



Upskilling of Upholstery Making Skills (Padding and Fabric Covering) Among Technical College Students for Job Creation in Akwa Ibom State, Nigeria

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Abstract: Upholstery making is the art of producing functional cushioned for homes and offices. Upholstery making involves the skills in: upholstery design, hand tools handling, car-case construction, and webbing, cording, padding and covering with fabric. The main purpose of the study was to upskill the upholstery making skills of technical college students for job creation. Specifically, the study was poised to determine the upholstery padding skills need of technical college students for job creation, and the fabric covering skills need of technical college students for job creation. Two research questions and two null hypotheses were formulated to guide the study. Descriptive survey design was employed for the study. The population of study was 86 respondents. The study purposively used the total population as the size was manageable. A 82-item questionnaire was developed and used for the study. The instrument was face validated by three experts from the technical unit of the Department of Vocational Education, University of Uyo, Uyo. The reliability co-efficient of 0.82 was obtained which ensured its internal consistency. Mean was used to answer the research questions while t-test was used to test the null hypotheses at 0.05 alpha level. The result revealed that upholstery padding and fabric covering skills were required for job creation. It was concluded that the students need upskilling on these skills to be able to create jobs after graduation. Hence, it was recommended that technical college teachers should guide upholstery making students to upskill their competencies in upholstery padding and covering skills by exposing them to practical classes as well as work experiences while in school.

Keywords: Technical College, Padding, Fabric Covering, Job Creation, Upholstery Making, Upskilling

1. Introduction

Technical colleges are institutions of learning at the secondary level of Nigeria educational system.[1, 6]. Technical college students are taught to acquire knowledge, skills and attitude in occupational areas such as carpentry and Joinery, Furniture and upholstery making, block-laying and concreting, plumbing and pipe-fitting, electrical/electronics, automobile engineering craft, welding and fabrication craft and mechanical engineering craft practice. [1, 6, 7], Federal Government of Nigeria in the National Policy on Education designed technical education such that students are trained in those aspects involving, in addition to general education, the study of technologies and related sciences, the acquisition of

practical skills, attitude, understanding and knowledge relating to occupation in various sectors of economic and social life [9]. The technical teacher plays a significant role in the development of a functional technical education system in Nigeria. Hence, the quality of the technical teacher and their input into the development of the instructional system greatly influence the quality of the technical college graduates including those who study upholstery making [2].

Upholstery making is the art of producing functional cushioned or padded sitting furniture for homes and offices [5]. Upholstery making involves the skills in: upholstery design, hand tools handling and car-case construction,

webbing, cording, padding and covering with fabric [9, 12]. Each of these operations is carried out systematically in the production flow line [11]. Padding is the process of placing rubber or plastic material or any other suitable stuffing on the web to provide comfort on the seat and back of the upholstery. The skill of padding a piece of furniture was once considered as a craft in itself [4, 6]. Stuffing involves three distinct processes/functions namely; placing of insulation layer immediately over the burlap that covers the seat webbing and inside the back springs, fixing the body and the shaping layer otherwise called the pad; and the layer of soft felted material overlay prior to covering with fabric. Fabric covering is the art of overlaying a padded chair with fabric, or leather to give beauty, comfort and style [3, 7, 10].

Interestingly, upholstery making is one of the practical-based trade courses that are taught in the technical colleges. Students of upholstery making in the technical colleges need to be upskilled in their competencies, by enhancing their skills to a higher grade in order to be employable in the industry, become self-employed or be able to create job opportunities for others, after graduation from the technical college.

1.1. Statement of the Problem

Upholstery making is taught in technical colleges in Akwa Ibom State to inculcate adequate knowledge, skills, values and attitudes in the students to enable them function successfully in the world of work. The technical colleges sometime may not impart the skills of upholstery padding and fabric covering to the students because of improper mentoring. As a result, most graduates of upholstery making are jobless, roaming the streets for “white collar job”. Others are under-employed in menial jobs, motorcycle/tricycle riding, to mention but a few. Yet still, others are involved in thuggery, youth restiveness and other social vices. To address these problems, the study involves upskilling the upholstery making skills of technical college students for job creation in Akwa Ibom State.

1.2. Purpose of the Study

The main purpose of the study is to determine the upskilling needs of technical college students’ in upholstery making skills for job creation in Akwa Ibom State, Nigeria.

Specifically, the study sought to:

- (1) Determine the upholstery padding skill needs of technical college students for job creation.
- (2) Determine the fabric covering skill needs of technical college students for job creation.

1.3. Research Questions

The following research questions guided the study:

- (1) What are the upholstery padding skill needs of technical college students for job creation?
- (2) What are the fabric covering skill needs of technical college students for job creation?

1.4. Null Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

H₀₁: There is no significant difference between the mean responses of teachers and students in upholstery padding skills need of technical college students for job creation.

H₀₂: There is no significant difference between the mean responses of teachers and students in fabric covering skills need of technical college students for job creation.

2. Methodology

Descriptive survey design was used for the study. [9] asserted that the design was suitable as it solicited information from the technical teachers and students of upholstery making through the use of questionnaire. The population for the study was 68 Senior Technical Two (ST II) students in technical colleges in Akwa Ibom State offering furniture/upholstery making and 18 technical teachers who teach the subject. The entire population was studied as it was of a manageable size. A-82 items structured questionnaire, with two segments – Performance and Need – were used as an instrument for data collection. The Need segment had a five response options of: Very Highly Needed (5 points), Highly Needed (4 points), Moderately Needed (3 points), Lowly Needed (2 points), and Very Lowly Needed (1 point), for the technical teachers. The performance segment had a five response options of Very High Performance (5 points), High Performance (4 points), Moderate Performance (3 Points), Low Performance (2 points), and Very Low Performance (1 point). The instrument was face validated by three validates. Their useful inputs and modifications were incorporated in the production of the final instrument. Split-half technique was used to trial-test the instrument using 20 technical teachers who were not part of the main study. Cronbach Alpha analysis of the data yielded a reliability index of 0.82 which implies a very high internal consistency. Copies of the questionnaire were administered to the respondents with the aid of two research assistants. The completed questionnaires were retrieved from the respondents on the spot, which ensured 100% return. Mean was used to answer the research questions. The weighted means needed for each skill in upholstery padding and fabric covering was represented by (X_N) while the weighed means performance of respondents for each item was represented by (X_P). The difference between the two means was determined to indicate the Performance Gap (PG). Null hypotheses were tested at 0.05 level of significance. The observed t-cal was compared with the significant value of 0.05 alpha level and relevant degree of freedom. When the significant value is less than the alpha level of 0.05, null hypothesis would be rejected or otherwise accepted with relevant degree of freedom.

3. Results

The result of the study obtained from the research questions are presented in Tables 1 and 2.

3.1. Research Question 1: Upholstery Padding Skill needs of Technical College Students for Job Creation

Table 1. Performance Gap Analysis on Upholstery Padding Skills.

| S/N | Padding skills need | \bar{X}_N | \bar{X}_P | Gap ($\bar{X}_N - \bar{X}_P$) | Remarks |
|-----|---|-------------|-------------|---------------------------------|---------|
| 1. | Measuring the dimensions of the seat frame 425 x 575 x 700mm for a single seater | 3.83 | 1.65 | 2.18 | N |
| 2. | Marking sack bag or calico with the seat frame dimensions | 4.61 | 2.00 | 2.61 | N |
| 3. | Cutting the calico in line with the marking | 3.56 | 1.99 | 1.57 | N |
| 4. | Tacking the calico over the webbed seat frame | 4.06 | 3.74 | 0.32 | N |
| 5. | Marking the 125mm foam to the dimensions of the seat frame | 3.94 | 3.75 | 0.19 | N |
| 6. | Cutting the 125mm foam in line with the marking | 3.67 | 2.32 | 1.35 | N |
| 7. | Applying evostick on the edges of the calico and the prepared foam | 3.28 | 2.26 | 1.02 | N |
| 8. | Fixing the foam unto the seat frame | 3.78 | 1.68 | 2.10 | N |
| 9. | Applying pressure (with hand) evenly at the edges to bond the two surfaces | 3.61 | 1.51 | 2.10 | N |
| 10. | Measuring the width and the height of the back rest to the dimensions of 875 x 1450mm for a single seater | 4.50 | 4.21 | 0.29 | N |
| 11. | Marking the 125mm foam to the dimensions | 3.78 | 1.74 | 2.04 | N |
| 12. | Cutting the foam in line with the markings | 3.89 | 4.60 | -0.71 | NN |
| 13. | Tacking the foam to the back seat rail | 3.94 | 1.38 | 2.56 | N |
| 14. | Pulling the foam over the carcass to desired shape | 4.50 | 1.38 | 3.12 | N |
| 15. | Tacking the foam on to the side levers and head rest | 3.33 | 1.38 | 1.95 | N |
| 16. | Trimming the sides of the foam to the desired shape | 3.78 | 1.65 | 2.13 | N |
| 17. | Marking the horizontal back design on the foam | 4.22 | 1.53 | 2.69 | N |
| 18. | Marking the two vertical back design on the foam | 4.06 | 1.41 | 2.65 | N |
| 19. | Cutting the foam in line with the horizontal marking | 3.33 | 1.41 | 1.92 | N |
| 20. | Measuring the arm rest and inner side 550 x 625mm | 3.61 | 1.43 | 2.18 | N |
| 21. | Marking the cartoon to the dimensions | 4.06 | 1.82 | 2.24 | N |
| 22. | Cutting the cartoon in line with the marking | 4.44 | 1.60 | 2.84 | N |
| 23. | Nailing the cartoon on the arm rest and inner side | 3.67 | 1.88 | 1.79 | N |
| 24. | Marking the 125mm foam to the dimensions of the inner side and arm rest | 3.39 | 2.49 | 0.90 | N |
| 25. | Cutting the foam in line with the marking | 4.50 | 1.66 | 2.84 | N |
| 26. | Pressing the foam into the carcass | 4.33 | 2.32 | 2.01 | N |
| 27. | Tacking the foam at the edge of the seat rail | 4.50 | 2.06 | 2.44 | N |
| 28. | Pulling the foam over the arm rest | 4.39 | 3.75 | 0.64 | N |
| 29. | Tacking the foam at the edge of the arm rest | 4.22 | 3.00 | 1.22 | N |
| 30. | Trimming the edges of the foam to shape | 3.83 | 2.26 | 1.57 | N |
| 31. | Measuring the back and outer sides 850 x 2325mm | 3.94 | 2.50 | 1.44 | N |
| 32. | Marking the cartoon and 25mm foam to dimensions | 3.34 | 2.00 | 1.34 | N |
| 33. | Cutting the cartoon and foam in line with markings | 3.72 | 4.43 | -0.71 | NN |
| 34. | Nailing to cartoon to the sides and back of the frame | 4.22 | 2.40 | 1.82 | N |
| 35. | Trimming the edges of the cartoon to size | 4.39 | 1.46 | 2.93 | N |
| 36. | Applying evostick gum on the edges of the cartoon an foam | 4.17 | 2.00 | 2.17 | N |
| 37. | Pressing the foam on to the cartoon | 3.89 | 1.99 | 1.90 | N |
| 38. | Nailing the foam to the cartoon | 4.56 | 4.43 | 0.13 | N |
| 39. | Trimming the edges of the foam to size | 4.50 | 3.79 | 0.71 | N |

Note: Needed (N), Not Needed (NN).

The results in Table 1 show that upholstery padding skills needed by the technical college students for job creation had 37 positive values with a mean gap ranging from 0.13 to 3.12. Items 12 and 33 had negative values (adequate). This indicated that the students require upskilling on upholstery padding for job creation.

3.2. Research Question 2: Fabric Covering Skill Needs of Technical College Students for Job Creation

Table 2. Performance Gap Analysis on Fabric Covering Skills.

| S/N | fabric covering skills need | \bar{X}_N | \bar{X}_P | Gap ($\bar{X}_N - \bar{X}_P$) | Remarks |
|-----|--|-------------|-------------|---------------------------------|---------|
| 1 | Marking the fabric to the dimensions of the padded seat, marking out the side covers | 3.94 | 2.56 | 1.38 | N |
| 2 | Cutting the fabric in line with the markings | 3.56 | 1.72 | 1.84 | N |
| 3 | Sowing the fabric pieces together | 4.06 | 2.10 | 1.96 | N |
| 4 | Wearing the fabric over the padded seat from the front | 4.50 | 2.01 | 2.49 | N |
| 5 | Dragging the fabric backwards to tension over the back seat rail | 3.67 | 3.62 | 0.05 | N |
| 6 | Nailing the tensioned fabric to the back and side seat rails | 4.56 | 2.90 | 1.66 | N |
| 7 | Marking the fabric to the dimensions of the back rest | 4.33 | 3.16 | 1.17 | N |
| 8 | Cutting the fabric in line with the marking | 3.72 | 1.88 | 1.84 | N |
| 9 | Marking the horizontal back design on the fabric | 3.61 | 1.87 | 1.74 | N |
| 10 | Marking the two vertical back design on the fabric | 3.78 | 2.65 | 1.13 | N |
| 11 | Cutting the fabric in line with the horizontal marking | 3.11 | 1.59 | 1.52 | N |

| S/N | fabric covering skills need | \bar{X}_N | \bar{X}_P | Gap ($\bar{X}_N - \bar{X}_P$) | Remarks |
|-----|---|-------------|-------------|---------------------------------|---------|
| 12 | Sowing the horizontal cut in the fabric together to a calico rope | 3.89 | 2.34 | 1.55 | N |
| 13 | Folding the vertical line on the fabric over a twine rope | 3.67 | 2.19 | 1.48 | N |
| 14 | Sowing the folded fabric over the twine | 4.00 | 3.68 | 0.32 | N |
| 15 | Covering the padded back rest with fabric | 3.94 | 3.10 | 0.84 | N |
| 16 | Nailing the fabric to the seat frame | 3.72 | 2.25 | 1.47 | N |
| 17 | Nailing the two twine rope to the seat frame | 4.44 | 2.32 | 2.12 | N |
| 18 | Pulling the two twine rope backwards over the head rest through the edged cord | 4.22 | 1.94 | 2.28 | N |
| 19 | Nailing the edge of the two twine rope to the head rest | 3.89 | 3.18 | 0.71 | N |
| 20 | Cutting off the excess twine | 4.39 | 2.62 | 1.77 | N |
| 21 | Dragging the fabric upwards over the head rest | 4.33 | 2.22 | 2.11 | N |
| 22 | Tacking the fabric to the head rest and side levers | 3.61 | 2.06 | 1.55 | N |
| 23 | Passing the calico rope on the back rest fabric through the horizontal slit on the back rest foam | 3.94 | 3.75 | 0.19 | N |
| 24 | Pulling the calico rope backwards to tension over the horizontal back rest | 4.11 | 3.00 | 1.11 | N |
| 25 | Tying the tensioned calico rope to the horizontal back rest to obtain the desired depression (design) | 3.33 | 2.26 | 1.07 | N |
| 26 | Marking the fabric to the dimensions of the inner side and arm rest | 3.44 | 2.38 | 1.06 | N |
| 27 | Cutting the fabric in line with the markings | 4.22 | 2.06 | 2.16 | N |
| 28 | Nailing the fabric to the side seat rail | 4.56 | 3.75 | 0.81 | N |
| 29 | Dragging the fabric over the padded arm rest | 3.94 | 3.00 | 0.94 | N |
| 30 | Nailing the tensioned fabric underneath the arm rest | 3.72 | 2.26 | 1.46 | N |
| 31 | Measuring the padded outer sides and back 850 x 2325mm | 3.89 | 2.13 | 1.76 | N |
| 32 | Marking the fabric to the dimensions | 3.89 | 2.06 | 1.83 | N |
| 33 | Cutting the fabric in line with the marking | 3.72 | 3.24 | 0.48 | N |
| 34 | Sowing the edge of the length of fabric | 4.56 | 3.00 | 1.56 | N |
| 35 | Tacking the sown fabric to the padded side and back at the bottom rail | 3.56 | 2.03 | 1.53 | N |
| 36 | Pulling the fabric upward to tension | 4.33 | 2.34 | 1.99 | N |
| 37 | Marking the required height with allowance | 3.94 | 2.00 | 1.94 | N |
| 38 | Cutting the fabric in line with marking | 4.38 | 3.97 | 0.31 | N |
| 39 | Tacking the tensioned folded edged fabric to the edge of the arm rest, side levers and the head rest | 2.89 | 2.22 | 0.67 | N |
| 40 | Measuring the bottom 650 x 800mm for the single seater | 4.11 | 1.46 | 2.65 | N |
| 41 | Marking calico to the dimensions | 3.78 | 2.00 | 1.78 | N |
| 42 | Cutting calico in line with the marking | 3.67 | 2.19 | 1.48 | N |
| 43 | Nailing calico to the bottom rail (to cover the bottom) | 3.67 | 2.25 | 1.42 | N |

Note: Needed (N)

The results in Table 2 shows that the identified fabric covering skills need had 43 positive values ranging from 0.05 to 2.65. There was no negative item. These values indicate that technical college students in Akwa Ibom State require upskilling on fabric covering for job creation.

3.3. Null Hypothesis I

There is no significant difference between the mean responses of teachers and students in upholstery padding skills need of technical college students for job creation.

Table 3. T-test Analysis of the Mean Response of Teachers and Students on Upholstery Padding Skills Need.

| Variables | N | \bar{X} | SD | df | t-cal | Sig. P>0.05 | Decision |
|-----------|----|-----------|------|----|-------|-------------|-------------|
| Teachers | 18 | 31.12 | 3.94 | 84 | 13.05 | 0.01 | Significant |
| Students | 68 | 19.55 | 3.17 | | | | |

The summary of data analysis in Table 3 shows an observed t-cal of 13.05 and a p-value of 0.01. Since the p-value of 0.01 is less than the alpha level of 0.05, the null hypothesis is rejected. Hence, there is significant difference in the responses of teachers and students in upholstery padding skills.

3.4. Null Hypothesis 2

There is no significant difference between the mean responses of teachers and students in fabric covering skills

need of Technical College students for job creation.

The summary of data analysis in Table 4 shows an observed t-cal of 13.15 and a p-value of 0.03. Since the p-value of 0.03 is less than the alpha level of 0.05, the null hypothesis is rejected. Hence, there is significant difference between the mean responses of teachers and students in fabric covering skills need by technical college students for job creation.

Table 4. T-test Analysis of the Mean Responses of Teachers and Students on Fabric Covering Skills Need.

| Variables | N | \bar{X} | SD | df | t-cal | Sig. P>0.05 | Decision |
|-----------|----|-----------|------|----|-------|-------------|-------------|
| Teachers | 18 | 20.48 | 2.70 | 84 | 13.15 | 0.03 | Significant |
| Students | 68 | 12.49 | 2.17 | | | | |

3.5. Findings of the Study

The following emerged from the study based on the research questions and hypotheses:

- (1) Technical college students of upholstery making need upskilling in the thirty-nine identified upholstery padding skills for job creation in Akwa Ibom State.
- (2) Technical college students of upholstery making need upskilling in the forty-three identified fabric covering skills for job creation in Akwa Ibom State.
- (3) The difference between the mean responses of teachers and students in upholstery padding skills need for job creation was statistically significant.

- (4) The difference between the mean responses of teachers and students in fabric covering skills need for job creation was statistically significant.

4. Discussion of Findings

4.1. Upholstery Padding Skills for Job Creation

The findings of the study as presented in Tables 1 and 3 showed that Technical college students in Akwa Ibom State require upskilling on upholstery padding skills for job creation. The finding, therefore, is in line with the previous work that found out that padding is an essential process which involves placing rubber or plastic material or any suitable stuffing on the web to provide comfort [5, 7]. This result implies that there is need for re-training of technical college students in upholstery padding to upskill their competencies and facilitate upholstery making, thereby creating job opportunities.

4.2. Fabric Covering Skills for Job Creation

The findings of the study in Tables 2 and 4 revealed that technical college students require re-training on fabric covering for job creation. This is in congruence with the previous works which found out that the choice of an upholstery fabric depends on the style of the furniture and its function [3, 5, 10]. There is need for re-training of technical college students in fabric covering to upskill their competencies and facilitate upholstery making, thereby creating job opportunities for themselves and others after graduation from the College.

4.3. Educational Implications of the Study

The findings of the study imply that technical college students of upholstery making need upholstery padding and fabric covering skills to be able to create jobs upon graduation from college. The absence of these skills could prevent the students who graduated from the colleges from creating jobs for themselves and for others.

5. Conclusion

On the bases of the findings of the study and the discussions, the study concludes that upholstery padding and fabric covering skills must be acquired by students while in training so as to be able to create jobs for themselves and for others, on graduation. The absence of these skills could lead

to unemployment and poverty.

6. Recommendations

Based on the findings and conclusion of the study, the following recommendations are made:

- (1) Technical college teachers should guide upholstery making students to upskill their competencies in upholstery padding by exposing them to practical classes as well as work experiences while in school.
- (2) Technical college teachers should guide upholstery making students to upskill their competencies in fabric covering by exposing them to practical classes as well as work experiences while in school.

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