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Fashion Design: 'Real' Fabric Use in Draping and Curriculum Implementation in Public Institutions of Higher Learning in Nairobi County, Kenya

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Abstract: *The wearing of clothing is exclusively a human characteristic and is a feature of most human societies. Fashion design is an artistic and functional industry that helps to clothe people while incorporating style. Fashion design goes beyond just a designer thinking of a garment, sketching it and then sewing it together. All these activities require extensive and intensive training and exposure to practical work in fashion design. Based on the study that assessed the usage of 'real' fabric draping for design in public institutions of higher learning Nairobi County, Kenya, this paper examines the use of 'real' fabric draping for design in public institutions of higher learning and the relationship between use of 'real' fabric draping for design and source of curriculum, pattern development taught and students' attitudes. The study was guided by the Activity Theory and Pedagogic Activity System Structure. A cross-sectional survey research design was employed. Five public institutions of higher learning were purposively selected in Nairobi County, namely Kenyatta University, Technical University of Kenya, Kenya Technical Teachers College, Kenya Textile Training Institute and Nairobi Technical Training Institute. The sample size comprised five heads of department, 32 teachers, 266 students and 30 fashion designers. The data was collected using questionnaires and interview schedules. Both qualitative and quantitative data analysis techniques were used. The results revealed that very few public institutions of higher learning used 'real' fabric draping for design. Majority of the teachers were not trained in the area of fashion design. Chi-square results yielded a fairly strong relationship between use of 'real' fabric draping for design and pattern development technique taught (V= 0 .646; p < 0.0001*) and sources of curriculum (V= 0.623; p < 0.0001*). It was concluded that pattern development technique taught, sources of curriculum and teachers' area of training are issues associated with the use of 'real' fabric draping for design in public institutions of higher learning.*

***Keywords*:** *Garment Design by Draping, Curriculum Implementation, Public Institutions, Higher Learning, Nairobi County, Kenya*

I. Introduction

1.1 Background

The most essential concerns of apparel designers the world over are the ability to apply materials and professional training. These traits in a fashion designer can be attained through professional training. It is without doubt, therefore, that specialized techniques are indispensable to an outstanding apparel designer. Production time and sewing skills are regarded as being of more relevance to production and not the key skills for an apparel designer. Therefore, for one to be successful in the field of fashion design, one must continuously learn.

The skills that students of fashion and textile attain should lead them to direct employment and equip them to create jobs of their own [1]. Apparel design courses are increasingly offered at different institutions of higher learning in Kenya. The lowest grade of these courses is the artisan level which is examined by the National Industrial Training Authority (NITA). The craft and diploma levels are examined by the Kenya National Examination Council (KNEC) and the Bachelor's, masters and doctorate degree levels are offered by universities [2]. These institutions offer courses in apparel design only for those who qualify with secondary or post secondary education. National Polytechnics, Institutes of Technology and Technical Training Institutes also admit trainees for apparel design courses. According to Utz [3], education and innovation are part of the major pillars of a knowledge economy towards which a country can align educational strategies. The education pillar denotes that an educated workforce should be developed to use knowledge effectively. The innovation pillar seeks to ensure that global knowledge diffuses into the nation and should be adapted for local use and to create new local knowledge. The study sought to establish if the skills taught in public institutions of higher learning in Kenya have been strategically planned to lead to economic benefits locally through employment creation.

1.2 Attitudes of Teachers and Students in the Learning Process

Hussain [4] posits that education is conceived as a powerful agent, instrumental in bringing about the desired changes in the social and cultural life of a nation. The whole process of education is shaped and moulded by the human personality called the teacher, who plays a pivotal role in any system of education. The preparation of any teacher functionary must conceivably get the highest priority. Teachers are expected to use the best practices and strategies to tackle the constraints and demands of their careers. Educators, therefore, have a duty to prepare students so that they are familiar with the technologies they will encounter at their work place. Teachers' beliefs and assumptions about the nature of knowledge, disciplinary norms, and how students learn affect the choice and use of technology for teaching [5].

A study by Skill Fast UK [6] on skills' needs assessment for apparel sector has identified a gap in core technical skills and knowledge amongst designers and garment technologists due to changes in technology and lack of investment in staff training. According to the Ministry of Education, Science and Technology (MOEST) [7], there is a low morale among the technical teachers and curriculum developers. There are also no staff development opportunities for curriculum implementers. Proper training and motivation of teachers enhances learning.

Davide [8] believes that the teaching profession demands clear set goals, love for the profession and obviously a more favourable attitude towards the profession. A teacher's job is to provide students with information, examples and guidance they need to build understanding on their own. Such knowledge should be part of the students beyond college. Muthui [9] observes that the clothing and textiles curriculum lacks clearly defined objectives so that the performance standards demanded for coursework are too high although it is allocated very few marks in relation to the work and time involved. According to Workman [10], student attitudes on learning determine their ability and willingness to learn. If negative attitudes are not altered, a student is unlikely to continue his education beyond what is required.

According to the Government of Kenya (GOK) [11], the absence of feedback from employees to training institutions leads to a supply-driven training that is skewed in favour of technologists. The technical graduates lack hands-on experience, have poor work attitude and are inflexible to change. The GOK [12] education report advocates for a new paradigm that will address flexibility innovations and productivity. The report advocates for acquisition of requisite skills that address the implications or changing labour market. Koech [13] further argues that the perception of technical and vocational education and training as being of lesser value than other occupations persists to this day in Kenya because individuals with technical and Vocational Education and Training (TIVET) qualifications tend to earn less than those with the same length of training at comparable levels. Based on this literature, it's clear that psychological factors, interaction between students and teachers and teachers' competencies can be detrimental to the learning processes.

1.3 Statement of the Problem

Munavu *et al.* [14] point out that, whereas the curriculum development process at the Kenya Institute of Curriculum Development (KICD) involves most stakeholders including higher education institutions, the curriculum in universities is developed by individual universities. According to Fullan [15] the implementation of curriculum innovation is bound to be unsuccessful, if teachers are not involved in the entire process of curriculum development. Such a scenario leaves curriculum development used by some institutions of higher learning in the hands of government sectors such as KICD who does not have mandate over technical personnel or examination.

Muchangi [16] has documented inadequate in-service training of lecturers as the main challenge facing implementation of curricula. According to Nyandusi [17], employers are dissatisfied with the preparedness of school graduates for the world of work. The employers further indicated a strong willingness for participating in curriculum development, but they haven't been involved. Notably, in today's fast, inter-related and versatile economy, employers are looking for productive employees who are quick, creative, flexible and up-to-date in new technology. Employees with these qualities can keep up with the changing systems and techniques in the workplace [18]. These changes apply to the production tools and techniques taught and used even within the apparel industry.

Mulama [19] observes that in Kenya, government statistics show that 90% of unemployed youth lack relevant skills. This is because certain youth polytechnics are still using the outdated syllabus of 1974 and are staffed by untrained personnel. This means that the content of the curriculum has a great bearing on career choice and graduate abilities in meeting future employment restrictions. The curriculum implementers are yet to embrace modern methods of teaching. There is more theoretical teaching at the expense of practical skills teaching due to lack of tools, equipment and materials for practical training. There is very little inspection of curriculum implementation at different levels [7].

Dumridhammaporn, Jatuphatwarodom, Punyopat and Chonsakorn [20] argue that the use of 'real' fabric draping in design has advantages such as satisfaction with garment fit, accurate proportions of fabric

division and reduced time waste as pattern making technique. There is very scanty literature on learning 'real' fabric draping for design and curriculum implementation in fashion design public institutions of higher learning in Nairobi County, Kenya. This is mainly because hardly has any research been done on the area in the current 8-4-4 system of education. The study, therefore, sought to fill this void.

II. Materials And Methods

This paper is based on a study that investigated the use of 'real' fabric draping for design as a basic pattern making tool in fashion design courses in Nairobi, Kenya. The study was carried out in Nairobi County in Kenya. The 2009 Kenya National Bureau of Statistics [21] National Census showed that Nairobi had the largest urban population of 3,138,369 persons with 1,605 230 being male and 1,533,139 females. It is the hub of fashion and holds a large number of fashion designers making ready-to-wear garments with the use of various garment design techniques. Nairobi has a poverty rate of 22.5% and ranks second countrywide based on Kenya County Fact Sheet [22]. This population may have a considerable percentage of money to spend on fashionable clothing as there is existence of a robust middle class. This customer base has seen Nairobi city become a hub of fashion trends. The city also holds numerous calendar fashion design events for ready-to-wear designs for their customers.

There are at least eight (8) institutions of higher learning in Nairobi County that offer fashion design and clothing design-related courses. These are: the Kenya Technical Teachers College (offers Diploma in technical education); the National Youth Service Engineering Institute (offers Diploma in Clothing Technology); Technology Development Centre (offers Diploma in Fashion Design); the Kenya Textile Training Institute (offers Diploma in Clothing Technology); the Technical University of Kenya (offers training in Garment Making and Fashion Technology); Kenyatta University (offers Bachelor of Science in Fashion Design and Marketing and Bachelor of Education in Home Economics); and Karen Technical Training Institute for the Deaf (offers Certificate in Garment Making). The County was therefore, chosen as it had the highest variation in types of institutions that offer fashion design related courses.

The use of 'real' fabric draping for design was the dependent variable of the study. It was dichotomous and measured by dummy-coding for membership in the category by asking the respondent to tick Yes (if they used 'real' fabric draping for design) = 1 or No = 0 (if otherwise). The independent variables of the study were: the demographic characteristics of the students and teachers, fashion design practises, learning resources, learning conditions and student's attitude. The independent variables were categorical in nature and were measured by closed-ended and open-ended items and Likert scales. The demographic characteristics were: gender, education level, area of training and technical subject studied at secondary school. The respondents were asked to tick from the list given which fashion design practises they utilized when teaching fashion design. Closed-ended items were used and the respondents were asked to tick from the list given.

The availability of learning resources, learning conditions and student's attitude were measured by use of a five point Likert scale. The students' attitude was measured by constructing positive and negative statements related to students' attitude; respondents then ticked against each response on the Likert score. The availability of learning resources was measured by listing items needed to be taught 'real' fabric draping for design. The students were asked to tick against each item on the Likert scale. Items related to learning conditions were generated from literature and respondents were asked to tick against each item on the Likert scale.

The target population was all heads of departments, teachers and students taking fashion design related courses in public institutions of higher learning in Nairobi County. According to a preliminary survey census carried out in July, 2011 by the researcher, there were 44 institutions of higher learning offering fashion design courses in Kenya. All practicing fashion designers who were formally trained were also targeted. The fashion designers were included because they were assumed to have had practical experience in 'real' fabric draping.

Five public institutions of higher learning were purposively included in the study. They were: one Public University, one University of Technology, one National Technical Teachers College, one Technical Training Institute and one Textile Training Institute in Nairobi County. Stratified simple random sampling was used to proportionately stratify the students according to the type of institution, course and year of study to qualify them into the strata. However, First Years were not included in the study as they were deemed not to have had sufficient exposure and training to contribute to the study objectives. The accessible population was, therefore, five heads of department, 32 fashion design teachers and 244 fashion design students. The fashion designers, teachers and students undertaking their master's, bachelor's and diploma courses were sampled as they were deemed able to give information that would assist in determining the use of 'real' fabric draping for design in public institutions of higher learning in Nairobi County.

A sampling frame of public institutions of higher learning that offer fashion design courses was generated by the researcher. Five public institutions of higher learning were purposively selected in Nairobi County, namely Kenyatta University, Technical University of Kenya, Kenya Technical Teachers College,

Kenya Textile Training Institute and the Nairobi Technical Training Institute. These institutions are accredited by the Ministry of Higher Education Science and Technology (MoHEST) or Commission for University Education (CUE) to offer training.

A table on sample size, confidence level and confidence intervals for random samples was used to determine a sample size 244 students from an accessible population of 266 students for the study. A table of random numbers was used to randomly draw the sample proportionately from each stratum at 0.05 confidence level and confidence interval of three. The students' class attendance registers were used as sampling frames. The number of students from each subgroup was used to determine the sample size and was based on the initial size of the sub-group. A census of all the 32 teachers and the five heads of department were selected to participate in the study as the sample size was too small.

Snowballing was used to select 30 practicing fashion designers to participate in the study. This was meant to ensure that any fashion designer who is formally trained in garment or apparel design was included in the study sample. Additionally, in Kenya there is no database for fashion designers. The Association of Fashion Designers (AFAD) was used as a base for snowballing. The final sample size excluded 22 students, two teachers, one head of department and four fashion designers who had participated in the pretesting of the questionnaire and interview schedule.

The instruments used for data collection were self-administered questionnaires for the fashion design teachers and students. The self-administered questionnaires developed had structured and unstructured items on the usage of 'real' fabric draping, demographic data, type of fashion design practices, attitude of students, learning resources and conditions of the respondents. A Likert scale with a five point-continuum ranging from 'strongly agree' to 'strongly disagree' was used to rank intangible components in the research. The respondents selected brief statements relating to attitude and types of fashion practices used. The respondents were also asked to rate whether the human and physical resources were 'Always' to 'Never' available in their respective public institutions of higher learning. The items used to rate attitude were positively and negatively worded statements. These items were later reverse scored so that the higher responses on the Likert scale would represent the same scale to reduce response bias during data analysis.

The semi-structured interview guide assisted in obtaining information on fashion design practices, garments produced and opinions on 'real' fabric draping for design by the fashion designers. Structured items were used during data analysis as the study was mostly quantitative in nature. The unstructured items were used to support emerging themes in the statistical results obtained. The content of the items included in the questionnaire and interview schedule were determined by the expert opinions from the field of education and fashion design.

The data collected was summarized and analyzed statistically in line with the objectives and hypotheses of the study. The research used the Statistical Software Package for Social Sciences (SPSS Version 17) to analyse the data. Quantitative data was analyzed to yield both descriptive and inferential statistics. Descriptive statistics such as frequencies, percentages generated were used to summarize and present the data obtained. The Chi-square test for independence (X^2) was used to determine if two categorical variables with less than 5 rankings were related. Chi-square was used to assess whether the association seen between the variables in a particular sample was likely to represent an actual relationship between those variables in the population. Chi-square test of independence statistics was conducted at an alpha of 0.05. Hypotheses were tested to determine the relationship between the independent variables.

The Nominal measure of correlation used was Phi *Ø* and Cramer's V (*V*) to measure degree measure association between variables. The nature of the data from the Chi-square statistics dictated the method used. Results for possible values with exact possible values (2x2) Phi *Ø* was used, whereas those that were unequal (2x3) Cramer's V (*V*) was deployed. The obtained values ranged from zero (representing lack of association) to one (representing strong association). Quantitative data from the structured part of the interview schedules was analyzed using frequencies. Qualitative data from the unstructured part of the interview schedule were compared and grouped according to similarities in order to develop thematic categories. These data were later used to supplement, explain and interpret qualitative data. The summary and presentation of the data collected was done in form of tables, bar graphs and pie charts. Qualitative data was used to discuss the emerging themes and help elaborate various findings of the data.

III. Results

The usage of 'real' fabric draping for design entails the practice, procedure and tendencies carried out by students and teachers of fashion design in public institutions. The study assessed the use of 'real' fabric draping for design, source of curriculum, curriculum review pattern, fashion design and pattern development techniques used, mode of teaching and challenges experienced.

3.1 Use of 'Real' Fabric Draping for Design in Public Institutions of Higher Learning

The study sought to assess the use of 'real' fabric draping for design in public institutions of higher learning in Nairobi County. Seventy-five percent (75.0%) of the institutions did not use 'real' fabric draping for design. This might signify that the public institutions of higher learning that offer fashion design courses might not have had control over the usage of 'real' fabric draping.

3.2 Teachers' Training in 'Real' Fabric Draping for Design

The research results indicated that about seventy-four percent (74.0%) of the teachers had never been trained in 'real' fabric for design.

3.3 Constraints faced by Students and Teachers in the Use of 'Real' Fabric Draping

The constraints encountered by Fashion Design students and teachers could hinder learning in the use of 'real' fabric draping for design. The results in Table 1 below show that all Fashion Design students experienced some challenges in their usage of 'real' fabric draping for design. Inadequacy of resources (books, tools, equipment, i.e. dummies and workshops) as a constraint was experienced by about forty-eight percent (48.2%) of the teachers. These results may mean physical resources need to be made available to fashion design students so as to overcome the numerous limitations they face as they learn 'real' fabric draping for design.

Table 1: Constraints in the Usage of 'Real' Fabric Draping for Design

Constraints experienced by students (n=218)	**Frequency**	**Percentage**
Inadequate learning resources	105	48.2
Draping is not taught practically	66	30.2
Limited time allocated to learn draping	29	13.3
Not able to produce good designs	18	8.3
Total	**218**	**100.0**
Constraints experienced by teachers (n=27)		
Inadequate learning resources	16	59.2
Students have negative attitudes towards learning	1	3.7
Draping is not in curriculum	3	11.1
I am not trained in draping design	7	25.9
Total	**27**	**100.0**

The findings in Table 1 above show that all the teachers experienced some challenges in the use of 'real' fabric draping for design. However, the highest percentage, fifty-nine percent (59.2%), was faced with inadequate supply of resources, i.e. equipment and books. These results imply that both students and teachers suffer due to inadequate learning resources when learning 'real' fabric draping fashion design.

3.4 Source of Fashion Design Curriculum in Public Institutions of Higher Learning

The source of curriculum is of vital importance as it determines the kind of fashion design skills that will be imparted as well as the mode of delivery. From the study findings, only twenty-five percent (25%) of the institutions had control over the curriculum they used as it was developed by a departmental board. The rest of the institutions did not have control as they relied on the curriculum from the Kenya Institute of Curriculum Development (KICD). The stakeholders involved in the KICD developed curriculum are government representatives from various ministries, the private sector (apparel manufacturing firms) and fashion designers. These results suggest that the public institutions of higher learning that offer fashion design courses do not have a uniform source of curriculum to warrant control on content in teaching and learning. Rather, the interests of stakeholders of curriculum development dominate the training needs.

3.5 Curriculum Review Pattern in Public Institutions of Higher Learning

The curriculum review pattern was examined in order to evaluate how often the institutions of higher learning appraised the fashion design curriculum. From the results of the study, twenty-five percent (25.0%) of the institutions reviewed their curriculum after every four years. The fate of the rest of the institutions was left to the KICD or departments to review schedule. The results underscore the inconsistency in curriculum review patterns in fashion design courses in public institutions of higher learning. This implies that some of the rapid changes in technology or practice are not incorporated into the curriculum in good time.

3.6 Fashion Design Practices Used in Public Institution of Higher Learning

The institutions of higher learning adopted various fashion design practices. However, as the research results in Table 2 show, the institutions barely used fashion design practices that involved 'real' fabric draping for design. These practices were ranked low in terms of utilization.

The process of 'Sketch - Draping - Pattern - Toile - Design alteration - Pattern alteration - Sample garment' was the most utilized by thirty-seven percent (37.0%) at position 4. This was followed by 'Draping - Pattern - Toile - Design alteration - Pattern alteration - Sample garment' at position 7 while 'Textile print on paper - Draping paper on body form - Sketch - Pattern - Toile - Design alteration - Pattern alteration - Sample' was at position 8. None of the respondents utilized the design practice. These results clearly depict that institutions of higher learning that offer fashion design courses mainly exploited the other fashion design practices, hence the high ranking in the research results.

Table 2: Type of Fashion Design Practices used by Teachers

Fashion Design Practices (N=27)	**Do not Utilize**	**Utilize**	**Rank**
Conceptual idea - Pattern - Toile - Design alteration - Pattern alteration - Sample garment	6(22.2%)	21(77.8%)	1
Sketch - Pattern - Toile - Design alteration - Pattern alteration -Sample garment	09(33.3%)	18(66.7%)	2
Pattern - Toile - Design alteration - Pattern Alteration -Sample garment	13(48.1%)	14(51.9%)	3
Sketch - Draping - Pattern -Toile - Design alteration - Pattern alteration - Sample garment	17(63.0%)	10(37.0%)	4
Existing garment - Pattern - Toile - Design alteration - Pattern alteration - Sample garment	20(74.1%)	7(25.9%)	5
Existing garment - Sketch - Pattern - Toile - Design alteration - Pattern alteration - Sample garment	21(77.8%)	6(22.2%)	6
Draping - Pattern -Toile - Design alteration - Pattern alteration - Sample garment	24(88.9%)	3(11.1%)	7
Textile print on paper - Draping paper on body form - Sketch - Pattern - Toile - Design alteration - Pattern alteration – Sample	27(100.0%)	0(0.0%)	8

3.7 Pattern Development Techniques taught to Fashion Design Students

The study sought to establish the pattern development techniques taught to Fashion Design students. The research findings revealed that the least taught pattern development technique was the use of 'real' fabric draping for design, attested to by two percent (1.8%) of the teachers.

The largest percentages of pattern development techniques taught were pattern drafting, flat pattern design and free hand cutting. These results represent the various pattern development techniques the Fashion Design students were exposed to in the course of their study period. However, clearly, draping design is the least popular pattern development technique.

3.8 Mode of Teaching 'Real' Fabric Draping as prescribed in the Curriculum

The research results show that 'real' fabric draping for design was taught as a topic within a unit, according to about sixty percent (60.1%) of the students, while thirty-two percent (32.6%) indicated it was taught as a core unit. However, a small number indicated it was taught by demonstration and classroom project work. This inconsistency in mode of teaching 'real' fabric draping for design shows that the delivery of content is not uniform.

3.9 Hypothesis Test

The hypothesis (H_{01}) that the source of curriculum is independent of the use of 'real' fabric draping for design was tested at 0.05 significance level (Table 3). The results of the Chi-square test (χ^2 (2, N = 31) = 31.000, $p < 0.0001$) showed that the test was significant ($p < 0.0001$). The null hypothesis, that the source of curriculum is independent of the usage of 'real' fabric draping for design, was, therefore, rejected.

Table 3: Chi-Square Test Results for Hypothesis 2 (H_{02})

Source of Fashion Design Curriculum (n=31)	Do Not Use	Use	Total
KICD & Departmental Committee Board	0(.0%)	7(43.8%)	**7(22.6%)**
Departmental Committee Board	0(0.0%)	9(56.3%)	**9(29.0%)**
KICD (Kenya Institute of Curriculum Development)	15(48.4%)	0(0.0)	**15(48.4%)**
Total	**15(48.4%)**	**16(51.6%)**	**31(100.0%**

V= 0.623; χ^2 (2, N = 31) = 31.000, $p < 0.0001$*

* Significant at < 0 .05

These findings imply that there is a significant relationship between source of curriculum and the use of 'real' fabric for design in public institutions of higher learning. This means that those teachers with curriculum from Departmental Committee Boards had a higher likelihood of using 'real' fabric draping for design (51.6 %) than those who used the KICD curriculum. The value obtained from Cramer's V (*V*) correlation measure was 0.63 suggesting the presence of a fairly strong association between source of curriculum and use of 'real' fabric draping for design.

The Cronbach aplha was conducted for validity on the 17 items used in the Likert scale with an alpha coefficient went of 0.711. After deletion of 6 items only 11 items were used for data collection. The hypothesis (H_{O2}) that students' attitudes are independent of the use of 'real' fabric draping for design in public institutions of higher learning was tested to establish whether or not students' attitudes were independent of the use of 'real' fabric draping for design at 0.05 significance level (Table 4).

Table 4: Chi-Square analysis Results

Student Attitude (n=209)	**Do Not Use**	**Use**	**Total**
Negative Attitude	81(94.2%)	124(96.9%)	**205(95.8%)**
Positive attitude	5(5.8%)	4(3.1%)	**9(4.2%)**
Total	**86(95.7%)**	**9(4.3%**	**209(100.0%)**

$Ø = 0.066$; χ^2 (1, N = 209) = 0.864, $p > 0.353$

The results of the Chi-square test (χ^2 (1, N = 209) = 0.864, $p > 0.353$) show that the test was not significant ($p > 0.353$). Therefore, the null hypothesis that students' attitudes are independent of the use of 'real' fabric draping was not rejected. This implies that there is no significant relationship between students' attitudes and the use of 'real' fabric draping for design public institutions of higher learning. The Phi Ø measure of correlation yielded a value of 0.07, suggesting the presence of a weak association between students' attitudes and the use of 'real' fabric draping for design.

IV. Discussion

A review of existing literature indicates that there is limited documentation of data on the procedures and practices in 'real' fabric draping for design. The most interesting finding of the study was that of all the five public institutions of higher learning involved in this study four did not use 'real' fabric draping for design. It was quite disappointing to find that only one institution offered 'real' fabric draping for design. The reasons given for the inconsistency were numerous. Some institutions indicated it was too expensive to integrate while others said it was partly mentioned as they taught other pattern development methods and that was adequate.

The research results further established a clear divergence in the training of Fashion Design teachers. Indeed, a large proportion of them had not been trained in 'real' fabric draping for design. This means that opportunities in the area of 'real' fabric draping for design are not being fully exploited. These results contradict the views of Anicet *et al.* [23], based on a study in Portugal, that draping technique opens a vast field of possibilities in the creation of new products giving room to total innovation and differentiation of patterns.

The constraints faced by teachers and students while learning Fashion Design courses have also not been sufficiently documented in past literature. Unfortunately, problems associated with learning and teaching can be detrimental to any subject [24]. In apparel design, Kamau [2] observes that majority of the students studying Fashion Design have inadequate access to computer hardware, software and learning resources such books and the internet for apparel CAD technology training. Muchangi [16] also identifies inadequate in-service training of lecturers as the main challenge facing implementation of curricula. The results of the current study seemed to agree with these observations. All the students and teachers who participated in the study indicated they faced some constraints in the usage of 'real' fabric draping for design.

Notably, the largest proportion of teachers and students identified the lack of adequate equipment, tools, books and body forms as a major constraint. This means that effective learning in 'real' fabric draping for design was not being achieved. This reiterates past studies on Home Science as a practical subject that indicate that students faced major constraints such as inadequate learning resources and facilities [25, 26].

According to Fullan [15], the implementation of curriculum is bound to be unsuccessful if teachers are not involved in the entire process of curriculum development. Contrary to expectations, the study found only one institution had control over the curriculum in use and had a specified period (four years) upon which the curriculum had to be reviewed. Interestingly, numerous stakeholders, including fashion designers, were involved in curriculum development and implementation. The rest of the institutions relied on the KICD to provide the curriculum. These results contradict the view of Munavu *et al.* [14] that the curriculum development process at the KICD involves most stakeholders, including higher education institutions, whereas the curriculum in universities is developed by individual universities. The teachers pointed out that they did not know who was involved in curriculum development at the KICD. The study results, however, corroborate the findings by Nyandusi [17] that although employers' have a strong willingness to participate in curriculum development, they are often excluded.

One possible explanation for some of the results could be the inadequate funding for curriculum development among those who have to rely on the KICD curriculum [27]. Moreover, Mulama [19] notes that some youth polytechnics still use the outdated syllabus of 1974 and are staffed with untrained personnel. The study also noted a marked inability among many institutions to embrace within the curriculum the rapid changes in the fashion design technology. The Kenya Institute of Curriculum Development controls the curriculum

content. As such, the respondents were not aware of the specified period within which curriculum revision ought to be done. In addition, the KICD does not have command over technical personnel or examinations in the education system. Instead, the Ministry of Education and individual universities are charged with this mandate.

Rust *et al.* [28] emphasize the importance of research in fashion design being embedded in the specific practice that characterizes it, because different approaches to designing fashion keep emerging. The most recent study in the brain area, conducted by Dumridhammaporn *et al.* [20], notes that the time and the capital cost of the draping technique is less than those of the flat pattern making. The models' satisfaction with the pattern making indicated that the samples made from the draping pattern making technique were more satisfying than those made by flat pattern making. This was gauged by examining the qualification, proportion, fitting, size and cascade of the fabric grain. The results of the current study showed that a large proportion of the teachers utilized fashion design practices that did not involve draping and also rated them highly. Moreover, the study also found that the pattern development technique least used was 'real' fabric draping for design.

One of the issues that emerged from these findings was that students were not given equal opportunities to learn 'real' fabric draping for design as a pattern making technique. These could be because it was not prescribed in curriculum. The teachers' inclination towards fashion design practices that favoured other techniques interferes with the learning of 'real' fabric draping for design. These results contradict those of Friggs [29] who notes that a good pattern maker must learn how to drape a pattern on a dress form, draft perfect flat patterns and create patterns by computer. This is because their first job placement may be as a sample cutter or pattern grader. The current study was unable to demonstrate whether or not students were disadvantaged by not learning 'real' fabric draping for design as a pattern making technique.

In regard to the mode of teaching 'real' fabric draping for design as a practical subject, the study reported that more than half of the respondents were taught 'real' fabric draping for design as a topic within a unit. However, a few respondents said it was taught as a core unit. Telewa [25] argues that limited time allocated for teaching Home Science is one of the constraints faced by teachers. Most teachers who taught draping by theory or class demonstration with elements of pattern drafting said that more time was needed to teach draping. On the other hand, those who taught by demonstration and classroom project work pointed out that more time was needed to adequately teach. These results are consistent with the views of Karimi [30] and Mumbi [31], that teaching methods frequently used for Home Science are teacher-centred, for example, lectures, assignments and demonstrations. Student-centred methods like he use of guest-speakers, seminars and visits were ignored and rarely used.

The Government of Kenya statistics show that 90% of unemployed youth lack useful skills. Certain youth polytechnics still use outdated syllabi and are staffed with untrained personnel, as reported by Mulama [19]. The findings also concur with those of the MOEST [7] that curriculum implementers are yet to embrace modern methods of teaching. There is more theoretical teaching at the expense of practical skills due to lack of equipment, tools and materials for practical training. There is also very little inspection of curriculum implementation at the different levels.

From the study findings and discussion in this paper, it is clear that very few public institutions of higher learning use 'real' fabric draping for design. The major reason given for this is that it is not prescribed in curricula. Moreover, a fairly strong association exists between the source of curriculum, pattern development techniques taught and the use of 'real' fabric draping for design. It is also concluded that students' attitudes are independent of the use of 'real' fabric draping for design.

From the foregoing conclusions, it is recommended that more institutions of higher learning should offer training in 'real' fabric draping for design in order to impart the fashion design students with the skills. Efforts should also be made towards reducing the constraints faced during learning. In addition, these institutions need to set aside adequate funds for the purchase of body forms and other tools that are vital in teaching 'real' fabric draping and ensure effective learning in fashion design courses. Lastly, the Fashion Design courses should be audited regularly and current techniques adopted by institutions of higher learning institutions to ensure that the skills taught are relevant, competitive and meet the demands of the fashion design industry labour market.

References

[1]. Kamau, W., Wamutitu, J., & Mbugua, G. (2013). Employability of fashion and garment making students from youth polytechnics of Kenya. Vetri Education, Quarterly Journal, VIII(4), 22-30.
[2]. Kamau, W. V. (2012). Assessment of the Adoption of Apparel Computer Aided Design Technology Training in Selected Public Universities in Kenya (Masters' Thesis). Kenyatta University, Nairobi, Kenya.
[3]. Utz, A. (2006). Fostering Innovation, Productivity, and Technological Change – Tanzania in the Knowledge Economy, WBI Working Paper, May 2006 (Online). Retrieved November 23, 2012.
[4]. Hussain, S. (2004). Effectiveness of teacher training in developing professional attitude of prospective secondary school teachers (Doctoral dissertation). University of Arid Agriculture/University Institute of Education, Pakistan (Online). Retrieved July 11, 2011, from http://eprints.hec.gov.pk/483/1/240.html
[5]. Gibbs, D., & Gosper, M. (2006). The upside-down-world of e-learning. Journal of Learning Design, 1(2), 46-54.
[6]. Skill Fast UK (2006). Big push on skills: Skill needs assessment for apparel footwear and textiles sector in Northern Ireland. UK: SkillFast. www.skillfast.uk.org.skillfast.uk

[7]. Ministry of Education, Science and Technology (MOEST) (2004). Development of Education in Kenya. The draft sessional paper on education and training (Kenya). Nairobi, Kenya: Government Printers.
[8]. Davide, P. C. (2001). Attitudes towards learning (Online). Retrieved July 16, 2011 from http://www.math.union.edu/~ dpvc/professional/teaching/attitudes.html
[9]. Muthui, T. (1981). Problems in the learning of Clothing and Textiles as viewed by Teachers and the subject in Kenya (Masters' Thesis). Kenyatta University, Nairobi, Kenya.
[10]. Workman, T. A. (2011). About Student Attitudes on Learning Demand Media, Inc. Retrieved July 11, 2011 from http://www.ehow.com/about_4588540_student-attitudes-learning.html#ixzz1RRwzBbih
[11]. Government of Kenya (2002). Economic recovery strategy for wealth and employment creation 2002-2007. Nairobi, Kenya: Government Printers.
[12]. Government of Kenya (1998). Master plan on education and training 1997-2010. Nairobi: Government Printers.
[13]. Koech, D. (1999). Totally Integrated Quality Education and Training. Nairobi, Kenya: Government Printers.
[14]. Munavu, R. M., Ogutu, M. D., & Wasanga, P. M. (2008). Transition between upper secondary and higher education: similarities, pathways and orientations. A paper presented at Biennale on Education in Africa (Maputo, Mozambique, May, 5-9 2008).
[15]. Fullan, M. (1991). The new meaning of education change. Ann Arbor, MI: Braun-Brumfield Inc.
[16]. Muchangi, T. (2011). Challenges facing head teachers in the implementation of new syllabus: A case of the 8-4-4 curriculum in secondary schools in Thika East and West Districts (Masters' Thesis). Nairobi, Kenya: Kenyatta University.
[17]. Nyandusi, C. (2001). Perceptions of employers on secondary school graduates general workplace competencies. Unpublished symposium conducted as part of the IUPUI Fulbright Hays Group Projects held in Eldoret, Kenya from July 9-August 3, at Moi University.
[18]. World Bank (1999). Kenya Country Brief. Retrieved from http://web.worldbank.org
[19]. Mulama. J. (2006). Few "Positions Vacant" for the youth. Retrieved form http://www.ipsnews.net/africa/interna.asp
[20]. Dumridhammaporn, S., Jatuphatwarodom, S., Punyopat, S., & Chonsakorn S. (2012). Evaluation of the efficiency of flat pattern making and draping techniques. Paper presented in the International Conference: Textiles & Fashion 2012 July 3-4, 2012, Bangkok Thailand. (Online) Retrieved February 26, 2013 from http://textileconference.rmutp.ac.th/wp-content/uploads/2012/10
[21]. Kenya National Bureau of Statistics (KNBS) (2009). Economic Survey 2009. Nairobi, Kenya: National Bureau of Statistics.
[22]. World Bank (2006). Kenya Country Brief. Retrieved from http://web.worldbank.org
[23]. Anicet, A., Cunha, J., & Broega, C. (2012). The draping technique as a creative phase in the fashion design methodology (Online). Retrieved November 1, 2012 from http://www.gobookee.org/3d-in-draping-technique-in-fashion/
[24]. Serem, D. J. (2010). The future of clothing and textiles in Kenyan secondary schools (Online) Retrieved August 11, 2011 from http://www.faqs.org/periodicals/201001/2364816861.html#ixzz1RSAGl2hO
[25]. Telewa, N. C. (2004). Teaching constraints experienced by home science tutors in primary teacher training colleges in the central province of Kenya (Masters' Thesis). Kenyatta University, Nairobi, Kenya.
[26]. Kang'a, W. A. (1994). Evaluation of factors affecting the effective assessment of the 8-4-4 secondary school home science practical examinations in Nairobi and Kiambu District (Master's Thesis). Kenyatta University: Nairobi, Kenya.
[27]. Kenya Institute of Education (KIE) (2006). KIE Strategic Plan. Nairobi, Kenya: Author.
[28]. Rust, C., Mottram, J., & Till, J. (2007). AHRC research review: Practice-led research in art, design and architecture (Online). Retrieved November 12, 2013 from http://www.ahrc.ac.uk/apply/research/sfi/ahrcsi/research_reviews.asp
[29]. Friggs, G. (2008). Fashion from concept to consumer (9^{th} ed.). New Jersey: Prentice Hall Education, Inc.
[30]. Karimi, ME. (1992). A study of the factors that affect the teaching and learning of home science in primary schools in Westland's Division (Masters, Thesis). Nairobi, Kenya: Kenyatta University.
[31]. Mumbi, M. (1991). A Critical Study of the Teaching of Home Science in Selected Teacher Teaching Colleges in Kenya (Masters' Thesis). Nairobi, Kenya: Kenyatta University.