

The Appropriate Use of Elements and Principles of Design in Garment Construction by Dressmakers and Tailors in the Ho Municipality of Ghana

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ABSTRACT: Elements and principles of design are essential to every art form. They work together to produce pleasing garment designs. Arranging them well creates a feeling of completeness in a garment. The study assessed the application of the elements and principles of design in garment development by dress makers and tailors in the Ho Municipality of Ghana. This is essential in addressing the challenges dressmakers and tailors face during designing and garment construction. Both quantitative and qualitative research methods was used for the study as it allowed for detailed description of dresses sewn by tailors and dressmakers in the municipality. Questionnaires were administered to dressmakers and tailors to gather the needed data. Simple random sampling was used in selecting the tailors and dressmakers for the study. The study shows that, most dressmaker and tailors in the municipality do not have much understanding of the use of elements and principles of design and its application in creating aesthetically appealing garment designs.

KEYWORDS: Design, elements, Principles, Dressmakers, Ghana.

I. INTRODUCTION

Fashion has always been changing and evolving. Since people started wearing clothing, fashion has existed. In his 1850 book- "*Fashion: The power that influences the world*", George P. Fox said, 'Fashion is and has been and will be, through all the ages, the outward form through which the mind speaks to the universe' [1]. Fashion is an economic force, a culture industry and a powerful way to convey identity, politics, status, and personality [2]. Stone explains that, an in-depth study of the history of fashion in its symbolic, creative and coercive faces confirms how it has been central in the construction of national identities and the remapping of the world economy. Stone [2] maintained that "fashion is one of the greatest economic forces in present day life; to a great extent, it determines what people buy". Black and Cloud [3] stresses the need for a fashion design to enhance and advance the design and creative skills of dressmakers. Kozar and Hiller Connell [4] argue that there are concerns regarding fashion designers' professional development relative to apparel production.

Fashion design is the applied art dedicated to clothing and lifestyle accessories created within the cultural and social influences of a specific time [5]. Designers create original garments by appropriately using the components of design such that the outcome follows established fashion trends [6]. A design is seen in two folds – a process and a product. As a process, it is planning, organizing to meet a goal, being carried out to meet a particular purpose and as a product, it is an end result, an intended arrangement that is the outcome of that process or plan [7]. The arrangements are done by using the elements and principles of design to create a visual image [8]. The Elements and Principles of Design that form the integral part of every design work are discussed in almost every beginning design course with basic

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 4, April 2015

terminology for understanding the concepts of design [6]. Davis [7] explained elements and principles as having distinct roles, though he sees the two as tools used to create desired visual effects Davis relates the elements to ingredients and the principles as strategies to organizing the elements so as to hold interest and command attention. These are also employed in other creative medium: music, architecture, film, theatre, and writing. They also have a base deep in humanity, affecting values, attitudes, cultures and ethnicities [6], [9].

According to Anitha[10] 'Understanding how and why a person responds to the various elements and principles of design and knowing how to control and use them effectively for a good design is an important aspect in designing'. Construction of garments should be designed considering three key characteristics: structure, function and decoration. It should be structurally appealing and appropriate for the customer's need. Functionally, it should give the added value or function that the garment is expected to perform and decoratively, it provides a psychological feeling of well-being through beauty. These three characteristics are present in a garment when the elements and principles of design have been defined as the fundamental components from which visual design is made [10]. Appreciating the effective use of the elements and principles of design are basic to any good designing processes in the field of art and fashion in particular. Clothing items are not only assessed by the senses, but also with emotions and mind. The aesthetic experience, which comes from a garment, addresses internal fulfillment, multi-sensory properties, emotional aspects and the socio-cultural characteristics of the creator as well as the garment appearance. Ignorance of the effective use of elements and principles of design makes any dressmaker or tailor look odd in the fashion world.

Fashion is a playground of contradictions; creative and technical; art and profit; local and global. It throws a diverse set of people together to transform a creative vision into something tangible and profitable [11]. Fashion is a social phenomenon common to many fields of human activity and thinking and has always been a reflection of our society. It can transform an image, help express a person's identity or even make a social statement, in its wider sense; fashion portrays the zeitgeist - the spirit of our times [12]. In dressmaking, the tailor or dressmaker needs to consider the designing of clothes based on the intended purpose of the customer. It is noteworthy that designing is the most essential aspect of dressmaking. It therefore means that one cannot make an aesthetically pleasing garment without the knowledge and understanding of the elements and principles of design.

In the Volta Region of Ghana specifically Ho municipality, there are many dressmakers who sew dresses for the inhabitants. Most of the dresses sew always lack the effective and efficient use of the elements and principles of design. Although the dresses sew could fit the consumers, it's construction using space, lines, shape, form, colour, value, and texture, balance, movement, repetition, emphasis, contrast and unity, rhythm and harmony lives a lot of questions to be answered. Consciously or unconsciously, almost all the dressmakers in the Ho municipality has taken the trend of not taking into consideration how effectively they have to make good use of the elements and principles of design in their garment construction. In this direction one can state emphatically that if care is not taken the fashion or dressmaking in Ho municipality would lose its value for lack of effective use of elements and principles of designing.

Elements and principles of design have a lot of functions in garment construction. Although most garments or dresses have elements such as line, shape, form, dots, texture, colour and principles of design such as variety, harmony, emphasis and others, it has been observed that elements and principles of design are not well used by fashion designers in construction of garment especially in the Ho Municipality. Dressmakers at the Ho Municipality make use of colours, shape, line, form, dots, texture, contrast, variety, harmony, emphasis, dominance and proportion, there is still some problems with the way dressmakers and tailors in the Ho Municipality effectively use these elements and principles of design.

Dressmakers at the Ho Municipality construct garment with concentration on the measurements to fit the consumer. On the other hand the dressmakers lack the combination and effectual use of the elements and principles of design in dressmaking. Some dresses produced by dressmakers turn to either over elaborate or misuse the elements and principles of design. One wonders whether the avoidance in using the elements and principles of design in its appropriate context is due to lack of education during training or difficulty in combining the elements and principles of design during dress production. It is in the light of this that the researchers want to find out the causes and whether there could be some solution in the use of elements and principles of design in garment construction by dressmakers in the Ho Municipality. The study therefore assessed the application of the elements and principles of design in garment development by dress makers and tailors in the Ho Municipality of Ghana so as to bring out possible ways of

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 4, April 2015

improving the effective use of elements and principles of design in garment construction by addressing the challenges that dressmakers and tailors face during the use of the elements and principles of design in garment construction.

II. MATERIALS AND METHODS

2.1 Research Design

A 'research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data' [13]. Saunders et al. [14] explained that the choice of any research design is based on several of factors with the ultimate being the characteristics of the variables or population being used or studied. This study is exploratory and employs a case study strategy. An exploratory study is a valuable means of finding out 'what is happening; to seek new insights; to ask questions and to assess phenomena in a new light' [15]. Whiles a case study is a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence [15]. Taking into consideration the purpose of this study, gathering and analysis of data were carried out using mixed methods. The mixed methods strategy seems to be the appropriate methodology for this study given the purpose of the research and the nature of research questions that this study seeks to address. Employing a single approach to the study may limit the comprehensiveness of the data and accuracy of the findings [14].

Creswell [16] argued that qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. Qualitative research has two main characteristics. First and foremost they focus on phenomenon that occurs in natural settings, that is, in the "real world". Secondly, they involve studying those phenomena in all their complexity [17]. Qualitative research was used to explain how tailors and dressmakers produced their dresses. The qualitative research method was used for the study because it allowed for detailed description of dresses sewn by tailors and dressmakers in the Ho municipality.

Best [18] stated that "when observation is used in qualitative research, it usually consists of detailed notation of behaviours, events, and the contexts surrounding the events and behaviours." Observation as a method is commonly used in the behavioural sciences. Observation becomes a scientific tool and the method of data collection for researcher, when it serves a formulated research purpose, is systematically planned, recorded and subjected to checks and controls on validity and reliability [19]. Observation guidelines and measures suggested by Kothari [13], Bhattacharjee [19] and Neville [20] were taken into consideration to ensure the credibility and reliability of using observation for data collection. The participant observation technique was used in an unstructured manner to gain access to the process used by tailors and dressmakers in Ho municipality. As the name suggest the researchers has to participate in some of the process that the tailors and dressmakers were using to sew their dress.

To collect as much and as diverse data as possible that can help generate the best possible insights about the phenomenon of interest, the researchers also conducted documents review to complement the other methods. The purpose of documentary analysis was to enrich the literature and also to support the study's findings derived from the participants' responses. Gall [21] asserted that documentary evidence is necessary because it provides a rich discourse of facts punctuated with opinions making it useful in cross referencing of present findings.

2.2 Population and sample

Wiersma [22] defined population as the totality of all members that possess a special set of one or more common characteristics that define it. Since we could not study the entire population because of feasibility and cost constraints, we selected a representative sample from the population of dress makers and tailors for observation and analysis. Sampling is the statistical process of selecting a subset of a population of interest for purposes of making observations and statistical inferences about that population [19]. A sample on the other hand is a segment of the population selected to represent the population as a whole [20]. Ideally, the sample should be representative to allow the researchers to make accurate estimates of the thoughts and behaviour of the larger population. The target population of the study was

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 4, April 2015

one hundred and eighty (180) registered members of the tailors and dressmakers association in the Ho municipality. A final sample of 100 was drawn from an accessible population of 180 with five zonal divisions. Simple random sampling was used in selecting the tailors and dressmakers for the study. According to tailors and dressmakers Association in the Ho municipality there are one hundred and eighty (180) registered members. Each division had about thirty five (35) registered members. Leedy [17] asserted that for quality research, at least, thirty percent (30%) of the total population for study is a fair representation of an acceptable accuracy of results. The questionnaire designed by the researchers was then administered to the sample by the researchers. One hundred copies of questionnaire were administered to five divisions namely Ahoe, Dome, Bankoe, Heve, and Hliha in the Ho municipality. Each division received twenty copies of questionnaire.

III. RESULTS AND DISCUSSIONS

From data collection, the data was analyzed and interpreted for the purpose of drawing conclusions with regards to the issues of interest.

Table 1: Background information of respondents

Item	Frequency (%)
Gender	Male 32 (32)
	Female 68 (68)
Age	< 20 66 (66)
	21 - 40 16 (16)
	41 above 18 (18)
Educational Level	Basic 6 (6)
	Secondary 70 (70)
	Tertiary 12 (12)
Number of years on sewing	Others 12 (12)
	1 - 2yrs 30 (30)
	3 - 5yrs 46 (46)
	6 - 10yrs 18 (18)
	10yrs above 6 (6)

Table 1 shows the total number of dressmakers and tailors who responded to the questionnaire. The total number of dressmakers and tailors were one hundred (100) of which thirty two (32) were males and sixty-eight (68) were females. This is a clear indication of the dominance of females in the sewing industry in the Ho municipality. The respondents were of different ages which were ages lower than 20, 21-40 and 41 above. Sixty-six percent (66%) of the respondents were less than 20 years. This means that the dressmakers and tailors in the municipality are teenagers full of energy and new in the dressmaking industry. Sixteen percent (16%) of the respondents were between the ages of 21-40. This category is also energetic with some level of experience in sewing. Again 18% of the respondents were 41years and above. These classes of people have been in the sewing industry for long and well experience in sewing.

In response to the educational level, out of 100 respondents, Basic, Secondary, Tertiary and Other form of education recorded 6%, 70%, 12% and 12% respectively. This shows that the sewing industry in the Ho municipality is full of dressmakers and tailors with secondary education. This level of education implies that the respondents should be able to apply the academic knowledge to advance and improve their activities with regards to application of the elements and principles of design. It was worthy to know the level of experience of the respondents by way of the number of years spent in the industry. Table 1 again shows the number of years of experience that the dressmakers and tailors in the municipality have attained. The dressmakers and tailors with 3-5 years working experience recorded 46% which is the highest percentage. This means that most of the dress sewers have some number of years of working experience. The dressmakers and tailors with 1-2 years working experience recorded 30%. Thus quite a number of the dressmakers and tailors in the municipality are less experienced in the sewing industry. Dressmakers and tailors with 6-10 years working experience also recorded 18% while's dressmakers and tailors with 10 years and above working experience recorded 6%. It seems that there are less a number of that well experience in the dressmaking industry in the municipality.

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 4, April 2015

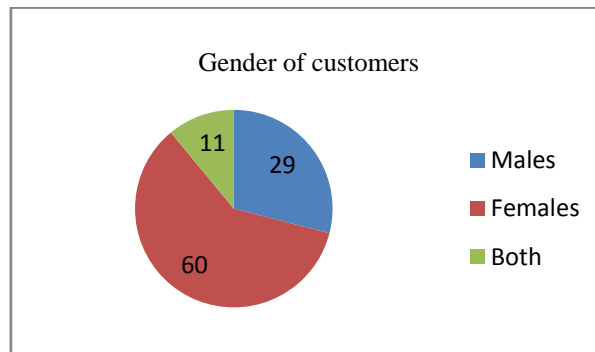


Figure 1: Gender of customers

There was the need to identify the kind of customers that patronise sewing. Figure 1 shows that 29% of the dressmakers and tailors in the Ho municipality sew mostly for male customers. The dressmakers and tailors that sew for female recorded 60% and 11% sew for both male and female customers. This result positively corresponds to the gender of the dressmakers as indicated in Table 1. Because there were more females dressmakers/tailors than the male counterparts, they sew for sex of their kinds. On the other hand, 11% of the respondents sew for both male and female customers.

Table 2: Use and application of elements and principles of design

Statement	Yes Frequency (%)	No Frequency (%)
Do you face challenges when using the principles and elements of design?	71 (71)	29 (29)
Do you have any challenges about elements of design?	94 (94)	6 (6)
Do you have any challenges about principles of design?	88 (88)	12 (12)
If yes, have you been using them in your dressmaking?	88 (88)	12 (12)
Can you name some of the elements and principles of design?	90 (90)	10 (10)
In pattern drafting do you consider the elements and principles of designing?	72 (72)	28 (28)
Do you consider element of design differently from principles of design in your dressmaking?	60 (60)	40 (40)
Do you consider combining element and principles of design in your trade?	40 (40)	60 (60)
Do you see the need for the use of elements and principles of design in dressmaking?	84 (84)	16 (16)
Do you consider human figure in relation to elements and principles of design in your trade?	89 (89)	11 (11)
Does your customers like the way you sew for them?	90 (90)	10 (10)

Design elements are the basic units of a visual image. These elements take the “3 F”, meaning Form Follows Function. Form refers to what something looks like, and function refers to how it works[23]. From Table 2, 71% of the respondents said they have challenges about designing which is a minus to effective use of elements and principles of design in dressmaking. Twenty-nine percent (29%) also said they have no challenges about designing which is significant to dressmaking in the municipality. The researchers believe that with high percentage of dressmakers and tailors having knowledge about designing, it would go a long way to help the dressmaking industry in the Ho municipality. Although the researchers were not expecting 100% perfection from those without challenges about designing. With specific reference to elements of design, 94% of the respondents said they have challenges about elements of designing. Six percent (6%) also said they have no challenges about elements of designing which is a plus to dressmaking in the municipality. Majority of dressmakers and tailors of the municipality seems to know about elements of design as compare to those who do not know. Likewise to the principles of design, from Table 2, 88% of

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 4, April 2015

the respondents said they have challenges about principles of designing as against 12% who have no challenges about principles of designing. It was clear that majority of the dressmakers and tailors seem to know about principles of design but have difficulty in their utilization. Relating these challenges together, the researchers were optimistic because majority of the dressmakers and tailors have challenges with the utilisation and application of these two concepts, there would not be a good blend of design in dresses sewn in the Ho municipality.

When the respondents were asked of their rate of use the elements and principles of design in their dressmaking, 88% of the respondents said they have being using both the principles and elements of designing in their dressmaking. The remaining (12%) also said they have not being using both the principles and elements of designing in their dressmaking. Of course it is more likely that those who use the elements and principles of design in their dressmaking will sew dress of high aesthetic quality and good to be appreciate by customers and onlookers. The researchers probed further to know if the responses were the reality on the ground by asking the dressmakers/tailors to name some of the elements and principles of design. Ninety percent (90%) of the respondents in Table 2 could name some of the principles and elements of design in their dressmaking. However some few ones (10%) could not name any of the principles and elements of design used in their dressmaking. It can be understood that if the majority can name them then they know their elements and principles very well.

Pattern drafting is very essential in dressmaking. Like all languages, a pattern language has vocabulary, syntax, and grammar[24]. Most dressmakers and tailors use it in sewing for their customers. In Table 2 it can be observed that dressmakers in the municipality like using pattern drafting. This is because majority of them considers elements and principles of design in pattern drafting as against 28% of the dressmakers and tailors who do not consider elements and principles of designing in pattern drafting for their dressmaking process. On another twist, it was proved that 60% of the respondents consider elements of design differently from principles of design. The minority (40%) on the other hand consider elements of design and principles of design together. It was interesting to note that majority of the dressmakers/tailors consider elements of design differently from the principles of design. Spencer [25] stated that, the designer of cloths views the human form, not just from the front, but from all sides that is both form and shape. The line of a good dress design must continue from the front around the sides and the back to obtain unity in the costume. In Table 2, 84% and 16% of the respondents said yes and no respectively for the need for the use of elements and principles of design in dressmaking. In dressmaking, the tailor and the dressmaker need to consider the designing of the clothing base on the intended purpose of the costumer. It is important to note that designing is the most essential aspect of dressmaking. It therefore means that one cannot make a good sewing without good knowledge about designing. To put a good scenario of the essence of the questions asked on the use of the elements and principles of design, the respondents were asked if they consider the human figure in relation to the elements and principles of design when sewing for their customers. Majority (89%) of the dressmakers in the municipality assume to consider the human figure in relation to the elements and principles of design when sewing for their customers. On the other hand 11% of the dressmakers do not consider the human figure in relation to the elements and principles of design when sewing for their customers. Aldrich [26] explained that in garment construction, appreciation of shape of the body and it movement is crucial. It therefore means that the human body shape must be consider very well in dressmaking. To this point and from Table 2, 90% of the respondents said their customers like the way they sew for them and only 10% of who said their customers are sometimes not happy of their way of sewing.

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 4, April 2015

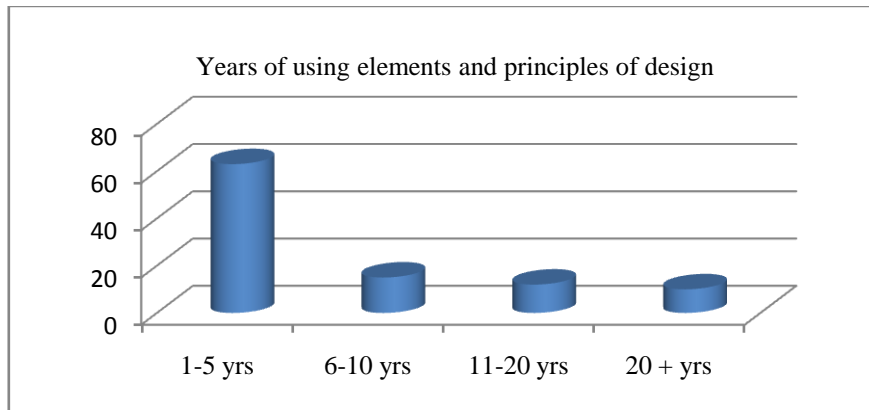


Figure 2: Years of using elements and principles of design

It can be seen that majority of those who have been using the elements and principles of design have used it for about 1-5 years. This is followed by those who have used it for about 6-10 years. The third highest were those who have been using the elements and principles of design for 11-20 years. The last were those who have been using the elements and principles of design for 20 years above. One can observe that the most experienced in using the elements and principles recorded the low percentage. The more experienced the less percentage you record. To successfully combine all elements of design such as line, shape, space, texture and colour in clothes so they look good on a figure, the principles of design becomes artistic guidelines for using the various design elements within a garment. These principles include balance, proportion, emphasize, rhythm, and harmony, movement, unity, variety, contrast and repetition [27].

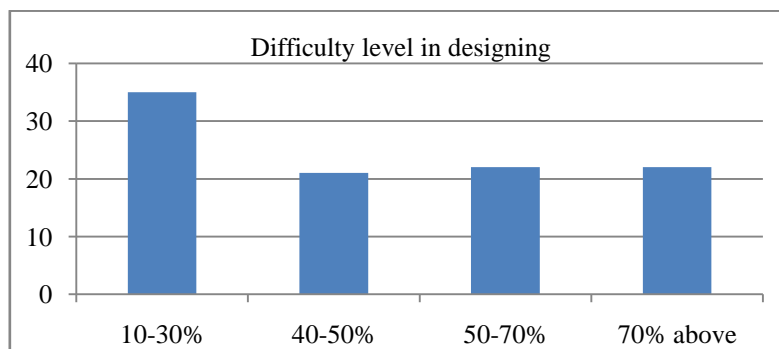


Figure 3: Difficulty level in designing

Figure 3, shows the percentage level of respondents understanding in designing. 10-30% difficulty level recorded 35% respondents. 50-70% and 70% above difficulty level recorded 22% each with 40-50% difficulty level recorded 21%. The higher percentage of challenges was 35%. This class of challenges is between 10-30%. It can be observed that this class is the low level of challenges as compared to the other class of challenges. 50-70% and 70% had 22% respectively but on the lower side of percentage as related to the class of 10-30%. On the other hand there were 21% of those that challenges ranges between 40-50%.

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 4, April 2015

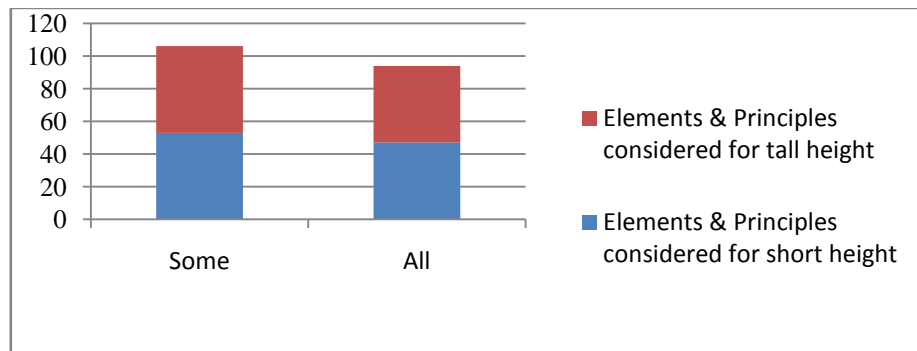


Figure 4: Consideration of elements and principles of design for short and tall height people

There were 47% of the respondents who apply all the elements and principles for tall height people and 53% of the respondents apply some of the element and principles for tall height people and similar pattern for short height people. It is necessary to consider the purpose of the garment and the practicality of the style. It is also important to consider the colour and texture of the fabric to be used when looking at style and choice [28].

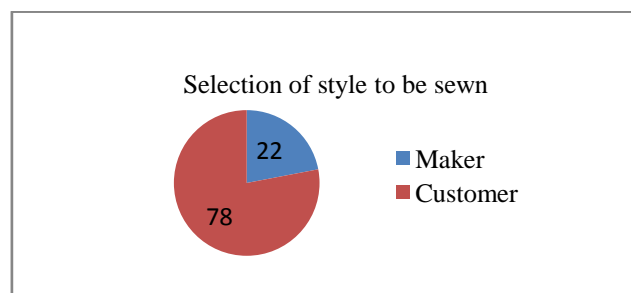


Figure 5: Person responsible for selection of style to be sewn

Figure 5 show that 22% of the dressmakers choose the style to be sewn for customers while 78% of the respondents said the style to be sewn comes from the customers. Cock [28] elucidated that dressmaking is a creative art and there are basic needs that a dressmaker or tailor should have in order to make a good dress. Based on Cock's assertion, one can say that tailors and dressmakers in the municipality should at least have the general equipment. The researchers observed that lack of some of this equipment could have negative effect on the trend of sewing in the Ho municipality.

IV. CONCLUSION

Fashion designers attempt to design clothes which are functional as well as aesthetically pleasing. They must consider who is likely to wear a garment and the situations in which it will be worn. They have a wide range and combinations of materials to work with and a wide range of colours, patterns and styles to choose from. Although dressmakers and tailors in Ho municipality know and use elements and principles of design in garment construction, they do not use it adequately and effectively. It therefore means that dresses in the municipality lack the effective use of elements and principles of design. Dressmakers and tailors in the municipality also use elements and principles of design knowingly and unknowingly. This is because in the findings dressmakers and tailors cannot tell when and how they use them. Based on the findings most dressmaker and tailors in the municipality do not have much working experience in the sewing industry. They rather imitate other sewers who also have less experience in sewing. Education level of most dressmakers and tailors is not that high to support the sewing education acquire through apprenticeship in their various places of study. Dressmakers and tailors in the municipality mostly finish their work in such a way that as one get close to the dress, one observed that elements and principles of design were not well applied. Dresses worn by people in the

International Journal of Innovative Research in Science, Engineering and Technology

(An ISO 3297: 2007 Certified Organization)

Vol. 4, Issue 4, April 2015

municipality are those with the style chosen by the customers and that the customers appreciate them. Fashion also looks at the cultural background of the society and the consumer. A cross-cultural look at clothing and its place in society significantly influence the dressmaker's decision of sewing; as such tailors and dressmakers in the Ho municipality should consider the cultural background of their customers and their environments.

REFERENCES

- [1] Fox, G. P., "Fashion: The power that influences the world: The Philosophy of Ancient and Modern Dress and Fashion". London: Lange and Hellman, Printers & Stereo-Typers, 1872.
- [2] Stone, E., "The Dynamics of Fashion". Canada: Bloomsbury Publishing Inc., 2013.
- [3] Black, C., and Cloud, R. M., "Development of an Apparel design graduate programme emphasizing creative scholarship". International Journal of Fashion Design, Technology and Education, 2(2-3), pp 113-118, 2009.
- [4] Kozar, J. M., and Hiller Connell, K. Y., "The fashion internship experience: identifying learning outcomes in preparing students for the 'real world". International Journal of Fashion Design, Technology and Education, 8(1), pp 3-11, 2014.
- [5] Rajesh, R., "Basic Concept of Fashion Designing". Scribd (www. Scribd.com), 2009.
- [6] Watson, J. R., "A Survey of Design Elements and Principles and the Development of Design Components". Edmond, 2003.
- [7] Davis, M. L., "Visual Design in Dress (3rd edn)". New Jersey: Prentice Hall, Upper Saddle River, 1996.
- [8] Sumathi, G. J., "Elements of Fashion and Apparel Design". New Delhi: New Age University, 2007.
- [9] JaneAnn, S., "Exploring the Elements and Principles". Iowa State: University Extension, 2000.
- [10] Anitha, D., "Fashion and Apparel Designing: Fashion and Garment Making". State Institute of Vocational Education, Directorate of Intermediate Education. Government of Andhra Pradesh Hyderabad, 2005.
- [11] Charbin, A., "Collaboration in the Fashion Industry". India: San Blue Enterprises Pvt. Ltd., 2012.
- [12] Burke, S., "Fashion Designer: Concept to Collection". UK: Burke Publishing, 2011.
- [13] Kothari, C. R., "Research Methodology Methods & Techniques". New Delhi: New Age International (P) Ltd., Publishers, 2004.
- [14] Saunders, M., Lewis, P. and Thornhill, A., "Research Methods for Business Students (5th edn)". England: Pearson Education Limited, 2009.
- [15] Robson, C., "Real World Research (2nd edn)". Oxford: Blackwell, 2002.
- [16] Creswell, J. W., "Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (4th ed.)". Boston, MA: Pearson Education, Inc., 2012.
- [17] Leedy, P. D. and Ormrod, J. E., "Practical Research. Planning and Design (8th ed.)". New Jersey, USA: Pearson Prentice Hall Publications, 2005.
- [18] Best, J. W., "Research in education (4th ed.)". Englewood Cliffs, New Jersey, USA: Prentice Hall Inc., 2002.
- [19] Bhattacharjee, A., "Social Science Research: Principles, Methods, and Practices". Textbooks Collection. Book 3, http://scholarcommons.usf.edu/oa_textbooks/3, 2012.
- [20] Neville, C., "Introduction to Research". University of Bradford School of Management, Effective Learning Service, 2007.
- [21] Gall, M. D., "Educational research: An introduction". New York: Longman, 1989.
- [22] Wiersma, W., "Research methods in education: an introduction (4th ed.)". Boston: Allyn and Bacon, Inc, 1986.
- [23] Nielson, K. J., and Taylor, D. A., "Interiors: An Introduction". New York: McGraw-Hill Companies, Inc, 2002.
- [24] Alexander, C., "A Pattern Language: Towns, Buildings, Construction". Oxford University Press, USA, 1977.
- [25] Spencer, C., "Style Council Slimline 3rd ed". London Publishers, 1998.
- [26] Aldrich, W., "Fabric, Form and Flat Pattern Cutting" Garsington Road, Oxford, UK: Blackwell Publishing Company, 1996.
- [27] Kawamura, Y., "Fashion-ology. An introduction to Fashion Studies". New York: USA: Berg Publication, 2005.
- [28] Cock, V. I., "Dressmaking Simplified". Osney Mead, Oxford, UK: MacGibbon & Kee Ltd., 1981.