Determination of Competencies Needed in Patternmaking by Clothing and Textile Students for Large-Scale Garment Production in Anambra State

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Abstract. This study looked into competencies needed in patternmaking by clothing and textile students for large-scale garment production in Anambra State. Based on a descriptive survey research methodology, the study was guided by three research questions and three hypotheses that were significant at the level of 0.05. To concentrate on a determined specialized number, purposive sampling was used as the sampling approach. Twenty-five Home Economics Education students constituted the sample size for the study. Data were collected using a questionnaire produced by the researcher. Two professionals independently validated the instrument. Cronbach's alpha was employed to examine the internal consistency of the instrument, and reliability value of 0.79 was obtained. A t-test was used to evaluate the hypotheses after the responses were analyzed using the arithmetic mean and standard deviation scores. The results showed that there is no significant difference in the mean ratings of state and federal college of education students in sloper/block patternmaking, flat pattern drafting and fashion draping for large-scale garment production in Anambra State. Recommendations and conclusions were drawn based on the findings.

Keywords: Patternmaking, clothing, textile, students, garment, production.

INTRODUCTION

One of the fundamental needs of humanity is clothing. As a result, the textile and apparel industries continue to expand along with the population, and they are today among the largest and fastest-growing sectors of the economy. The garment industry has the potential to provide a significant number of jobs in Nigeria and many other countries if properly resourced and managed [19]. As a result, it is crucial for educational institutions that teach clothing and textiles to pay close attention to the skill levels of their graduates in order to enable them to make appropriate clothes to meet the society's extensive clothing needs. Clothing is a trait that is unique to humans and is present in the majority of human communities [4]. The type and amount of clothes worn is determined by functional factors such as the necessity to conceal one's nakedness, maintain warmth and safety, maintain modesty, represent cultural and social meaning, and, not to mention, convey clothing's esthetic values.

Numerous processes are involved in the large-scale production of a garment. Processes including cutting, stitching, and finishing are included. The entire garment production process is divided into a number of smaller processes required for creating a specific garment [20]. Some of these procedures change based on the tools at hand, the techniques employed, and the workers' skill levels. Production of large quantities of clothing is a difficult procedure that involves numerous stages of examination. In a garment production analysis, the various processes required for the production of a product are broken down into the overall production process, which includes cutting, sewing, and finishing [9]. The procedure entails breaking down the work process into a manageable number of sub-operations required for producing a specific article of clothing, as applied to the industrial production of clothing, such that

it enables and respects the level of equipment available, offering proper exploitation of this equipment, keeping in mind the workers' skills and the possible time for performing the operations while, at the same time, ensuring high quality and efficiency.

Prior to the mass production of garments, planning is done at the pre-production stage. This includes creating and approving samples, locating and testing raw materials, costing clothing, creating patterns, and organizing the process [16]. Without pre-production procedures, efficient production cannot be achieved. Patternmaking is a key stage in efficient large-scale garment production. By creating paper templates for every component that needs to be cut for a given garment, such as fabric, hems, and fusible, this feature links design to production. To be able to create various clothes, a fashion designer now needs to create patterns [11]. For a student, patternmaking is both fascinating and crucial because it enables them to analyze designs and comprehend them technically. Students are instructed in the creation of designer clothing after they have mastered the fundamentals. Patternmaking is initially challenging and time-consuming for the student, but after they learn it, they find it engaging.

There are several ways to create patterns, but draping and creating flat patterns are the most popular ones. Fashion designers use flat patternmaking to collect precise measurements from a dress form or a body and then translate those dimensions into a pattern on paper. Muslin cloth is wrapped around a dress form or other figure in draping to create a specific design [3]. The following stage of the design cycle is always where a piece of apparel finds its incarnation. It uses the pattern as a guide to cut the fabric to be stitched in order to create the desired model. Clothing is made from various alloys using patterns made from those alloys. Making clothing patterns involves creating outline blueprints or arrangements to sew a fabric. To create the pattern, body measurements must be taken initially. One of the conditions that should be taken into account when measuring someone to create a pattern for clothes is that they should be wearing their regular underwear, particularly women, who should also be wearing their regular bra and pantyhose. It is unnecessary to utilize custom-made clothing when there is a system of measurements and patterns that allows for exact sizing and makes clothing fit and conform to body shapes, particularly those of men [13]. It entails taking precise measurements of a person, outfit, or body form as well as measures obtained via sizing methods. To complete the pattern and ease allowances, measurements for the chest, waist, hips, and other body parts are marked on paper, and construction lines are made. To establish fundamental, underlying, or design patterns, drafting is utilized. The fashion designer will be able to envision the fit and choose the size ranges of the apparel at this crucial stage in the development process. Patterns essentially fill the gap between inspiration and production, simplifying the process for both the brand and

the production [10]. Understanding the fundamentals of flat pattern drafting can help you understand how the clothing will look.

The creation of a comfortable, fitted basic pattern to fit a person or body form is the goal of flat pattern drafting. The sloper serves as the foundation for designing flat patterns. It has a straightforward design and fits the body with just enough ease to allow for comfort and movement. Drawing a draft on paper using the flat pattern technique requires a variety of straight edges, curves, measurements, and calculations [14]. It is a two-dimensional technique that modifies a "sloper" or "block" in an existing foundation design. The draft is made from muslin cloth that may be easily tailored to fit a real person or a dummy body. On the paper document, the desired modifications are noted. Since patterns are built using templates, creating them is simple when using the flat patternmaking method. Making the templates—either by hand or using patternmaking software—is the challenging part. They appear straightforward but are challenging to construct since they need a great deal of human body measurements and test fittings. Since they serve as the foundation for subsequent patterns, they ought to be flawless [6]. By applying specific geometric principles, different patterns can be derived from the fundamental block, and these patterns would fit together just like blocks. Once the blocks are constructed, the rest is much simpler because the figure no longer needs to be measured or even tested for new pattern fits.

When using the flat method, the pattern creator follows the basic building blocks and applies the appropriate alterations, stitches, and other allowances to each component. For alignment and matching while sewing, a small mark known as a "notch" is made on the pattern's outside edge of the seam allowance. Block pattern building is the process of creating a simple, no-seam clothing pattern from which further, related designs can be created [7]. To create and design new patterns for garments, it is also known as a basic pattern or foundation pattern. All fundamental slopers and blocks are built using either standard measures or unique measurements. Two fundamental block patterning techniques are primarily used for women's clothing. Simple slopers don't have seam allowances, which makes it easier to alter them to fit different styles. It merely has construction lines drawn on it; it lacks any design interest [4]. It is essential that a sloper's fundamental design allows for a simple adjustment introduction. Accurate measurements are crucial for developing a decent pattern.

Fashion draping is the process of fitting a two-dimensional piece of cloth to a three-dimensional object by draping around it. Therefore, drapery is the craft of wrapping cloth around a dress form to create a garment. Typically, the natural fall of the fabric is used to achieve this. Uninformed people could think that draping uses a variety of methods, like gathering and pleating, to provide a dramatic look [18]. The final pattern is created by printing this muslin on paper. The clothing is made more pleasant to

wear by including space for easy movement. The benefit of draping is that, before the garment piece is cut and sewed, the designer may see how the finished design will look on the body shape. It takes longer and costs more money than flat patternmaking, though [15]. After graduating as an entrepreneur, home economists can employ the commercial pattern part of the garment construction process as an essential economic empowerment instrument to yield or generate income for self-reliance and satisfaction in the business sector.

In the clothing or fashion design industry, patternmakers play a crucial role; without their knowledge and experience, ready-to-wear apparel would not be possible. The textile and apparel industries have created many job opportunities in a variety of fields today, including fabric or dressmakers (for whom patternmaking is a plus), textile cutting machine operators or machinists, fashion illustrators, fashion merchandize, patternmakers or designers, and clothing maintenance [21]. Because the patterns they generate serve as the foundation on which the final clothing product is produced in the textile business, clothing patternmakers also serve as the skeleton or backbone of the fashion and clothing industry.

Despite the abundance of local raw materials, a sizable consumer base, a stable market, and human resources, many problems have been identified in the literature as limiting the expansion of Nigeria's textile sector. These issues, which constitute a severe danger to the development and stability of the Nigerian textile sector, include a lack of raw materials, the illegal importation of textiles, a lack of electricity, and a lack of industrial machine spare parts. There may be other challenges, such as waste from overproduction, manual processing, governmental regulations, employee turnover, numerous procedures, and an excessively high rate of interest. To date, not much is known about competencies needed in patternmaking by clothing and textile students for large-scale garment production in Anambra State. To close the gaps that exist, the present research aims to determine:

1. Competency needs in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production in Anambra State;

2. Competency needs in flat pattern drafting by the clothing and textile students for large-scale garment production in Anambra State; and

3. Competency needs in fashion draping by the clothing and textile students for large-scale garment production in Anambra State.

RESEARCH HYPOTHESES

Ho1 There is no significant difference in the mean ratings of state and federal college of education students in sloper/large-scale garment production patternmaking for large-scale garment production.

Ho2 There is no significant difference in the mean ratings of state and federal college of education students in flat pattern drafting for large-scale garment production.

Ho3 There is no significant difference in the mean ratings of state and federal college of education students in fashion draping for large-scale garment production.

METHOD

Based on the specific objectives of the study, a descriptive research strategy was used. The goal of descriptive research is to precisely and methodically describe the student population. The respondents were given a self-developed cross-sectional survey questionnaire with four clusters and thirty items. The questionnaire was specifically designed to address the research objectives on the competencies needed in patternmaking by clothing and textile students for large-scale garment production.

The survey used a 4-point Likert scale, with 4 denoting "Strongly Needed," 3 denoting "Needed," 2 denoting "Not Needed," and 1 denoting "Undecided." The study used Home Economics Education students in colleges of education in Anambra State. The participants gave their opinions in response to the remarks based on their perceptions. Google form, which is a cost-effective way that can reach many respondents who are in various locations, was used to electronically deliver the survey to the respondents. The various sections of the questionnaire included the following: (Cluster 1) personal details, (Cluster 2) the competency needs in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production, (Cluster 3) the competency needs in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production, (Cluster 4) the competency needs in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production.

The Cronbach's coefficient alpha (α) was used in this study to gauge the instrument's internal consistency. This technique, often referred to as test index score, is used to determine the relationship between the results of each test item and the test's overall score. Items with high test index correlation scores have high reliability, whereas those with low test index correlation scores have low reliability and will be removed from the test. This instrument's Cronbach's alpha value is 0.79, which is satisfactory. The instrument's alpha value demonstrates its dependability.

Ten copies of the questionnaire were retrieved from Home Economics Education students from Nwafor Orizu College of Education Nsugbe, while fifteen copies were retrieved from the Federal College of Education (Tech)

Umunze. The Statistical Packages for the Social Sciences (SPSS) version 22 was used to evaluate the information gathered from the respondents. The mean and standard deviation of the entire population were calculated. Also, inferential statistics (*t*-test) was employed to examine the research hypotheses. The critical value and estimated *t*-value are compared to decide whether to accept or reject the null hypothesis. If the absolute computed *t*-value is higher than the critical *t*-value, the null hypothesis is rejected; otherwise, the null hypothesis is accepted if the absolute calculated *t*-value is lower than the critical *t*-value.

RESULTS

The researcher presents and discusses the study's findings in this section.

Research Question 1: What are the competency needs in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production in Anambra State?

Table 1 shows the competency needed in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production in Anambra State. It is observed that the ability to calculate yardage for custom bias is a competency needed in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production in Anambra State (FCE = 3.20, SCE = 2.66). Additionally, the ability to master the techniques of making prototypes and samples in a way that is congruent with the defined esthetic and wearability characteristics is also essential. In general, the table shows that items 3, 4, 5, 6, 8, 9, and 10 of the Federal College of Education students having a mean score of 2.60, 3.00, 2.80, 2.60, 3.00, 3.20, and 2.70 and a standard deviation of 1.20, 1.00, 1.08, 1.20, 1.10,

0.98, and 1.19, respectively, were accepted, whereas items 1, 2, and 7 were rejected with a mean score of 2.00, 1.90, and 1.90 and a standard deviation of 1.00, 1.22, and 1.04 respectively. Similarly, in the case of the State College of Education students, the table shows that items 2, 3, 5, 6, 7, 8, and 9 having a mean score of 2.73, 2.53, 2.73, 3.06, 3.13, 3.20, and 2.66 and a standard deviation of 1.12, 1.15, 1.18, 1.06, 1.20, 0.98, and 1.19 were accepted, whereas items 1, 4, and 10 were rejected with a mean score of 1.80, 2.00, and 1.60 and a standard deviation of 1.11, 1.15, and 1.08, respectively.

Research Questions 2: What are the competency needs in flat pattern drafting by the clothing and textile students for large-scale garment production in Anambra State?

Table 2 shows the competency needed in flat pattern drafting by the clothing and textile students for large-scale garment production in Anambra State. The ability to slash and spread patterns is a competency needed in flat pattern drafting with mean scores of 3.20 for the Federal College of Education students and 3.13 for the State College of Education students. In addition, the ability to be accurate in taking measurements was also considered important (FCE = 3.00, SCE = 2.73). Generally, for the Federal College of Education students, items 11, 13, 16, 18, 19, and 20 with a mean score of 3.00, 2.80, 2.90, 2.70, 2.70, and 3.20 were accepted, whereas items 12, 14, 15, and 17 with a mean score of 1.80, 2.20, 1.70, and 1.80 were rejected. However, the State College of Education students accepted items 11, 13, 14, 16, 18, 19, and 20 with a mean score of 2.73, 3.00, 2.93, 2.53, 2.73, 2.73, and 3.13 and a standard deviation of 1.18, 1.1, 1.29, 1.26, 1.18, 1.00, and 1.20, respectively, while items 13, 15, and 17 with a mean score of 2.00, 1.40, and 1.86 and a standard deviation of 0.73, 0.88, and 1.09, respectively, were rejected.

Table 1. Mean and standard deviation on the competency needed in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production in Anambra State.

S/N	Items	FCE			SCE		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
1	Ability to ensure that the finished large-scale garment production does not require major adjustments since most garments are made for model-type bodies.	2.00	1.00	R	1.80	1.11	R
2	Ability to find truly effective technical solutions to enhance the stylistic idea.	1.90	1.22	R	2.73	1.12	A
3	Ability to use a rotary cutter and cutting mat effectively.	2.60	1.20	A	2.53	1.15	A
4	Ability to master the techniques of making prototypes and samples in a way that is congruent with the defined esthetic and wearability characteristics.	3.00	1.00	A	2.00	1.15	R
5	Ability to protect the work surface with a cutting mat.	2.80	1.08	A	2.73	1.18	A
6	Ability to make good measurements.	2.60	1.20	A	3.06	1.06	A
7	Ability to make a sewing pattern for a skirt, adding room for movement, seam allowances, pockets, and, of course, style.	1.90	1.04	R	3.13	1.2	A
8	Ability to use fussy cutting to isolate a motif.	3.00	1.10	A	3.20	0.98	A
9	Ability to calculate yardage for custom bias.	3.20	0.98	A	2.66	1.19	A
10	Ability to ensure high degrees of wearing ease.	3.62	0.49	A	1.60	1.08	R
	Cluster mean	**2.662**	**1.031**		**2.544**	**1.122**	

FCE = Federal College of Education, SCE = State College of Education, R = Rejected, A = Accepted.

Table 2. Mean and standard deviation on the competency needed in flat pattern drafting by the clothing and textile students for large-scale garment production in Anambra State.

S/N	Items	FCE			SCE		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
11	Ability to be accurate in taking measurements	3.00	1.00	A	2.73	1.18	A
12	Ability to have the knowledge of any modern patternmaking software used for drafting the design	1.80	0.98	R	2.00	0.73	R
13	Ability to manipulate dart effectively	2.80	1.33	A	3.00	1.10	A
14	Ability to ensure that the seam lines on each piece match the length of the seam lines on the piece they will be sewn to	2.20	1.17	R	2.93	1.29	A
15	Ability to make pleats or gathers to allow the pattern to turn into a 3D garment when sewn	1.70	1.00	R	1.40	0.88	R
16	Ability to put ideas down on paper and visualize the ideas in a befitting manner	2.90	1.14	A	2.53	1.26	A
17	Proficiency in geometry and knowledge of how different shapes can be combined to form a pattern	1.80	0.98	R	1.86	1.09	R
18	Ability to keep track of own work and materials	2.70	1.00	A	2.73	1.18	A
19	Ability to develop new patterns and improve existing ones	2.70	1.19	A	2.73	1.00	A
20	Ability to slash and spread patterns	3.20	1.08	A	3.13	1.20	A
	Cluster mean	**2.48**	**1.087**		**2.504**	**1.091**	

FCE = Federal College of Education, SCE = State College of Education, R = Rejected, A = Accepted.

Table 3. Mean and standard deviation on the competency needed in fashion draping by the clothing and textile students for large-scale garment production in Anambra State.

S/N	Items	FCE			SCE		
		$\bar{x}$	SD	Dec	$\bar{x}$	SD	Dec
21	Ability to do proper prepping for perfect and accurate measurements of the garment or dress form.	2.90	0.94	A	2.66	1.25	A
22	Ability to sketch or illustrate the garment using a conventional manual method or CAD software.	1.60	1.02	R	2.06	0.93	R
23	Ability to manipulate the muslin effectively gives a chance to designers to experiment and play around as a requirement.	2.70	1.19	A	1.73	0.93	R
24	Ability to blend seam lines effectively and ensure there are no strange angles at the top or bottom of the seams.	2.90	1.04	A	2.93	1.29	A
25	Ability to select the right fabric for draping to ensure that pinning, which pulls the folds of the fabric together to create the draping design, is done properly.	2.30	1.10	R	2.66	1.14	A
26	Trimming of the fabric is a competency needed in fashion draping.	2.70	1.10	A	2.66	1.25	A
27	Effective basting of the fabric is a competency needed in fashion draping.	3.00	1.18	A	2.66	1.07	A
28	Conducting research and development of new styles and trends and seeking design inspiration.	2.80	1.17	A	1.93	0.93	R
29	Ability to still see design as if it were the first time is a really useful trait.	2.80	0.98	A	2.73	1.06	A
30	Ability to hone own unique style in fashion.	2.50	1.12	R	2.66	1.01	A
	Cluster mean	**2.62**	**1.084**		**2.468**	**1.086**	

FCE = Federal College of Education, SCE = State College of Education, R = Rejected, A = Accepted.

Question 3: What are the competency needs in fashion draping by the clothing and textile students for large-scale garment production in Anambra State?

Table 3 presents the competency needed in fashion draping by the clothing and textile students for large-scale garment production in Anambra State. The result reveals that effective basting of the fabric is a competency needed in fashion draping (FCE = 3.00, SCE = 2.66). Meanwhile, the ability to sketch or illustrate the garment using a conventional manual method or CAD software was rejected with a mean score of FCE = 1.60 and SCE = 2.06. On the whole item, 21, 23, 24, 26, 27, 28, 29, and 30 with a mean score of 2.90, 2.70, 2.90, 2.70, 3.00, 2.80, and 2.80 and a standard deviation of 0.94, 1.19, 1.04, 1.10, 1.18, 1.17, and 0.98, respectively, were all accepted, while items 2, 5, and 10 with a mean score of 1.60, 2.30, and 2.50 and a standard deviation of 1.02, 1.10, and 1.12 were rejected by the Federal College of Education students. Table 3 also showed that for the State College of Education students, items 21, 24, 25, 26, 27, 29, and 30 with a mean score of 2.66, 2.93, 2.66, 2.66, 2.66, 2.73, and 2.66 and a standard deviation of 1.25, 1.29, 1.14, 1.25, 1.07, 1.06, and 1.01 were all accepted, while items 22,

Table 4. The *t*-test group statistics on the difference in the mean ratings of the State and Federal College of Education students in sloper/large-scale garment production patternmaking for large-scale garment production.

Group	n	$\bar{x}$	SD	t-cal	t-crit	df	sig.
FCE students	15	2.662	1.031				
				0.266	1.714	23	0.05
SCE students	10	2.544	1.122				

Table 5. The *t*-test group statistics on the difference in the mean ratings of the State and Federal College of Education students in flat pattern drafting for large-scale garment production.

Group	n	$\bar{x}$	SD	t-cal	t-crit	df	sig.
FCE students	15	2.48	1.087				
				0.054	1.714	23	0.05
SCE students	10	2.504	1.091				

23, and 28 with a mean score of 2.06, 1.73, and 1.93 and a standard deviation of 0.93, 0.93, and 0.93, respectively, are rejected.

Hypothesis 1: There is no significant difference in the mean ratings of the State and Federal College of Education students in sloper/large-scale garment production patternmaking for large-scale garment production.

From the independent *t*-test means in Table 4, the results show that the mean ratings of the Federal College of Education students in sloper/large-scale garment production patternmaking for large-scale garment production (M = 2.662, SD = 1.031) are higher than the mean ratings of the State College of Education students in sloper/large-scale garment production patternmaking for large-scale garment production (M = 2.544, SD = 1.122). Also, the calculated *t*-value of 0.266, which is not significant at the 0.05 level of probability, is lower than the critical *t*-value of 1.714. Consequently, the study accepts the null hypothesis and infers that there is no significant difference in the mean ratings of the State and Federal College of Education students in sloper/large-scale garment production patternmaking for large-scale garment production.

Hypothesis 2: There is no significant difference in the mean ratings of the State and Federal College of Education students in flat pattern drafting for large-scale garment production.

From the independent *t*-test means in Table 5, the results show that the mean ratings of the State College of Education students in flat pattern drafting for large-scale garment production (M = 2.504, SD = 1.091) are higher than the mean ratings of the Federal College of Education students in flat pattern drafting for large-scale garment production (M = 2.48, SD = 1.087). Also, the calculated *t*-value of 0.054, which is not significant at the .05 level of probability, is lower than the critical *t*-value of 1.714. Consequently, the study accepts the null hypothesis and infers that there is no significant difference in the mean ratings of the State

Table 6. The *t*-test group statistics on the difference in the mean ratings of the State and Federal College of Education students in fashion draping for large-scale garment production.

Group	n	$\bar{x}$	SD	t-cal	t-crit	df	sig.
FCE students	15	2.62	1.084				
				0.343	1.714	23	0.05
SCE students	10	2.468	1.086				

and Federal College of Education students in flat pattern drafting for large-scale garment production.

Hypothesis 1: There is no significant difference in the mean ratings of the State and Federal College of Education students in fashion draping for large-scale garment production.

From the independent *t*-test means in Table 6, the results show that the mean ratings of the Federal College of Education students in fashion draping for large-scale garment production (M = 2.62, SD = 1.084) are higher than the mean ratings of the State College of Education students in fashion draping for large-scale garment production (M = 2.468, SD = 1.086). Also, the calculated *t*-value of 0.343, which is not significant at the 0.05 level of probability, is lower than the critical *t*-value of 1.714. Consequently, the study accepts the null hypothesis and infers that there is no significant difference in the mean ratings of the State and Federal College of Education students in fashion draping for large-scale garment production.

DISCUSSION

Research question 1 sought to find out the competency needed in sloper/large-scale garment production patternmaking by the clothing and textile students for large-scale garment production in Anambra State. The results demonstrated that sloper/large-scale garment production patternmaking by the apparel and textile students is a competency required for large-scale garment production in Anambra State. This competency includes the capacity to compute yardage for bespoke bias. Al-Liati and Al-Dabagh [1] supported this finding and stated that tailors must be able to acquire precise measurements and use that knowledge to make the ideal suit. Therefore, the tailor will be able to utilize the exact amount of material if body measurements are accurately collected. According to Wang and Liu [21], basic large-scale garment production patterns can be created to accommodate certain body types by employing personal measurements as opposed to those that are provided as standard on a size chart. This is due to the possibility of the cloth material running out if the tailor utilizes it excessively without acquiring body measurements. Additionally, adding little dresses or suits requires more fabric. When using sloper/large-scale garment production patterns, the client's clothing will only fit properly if accurate body measurements were acquired, calculations were completed, and construction lines were properly

placed on the drafting paper. The respondents concurred that sloper/large-scale garment production patternmaking by the clothing and textile students is necessary for large-scale garment production in Anambra State. These skills include the ability to use a rotary cutter and cutting mat effectively, the ability to master the techniques of making prototypes and samples in a way that is congruent with the defined esthetic and wearability characteristics, and the ability to take accurate measurements. Combining these findings, Mehta and Shah [15] affirmed that creating a fundamental large-scale garment production pattern is a necessary step that can be used for any design and any style of apparel since it accommodates all body shapes. This implies that creating an appropriate basic large-scale garment production design improves the quality of the clothing items.

Research question 2 dealt with the competency needs in flat pattern drafting by the clothing and textile students for large-scale garment production in Anambra State. The results demonstrate that slashing and spreading patterns are skills required in flat pattern design. In accordance with this discovery, Bob-Eze and Arubayi [5] deemed the capacity to employ a variety of pattern drafting tools and the capacity to adhere to fundamental pattern drafting principles to be particularly crucial for entrepreneurship and large-scale garment production. Drafted patterns can be used to create excellent clothing if the user is skilled and careful. The study also discovered that a crucial skill requirement is the capacity to create new patterns and enhance those that already exist. This is because each garment has a unique pattern, as stated by Patel et al. [18]; therefore, designers show off their originality and prominent status in the community of fashion-conscious people by making in-demand items of clothing. According to Anikweze [2], flat patterning has a number of benefits, including the capacity to create patterns that fit into budget-friendly fabric layouts and the ability to redesign existing patterns and out-of-date apparel into new ones. It also makes it simple to identify the reasons for errors made when creating the pattern and how to fix them. One can effectively plan and arrange themselves throughout the creation of clothing by using pattern drafting.

Research question 3 reveals the competency needed in fashion draping by the clothing and textile students for large-scale garment production in Anambra State. The outcome showed that proficient basting of the fabric is necessary for fashion draping. According to Chang [8], basting is particularly helpful with slick or silky fabrics that move around readily. Additionally, the study demonstrated that for large-scale garment production, the ability to perform proper preparation for flawless and accurate measurements of the garment or dress form is required in fashion draping by the clothing and textile students. According to Xia et al. [22], precise measuring, preparation, and conversion will guarantee that the garment will seem as intended. These skills are useful for sewing things like zippers, lace, or piping onto fabric, according to Park [17]. According to Li et al. [12], personalization is the main benefit of draping. If tailors simply conduct testing before cutting the fabric, there is also reduced fabric waste. Making paper patterns and motifs throughout the draping process also makes it possible to generate ideas for future dresses.

CONCLUSION

The main objective of this study was to evaluate the patternmaking skills required of clothing and textile students in Anambra State. It is clear that efficient fabric basting is a skill required for fashion draping by apparel and textile students for large-scale clothing production in Anambra State. The capacity to compute yardage for bespoke bias is a competency needed in sloper/large-scale garment production pattern construction by the apparel and textile students for large-scale garment production, according to the researcher's examination of the data presented in this study. The study also showed that the ability to cut and spread patterns is a skill required in flat pattern drafting. As a result, flat patterns have several benefits, including the ability to design patterns to fit into affordable fabric layouts and the potential to redesign old patterns and out-of-date clothing into new ones.

One of the most vibrant industries in international trade is ready-made clothing. From a worldwide viewpoint, the industry is predicted to produce a sizable quantity of income and jobs. The production of clothing is one of the most in-demand industries worldwide. Methods for creating patterns and how they are processed are essential steps for the business. This study would aid in facilitating a thoughtful evaluation of standards and brands of garments and will assist in enhancing the capacity to discern quality in fabrics, taking into account the abilities required for pattern development. This study will assist students majoring in clothing and textiles in selecting or picking the best fabric for a particular use, such as selecting high-quality fabrics appropriate for bed sheets, curtains, dresses, etc. They will also learn how to cut fabrics on the bias or with the grain when designing a fabric. Future research should concentrate on the learning of free-hand cutting and pattern drafting abilities by apprentices and informal dressmakers and tailors in Nigeria.

RECOMMENDATIONS

Based on the findings of this study the following recommendations are made:

- Dressmakers and tailors should develop guidelines for each technique or method so that they can align

with the clients' preference for the fit and style modification of apparel.

- Dressmakers and tailors should be encouraged to meet the requirements of their clients by constructing apparel to cater to their fit and style modification preference.
- Institutions of higher learning should offer short courses in "real" fabric draping for interested learners to increase the number of skilled manpower with advanced and practical knowledge of the technique in the fashion design industry.
- Universities and other stakeholders should ensure that the curricula developed for fashion design courses include "real" fabric draping techniques for design.

CONFLICT OF INTEREST

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

AUTHOR CONTRIBUTIONS

Adilo Obioma Angela contributed to the conceptualization, methodology, software, data curation, writing (original draft preparation), visualization, investigation, and writing (reviewing and editing).

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