as the blind and bedridden take part in craft programmes. In this study, craft means the application of skills on available assorted beads to produce useful articles. Craft being skill oriented is taught under Home Economics subject area.

Home Economics is one of the pre-vocational and vocational subjects offered in junior secondary school respectively. According to Anyakoha (2014) it is a programme designed for equipping students with competencies (knowledge, skills, and attitudes) in different areas of Home Economics to enable them impact same to others, and help themselves to be self-employed. Home Economics education programme is not only taught to students in the Universities and Colleges of Education, it is also taught in secondary schools.

Secondary education in Nigeria is an educational programme offered after the completion of primary education. Federal Government of Nigeria (2004) described secondary education as the education children receive after primary education and before the tertiary stage. It provides opportunity for a child to acquire additional knowledge, skills and traits beyond the primary level. A major factor that necessitates the acquisition of secondary education in Nigeria is that the education that is provided at the primary level is insufficient for a child to acquire permanent literacy, communicative skills numeracy skills and technical skills needed for the child to function effectively in the world of work (Chinelo, 2011) secondary school education in Nigeria is divided into two phases, namely junior secondary (3years) and senior secondary school (3years). The people that teach at these levels are teachers with varying levels of qualification.

Home Economics teachers are strategic to the teaching of bead-craft in the secondary schools. Their main function is to transmit knowledge and skills to the students, according to the Teachers Registration Council of Nigeria (TRCN, 2002). A teacher is a person who possesses the capability to impart the acquired competency to learners in a given subject area. In this study, a Home Economics teacher is someone who has been trained in Home Economics education programme in the University or College of Education to enable him teach same course to students in secondary school, the teacher however is expected to possess some skills which are considered critical in the instructional delivery of his subject

Skills are anything that help a person to enhance performance in certain tasks. According to Osuola (2014), a skill refers to predetermined tasks with minimum time, energy and material resources. Skill in the context of this study is an organized sequence of action and proficiency required by Home Economics teachers for effective teaching of bead-craft. Teachers of Home Economics are expected to impart skills to the students. These skills go beyond pedagogical skills for presentation of learning content but also technical skills which are involved in the making of bead-craft. To teach bead-craft effectively to students, teachers of Home Economics education need the requisite technical skills needed for making bead articles.

Technical skill in the view of Higin in Ifeanyieze (2012) is the ability of an individual to use specialized knowledge and techniques to carry out tasks. Lee (2007) observed that technical skills are the most important factor for a successful job. To succeed in Home Economics education programme, teachers need to possess technical skills. In the context of this study, technical skill refers

to the ability the Home Economics teachers possess in teaching bead-craft effective to their students in secondary schools. Technical skills in bead-craft according to Uzoagba and Ogboji (2005) involve the ability displayed by teachers in designing bead-craft, sourcing materials for bead-craft, constructing bead-craft, finishing bead-craft and evaluating bead-craft. For the purpose of this study, bead-craft designing implies the act of sketching out a simple drawing of what is intended to be produced as a craft. The design skills can be categorized into two; Computer Aided Design (CAD) and the traditional paper design method.

The computer aided design involves the use of computer systems to assist in the creation, modification and analysis of a design. CAD software is used to increase the productivity of the designer, quality of design, improve communications through documentation and to create a data base for manufacturing. For the teacher to effectively use of the computer for teaching designing of bead-craft articles, the teacher should possess skills involve in using computer to design bead articles. Wuritka, Dung and Musa (2014) stated the skills needed for computer aided design to include, ability to use the computer, ability to use the various modeling software, visualization, spatial perception, element principles and mouse control of the computer. Bot et-al (2013) listed some skills needed for designing bead-craft articles generally to include: ability to sketch what is intended to be produced, arrange lines and shapes for designing, combine symbols and images for a desired design, scaling designs to various sizes, spacing of lines and motifs in a consistent manner. Datiri (2008) observed that before constructing any meaningful article with beads, a design needs to be drawn which serves as compass to the producer. The author mentioned some of these skills as: ability to source designs on internet, draw inspiration from nature, free hand sketch simple drawing, and contrast colours for design. Young (2012) stated that to succeed in bead assemblage, there is the need to have a design of what is expected. The author suggested that the ability to identify various shapes, measure lines and distances on paper and ability to try shapes and lines to form new shapes are needed skills for designing bead articles. Constructing bead-craft is most times influence by several factors such as school location, experience of teachers and their gender.

School location is description of the socio-economic condition of the community where a school is located. These socio-economic conditions include the availability of electricity, water supply, economic viability among others. An urban area is a location characterize by high human population density and vast human-build features in compares to the areas surrounding it. According to Ezendu, (2003) the school is seen in terms of city (urban) and less city (rural). School location says a lot about the achievement of students (Ma and Wilkins, 2002). Some studies carried out by (Onah, 2011, Owoeye, 2012) indicated that students in urban schools perform better in skill-oriented subjects than their counterparts in rural areas. However, Ezeudu 2013) and Ugwuanyi (2012) argued that school location has no significant influence on conceptual understanding among school children. Dashua, (2001) found out that the school location and the availability of craft material have significant influence on the conceptual understanding and designing skill output of students in Plateau State.

Raw materials ranging from clay, robber, assorted glasses, paper, tin, wood, bamboos and even precious stones are found in commercial quantity in the state. Nevertheless, these resources have not been fully tapped. If necessary, investment is made into teaching of bead-craft in secondary schools. This is because children at this level are teachable, zealous in learning, inquisitive, creative and hardly forget what is learned. However, the way bead-craft is taught in the secondary schools and primary schools does not impact requisite technical skills (designing). Dashua (2001) observed that teachers dwell more on the theories of bead making craft rather than teaching the practical skills involve in bead-craft. This could be the reason why secondary schools Home Economics graduates still lack a lot of technical skills especially designing skills in craft production. This may be due to lack of designing skills by the teachers to practically teach the students the making of bead-craft articles. Hence, the study sought to find out the designing skills needed by Home Economics teachers for teaching bead-craft in secondary schools in Plateau State.

PURPOSE OF THE STUDY

The general purpose of the study was to evolve the technical skills needed by Home Economics teachers for teaching bead-craft in junior secondary schools I Plateau State. Specifically, the study determines skills needed by junior secondary school Home Economics teacher

1. For designing bead-craft in junior secondary schools in Plateau State.

Research Question

The following research question guided the study:

1. What are the skills needed by Home Economics teachers for teaching bead-craft designs in junior secondary schools in Plateau State?

Hypothesis

The following null hypothesis was developed to guide the study and was tested at 0.05 level of significance.

H₀₁; there is no significant difference in the mean responses of Home Economics teachers in urban and rural junior secondary schools on the skills needed for teaching bead-craft designs in junior secondary school in Plateau State.

METHODOLOGY

Design of the Study

The descriptive survey research design was adopted for this study. The descriptive survey research design is suitable for this study since data were gathered on the designing skills needed by Home

Economics teachers for teaching bead-craft in junior secondary schools in Plateau State using the sample of Home Economics teachers to document the present status in the state.

Area of the Study

The study was carried out in Plateau State. Plateau State was selected for this study because of the potential the state has in terms of availability of raw materials for bead-craft as well as the high cultural value attached to the use of bead articles.

Population for the Study

The population for the study was made up of two groups of respondents: Home Economics teachers and bead-craft experts. The population of Home Economics teachers was 588 in all the 294 public junior secondary schools in the urban and rural areas of the state. The other group of respondents was made up of 30 bead-craft experts. Only bead-craft experts with five years' experience and above participated in Focus Group Discussion (FGD). Therefore, the entire population size for the study was 618.

Sample and Sampling Technique

The sample was made up of 131 Home Economics teachers and 30 bead-craft experts. Multi-stage sampling technique was adopted for selection of the teachers as follows: in the first stage, three local government areas (LGA) were selected from each of the three senatorial zones. This gave a total of nine LGAs. In the second stage, four schools were randomly selected from each of the nine Local Government Areas. This gave a total of 36 schools. In the third stage, the entire Home Economics teachers in each of the participating school (131) Home Economics teachers were selected because they are relatively few in number. The teachers used for the sample were teachers with academic qualification of NCE and above in Home Economics education. The teachers either male or female and with teaching experience of two years and above formed the sample size for the study. Purposive sampling was used to select 10 bead-craft experts. Male and female experts from each of the three senatorial zones making a total of 30 bead-craft experts for Focus Group Discussion (FGD) session.

Instrument for Data Collection

The data for this study were collected with two sets of instruments which include:

A structured Questionnaire and Focus Group Discussion Guide (FGDG). The questionnaire titled, Technical Skills for teaching Bead-craft in Junior secondary school Questionnaire (TSTBCJSSQ) is divided into two parts. Part one was to elicit the demographic data of the respondents while part two has one cluster organized based on the research question. Cluster A has 25 items addressing the designing skills needed for teaching bead-craft.

The response item of the questionnaire was on a set of 4 point response scale measuring the skills needed for teaching bead-craft to collect quantitative data.

Skills Needed	Limits of Red Numbers
Highly Needed (HN)	3.50-4.00
Averagely Needed (AN)	2.50-3.49
Slightly Needed (SN)	1.50-2.49
Not Needed (NN)	1.00-1.49

The focus group discussion guide was developed based on the specific purpose of the study. The guide was centered on the point that bothers on the designing skills needed by the Home Economics teachers for teaching bead-craft in junior secondary schools. This was to collect qualitative data.

Method of Data Collection

The copies of administered questionnaire were completed on the spot and in the case where it was not possible, a return visit was made by the research assistants. Out of the total 131 copies of the questionnaire administered, 131 copies were completely filled and retrieved representing 100% rate of return.

A total of three sessions were organized, one in each of the three senatorial zones of the state. Ten discussants each comprising of two male participants in each of the northern and central zones, while the southern zone also had ten participants comprising of all females the FGD was moderated by the researcher with the assistance of a minute recorder. The discussion was guided by some set of questions on issues relating to technical skills needed by Home Economics teachers for teaching of bead-craft in the junior secondary school. Notes were taken by the researcher who was the moderator in each of the discussions which lasted for 40minutes each.

Method of Data Analysis

The data collected were computed based on the research question and hypothesis. Mean and standard, deviations were used for answering the research question while t-test statistics was used for testing the hypothesis at 0.05 level of significance. The mean was interpreted based on the real limit of numbers.

<u>Response Category</u>	<u>Ordinary Scale</u>	<u>Real limit</u>
Highly Needed [HN]	5	3.50-4.00
Averagely Needed [AN]	4	2.50-3.49
Slightly Needed [SN]	3	1.50-2.49
Not Needed [NN]	2	1.00-1.49

Decision rule of 2.50 was used to indicate if a skill was needed. Items with mean of 2.50 and above were accepted as needed while below 2.50 were said to be not needed.

The hypothesis was tested using t-test statistic. The null hypothesis of no significant difference was accepted for items whose p-values (sig) was greater than 0.05 level of significance. On the other hand, the hypothesis of no significant difference was rejected for items whose p-values (sig) was less than 0.05 level of significance.

FINDINGS OF THE STUDY

The following findings were made according to the research question answered and hypothesis tested for the study. Findings on this are summarized in Table 1.

Table 1: Mean Response and t-test analysis on Designing Skills Needed by Home Economics Teachers in Urban and Rural Schools for Teaching Bead-Craft

SN	Designing skills of Jewelry bead craft	Urban Trs (n = 71)		Rural Trs (n = 60)		\bar{X}_G	t-value	Rmks
		\bar{X}_U	SD _U	\bar{X}_R	SD _R			
1	Sketch out a simple drawing	3.16	0.61	3.08	0.60	3.12	0.44	N
2	Sketch design of beads	3.19	0.51	3.33	0.53	3.26	0.03*	N
3	Arrange lines and shapes for designing	2.65	0.77	2.80	0.70	2.73	0.24	N
4	Arrange motifs to make artistic designs	2.93	0.77	2.84	0.76	2.89	0.51	N
5	Combine symbols & images for a desired design	3.45	0.62	3.64	0.53	3.55	0.04*	N
6	Identify various shapes	3.08	0.59	3.14	0.48	3.11	0.54	N
7	Measure lines and distances on paper	3.05	0.74	3.11	0.70	3.08	0.62	N
8	Scale designs to various sizes	2.81	0.43	2.76	0.54	2.79	0.52	N
9	Space lines and motifs in a consistent manner	3.38	0.49	3.40	0.49	3.39	0.77	N
10	Explore new designs	3.00	0.95	3.07	1.05	3.04	0.69	N
11	Source designs on the internet	3.58	0.64	3.57	0.57	3.58	0.95	N
Designing skills of bead craft for decoration								
12	Draw inspiration from nature	3.13	0.76	2.95	0.76	3.04	0.19	N
13	Free hand sketch simple drawing	3.15	0.48	3.16	0.47	3.16	0.82	N
14	Combine colours properly	3.58	0.74	3.38	0.81	3.48	0.14	N
15	Contrast colours for designing	2.63	0.78	2.69	0.83	2.66	0.69	N

16	Space lines and motifs in a consistent manner	2.73	0.84	2.92	0.86	2.83	0.19	N
17	Try shapes and lines (experimentation) to form new shapes	3.41	0.59	3.46	0.58	3.44	0.64	N
18	Arrange lines and shapes for designing	2.98	0.67	3.00	0.79	2.99	0.89	N
19	Arrange motifs to make artistic designs	3.10	0.68	3.14	0.56	3.12	0.70	N
20	Combine symbols& images for a desired design	3.33	0.47	3.36	0.48	3.35	0.69	N
21	Identify various shapes	3.50	0.59	3.46	0.58	3.48	0.73	N
22	Measure lines and distances on paper	3.06	0.82	2.90	0.75	2.98	0.23	N
23	Scale designs to various sizes	2.90	0.81	2.69	0.80	2.80	0.15	N
24	Specify purpose of the desired articles	2.98	0.83	2.91	0.78	2.95	0.63	N
25	Source designs on the internet	3.31	0.59	3.09	0.70	3.20	0.03*	N

Note: *Level of Sig.* = 0.05; * = Significant; N = Needed; NN = Not Needed; X_U = Mean Urban; X_R = Mean Rural; X_G = Grand mean

Table 1 shows the mean and standard deviations for the skills needed for the designing of jewelry and decorative bead- crafts. It also shows the t-test analysis for testing hypothesis 1. From the table, each of the items for designing skills has a grand mean (XG) above the benchmark of 2.50. This shows that the designing skill items are all needed. The mean scores for the urban teachers (XU) ranged from 2.65 to 3.58, while those of rural teachers (XR) ranged from 2.69 to 3.57. This further showed that these skills are needed both in the urban and in the rural.

Table 1 also shows the t-test scores of urban and rural teachers on the designing skills needed for teaching bead-craft. The analysis shows that 22 out of the 25 identified bead designing skills had their t-values ranged from 0.14 to 0.95 which are all greater than 0.05 level of significance. This indicates that there were no significant differences in the bead designing skills needed by Home Economics teachers in urban and rural areas in the 22 designing skills. The t-values of the remaining three bead designing skills, specifically items 2, 5 and 25 were however 0.03, 0.04 and 0.03 respectively which are all less than 0.05 level of significance. Thus, there were significant differences in the mean of designing skills needed by Home Economics teachers in urban and rural areas on those three beads designing skills.

From the Focus Group Discussion (FGD), it was also found that the following designing skills are needed by Home Economics teachers for teaching bead-craft in both urban and rural junior secondary schools in Plateau State:

1. Sketch out a simple drawing
2. Arrange motifs to make artistic designs
3. Measure lines and distances on paper
4. Scale designs to various sizes
5. Space lines and motifs in a consistent manner
6. Arrange lines and shapes for designing
7. Combine symbols and images for a desired design

8. Sketch designs on graph sheet
9. Estimate the number of beads on graph sheet
10. Sketch repeatedly until design is ensured
11. Inspire design from nature
12. Modify designs from bead-craft books and users of beaded articles
13. Get concept from browsed materials
14. Ability to use computer to design

DISCUSSION OF THE FINDINGS

Designing Skills Needed by Home Economics Teachers for Teaching Bead Craft

Findings on research question one showed that Home Economics teachers need the entire bead designing skills for effective teaching of bead-craft to secondary school students in Plateau State. Some of the designing skills where the teachers needed improvement include: sketching out a simple drawing, sketching design of beads, arranging lines and shapes for designing, arranging motifs to make artistic designs, identifying various shapes, measuring lines and distances on paper, scaling designs to various sizes, drawing inspiration from nature, free hand sketch of simple drawing, contrasting colours for designing, spacing lines and motifs in a consistent manner and arranging lines and shapes for designing among others.

The findings of this study agreed with that of Wurtika, Dung and Musa (2014) who reported that skills needed for bead designs include, ability to use the computer, ability to use the various modeling software, visualization, spatial perception, elements, principles and mouse control of the computer. Similarly, the findings of this study corroborated with that of Bot et al (2013) who identified the skills needed for designing bead-craft articles generally to include: ability to sketch what is intended to be produced, arrange lines and shapes for designing, combine symbols and images for a desired design, scaling designs to various sizes spacing of lines and motifs in a consistent manner. Okoye (2007) studied technical skills required by Home Economics teachers in secondary schools and found out that teachers were not qualified to teach the subject and they required skills in food preparation, home decoration, consumer education, construction of fabrics, crocheting, braiding, garment construction, wearing and so on. Some of the factors militating against the use of technical skills include poor qualifications, lack of laboratory facilities, equipment and fund. Ways of improving the technical skills of the Home Economics teachers include; organizing workshops, seminar, in service training and provision of facilities/equipment.

CONCLUSION

Plateau State is abundantly endowed with raw materials needed for bead-craft. Beads are worn for events and constitute essential accessories in traditional weddings or ceremonies. It is worthwhile to state that despite the abundance of the material resource base of bead-craft in the state, the resources have not been fully tapped. For instance, the way bead-craft is taught in the secondary schools in the state does not impact requisite technical skills for equipping the students for sustainable livelihood in

bead making. Craft, being a skill oriented aspect of Home Economics is mostly taught theoretically by teachers who dwell more on the theories of bead making craft rather than teaching students the practical skills involved in bead-craft. This could be the reason why secondary school Home Economics graduates still lack a lot of essential technical skills in craft productions especially bead-craft. This may be due to lack of technical skills by the teachers to practically teach the making of bead-craft articles to students to learn the technical step by step skills needed for bead-craft making. It was based on this background that this study was carried out to investigate the technical skills needed by Home Economics teachers for teaching bead-craft in our junior secondary school in Plateau State of Nigeria. To achieve purpose, the opinion of Home Economics teachers and experts in bead-craft were sought using a well-structured questionnaire. Based on the data collected and analyzed, the study identified 21 bead designing skills where Home Economics teachers in secondary schools in Plateau State needed for effective teaching of bead-craft to students.

RECOMMENDATIONS

Based on the findings, the following recommendations were made:

1. The Home Economics teachers in junior secondary schools should utilize the findings of this study to seek for avenues to improve themselves through training programs such as workshops, seminars and conferences.
2. Secondary schools principals in Plateau State should help and encourage Home Economics teachers in their schools to seek for sponsorship in the area where they can get retrained in technical skills in bead-craft for effective teaching of students.

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