

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI, GHANA

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The ideation process: A study of a creative community

by

Naa Norkor Narley (B.A. Communication Design)

A Thesis submitted to the Department of Communication Design in the Faculty
of Art,

College of Art and Built Environment

In partial fulfillment of the requirements for the degree

MASTER OF COMMUNICATION DESIGN:

FEBRUARY 2016

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CERTIFICATION/DECLARATION

I, Naa Norkor Nartey, declare that this submission is my own work towards the M,Comm. Design degree and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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ABSTRACT

This research aims to explore ideation processes kente weavers involve themselves in while solving design problems and developing innovative ideas. The research is based on case study interactions with kente weavers in Ashanti Region (specifically Bonwire) and hypothesizes that among the population of weavers, there are different strategies for ideation that can provide important lessons for design students. These ideation processes may have already been identified and published by foreign authors and as such, this research seeks to draw parallels between already researched models and to pinpoint one or two out of the several which can best be adapted for an African context, particularly for design students

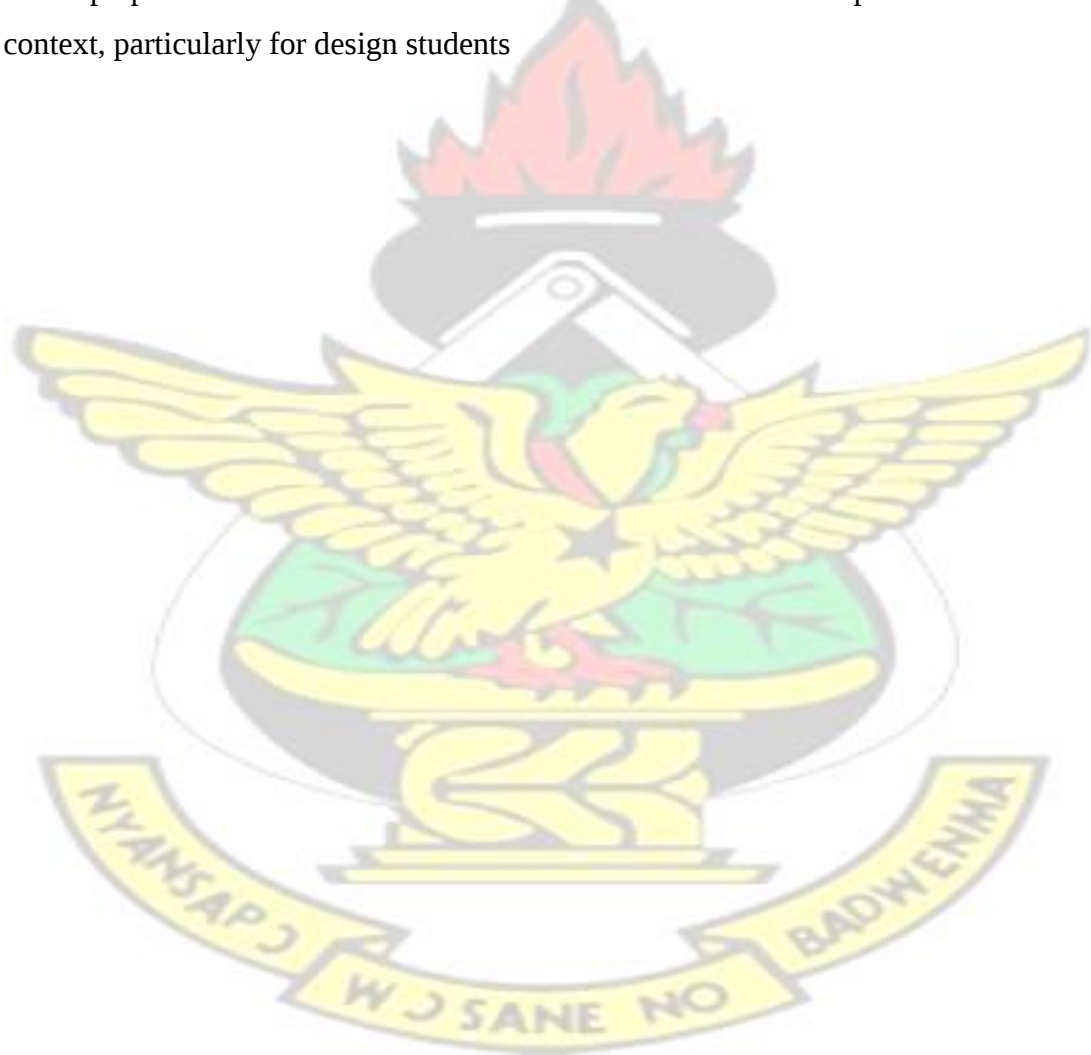


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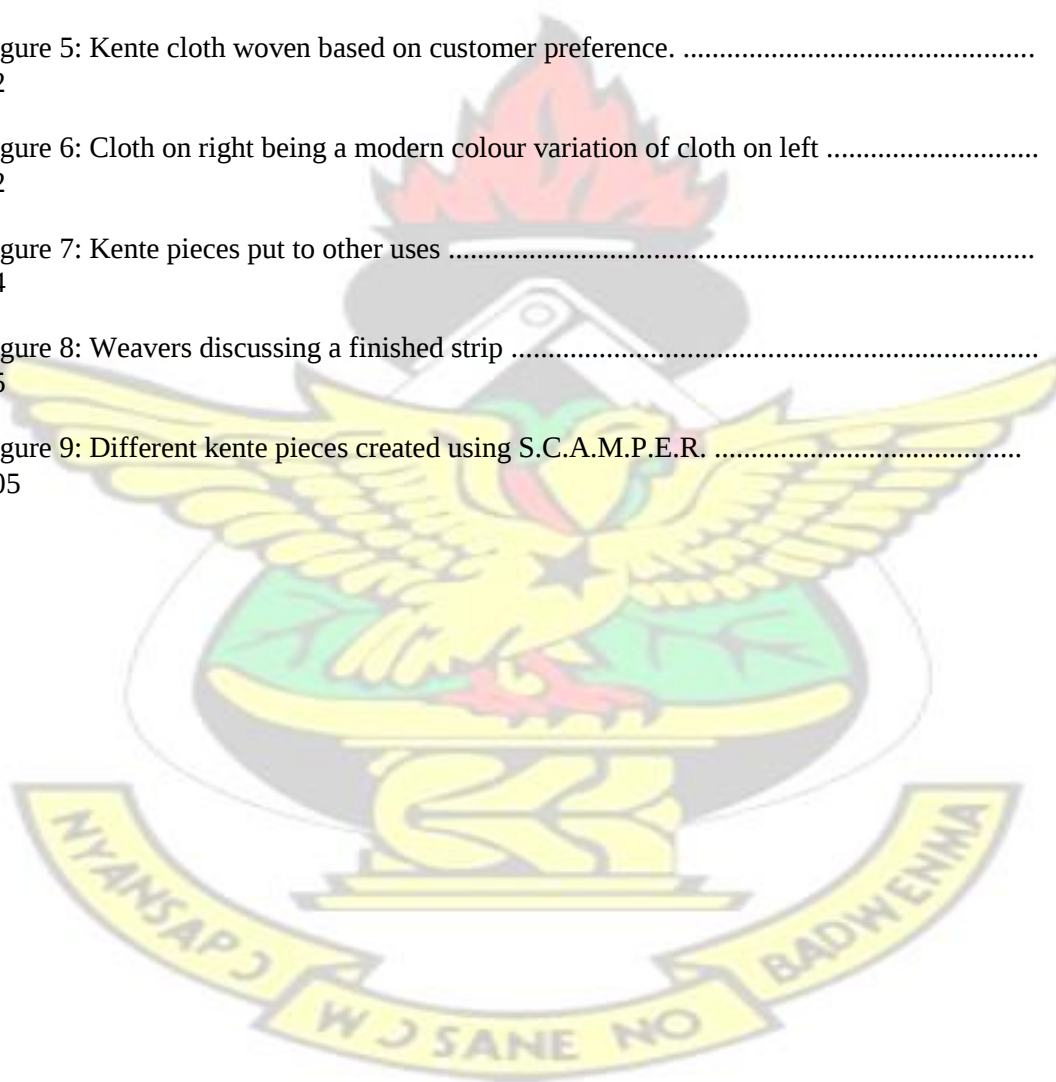
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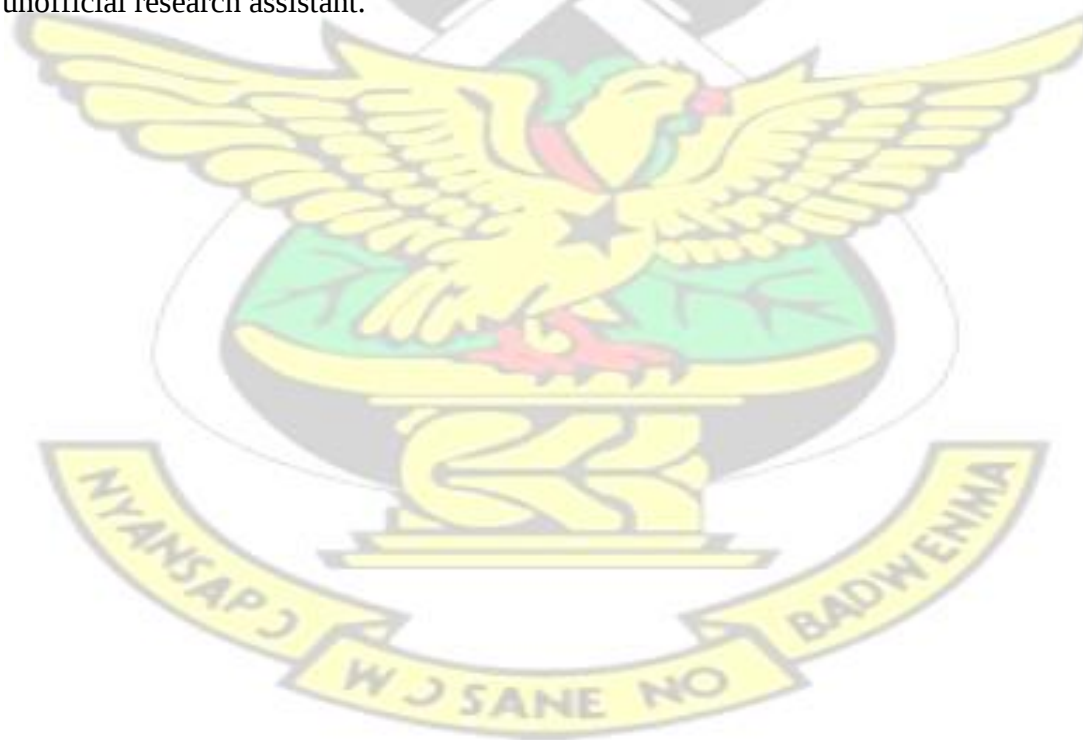


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CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter presents an introductory view of the research, covering the background to the study, the problem statement, objectives and importance of study, research questions, delimitations and limitations of the study. Other areas covered include chapter organization and list of definitions and abbreviations used throughout the research.

1.1 Background To The Study

The term Ideation (idea generation) has had variants in definition over the years, but one definition in line with this study is given by Michalko (2006), as "the creative process of generating, developing and communicating new ideas, where an idea is understood as a basic element of thought that can be either visual, concrete, or abstract". In line with ideation is the existence of ideation components (a term coined from experiment observations), which are defined as cognitive mechanisms believed to intrinsically promote ideation or help designers overcome mental blocks (Kulkarni & Shah, 1999). This phenomenon (mental blockade) has been observed in student designers who express frustration in thinking up new idea solutions, fall back on examples shown them and create replications of those examples, as discovered in the research of Schumacher, Ward & Smith (1993), and by the researcher's one-year experience as a teaching assistant. In so doing, they do not stretch their creative net wide enough to bag any new concept that might swim into their minds.

This stagnation of ideas and inability to capture fleeting visions through registration by brisk drawings both by direct and associated objects and experience all often results in an imperfect solution-fit, and inconsistencies in the solution that undermine targeted design objectives. Instead of replicating the *process* of ideation in the understudied design, students tend to replicate the *product*. While these students may be improving their capability to *render ideas*, they gradually become less successful in *thinking up ideas*. Current creative exercises seem designed to generate thinking during the exercise, but not beyond. Students tend to imitate the end results of others without appreciating the inherent process, that is, instead of utilizing the root concept in a design, students tend to pick the same design solution and adjust it to suit a given brief. For example, an advert for a product is seen and admired, and then copied exactly, using a competing product and slight variations of the copied design elements.

It has been observed how cultures in general “have been diffused by Far Eastern production and simulation of ideation and copycat design” (Carlson & Richards, 2011, p. 14). For decades now, Western designers’ secrets in ideation methods are being made freely available to be replicated, which in the researcher’s view, often have little grounding in our local cultural design practices. The researcher hypothesizes that reasons behind consistent poor, unsustainable ideation attempts are that they are all Westerners’ solutions and there has not been a deep delving into the local cultural roots. There needs to be...

A paradigm shift in the nature of cultural dependence – from relying primarily on universal globally imported cultural criteria, to more specific, locally based, and the referencing of native traditions, rituals and symbolism. It is necessary to look further and include values such as authenticity, aesthetics, affectivity and compatibility. (Carlson & Richards, 2011, p. 21).

Creative design often involves generating and considering several alternatives, weighing their advantages and disadvantages, and sometimes incorporating design pieces of one into another (Kolodner & Wills, 1993). Creative designers frequently engage in cross-domain transfer of abstract design idea, that is, taking processes from one (sometimes unrelated, out-of-context) field and applying such to their immediate situation. One such academic example was Seda Yilmaz, an Iowa State University assistant professor of industrial design and human-computer interaction, who in a three-year project to improve engineering students' ability to generate ideas, engineered the idea of understudying *industrial* design students, so as to learn and apply their different approaches and behaviours of ideation (Yilmaz, Christian, Daly, Seifert, & Gonzalez, 2012). She was of the belief that “Ideation success depends on ideation flexibility, which is the ability to shift between approaches of generating ideas” (Iowa State industrial design, 2013).

As ideation gains increasing attention as an important area of research, theory and practice, this project seeks to investigate and incorporate not merely the design pieces, but the thought processes behind a related, but different design discipline - Kente weaving.

In its cultural context of use, Kente is more than just a cloth. Like most of Africa's visual art forms, Kente is a visual representation of history, philosophy, ethics, oral literature, religious beliefs, social values and political thought... It is used not only for its beauty but also for its symbolic significance. Each cloth, and its numerous patterns and motifs have a name and a meaning, which are usually derived from historical events, individual achievements, proverbs, philosophical concepts, oral literature, moral values, social code of conduct, human behaviour and certain attributes of plant and animal life. Patterns and motifs are rendered in geometric abstractions of objects associated with the intended meaning. (Appiah, Frimpong & Asenyo, 2015, (p. 6, 8))

It is believed that it is possible to identify common behaviours among designers, who despite being spread across different domains, perform many of the same creative activities, whether they are involved in designing artefacts or processes (Kolodner & Wills, 1993). So, despite disciplinary differences, sharing approaches between textiles (Kente) and communication design can possibly increase learning and successful outcomes.

Within the field of kente-weaving and its ideation process, lies a possibility that certain similarities could exist between published models of ideation and current deficient, surface-level research ideation models of kente weavers. That even unconsciously, the Ghanaian culture follows a certain model that is best suited to it, as against other models currently being implemented in the design discipline.

1.2 Statement Of The Problem

Current and past literature show that the development of new ideas is an essential concern for many designers (students and lecturers alike), yet there are, however, few in-depth studies of ideation processes and techniques within the cultural context. There needs to be an analysis of the emergence of ideas from more adaptable, known/local sources of inspiration, in order to generate design concepts: to identify essential phenomena that structure and create momentum in the development of new design concepts, namely external sources of inspiration as a means of supplementing and developing design concepts.

Research in case-based reasoning has provided extensive knowledge of how to reuse solutions to old problems in new situations, and many of the activities of creative

designers can be modelled by extending routine problem-solving processes that exists into current case-based systems (Kolodner & Wills, 1993).

Based on the success of the research of Yilmaz et al. (2012), which marked an improvement in ideation techniques by looking to another semi-related discipline, it is believed that this research can also enjoy similar levels of success in improving targeted students ideation process. The related discipline considered for the purpose of this research was Kente.

Kente weaving is observed to possess possibilities for validating proposed theories, which makes it a suitable observable phenomenon to support the aims of this research. One of such theories is that of Kolodner and Wills (1993) that novelty often results from substituting something different than the usual thing or from relaxing well-known structural constraints. This is played out in the history of kente, which started out primarily in black and white woven strands (since those were the available colours), yet is now available in a variety of colours. Overtime, the stipulated requirement of kente being in black and white was questioned (challenging constraints) and soon other colours were sought from the environment and formerly dull colours were substituted for more exciting ones. It is hypothesized that in using kente as a basis of study, other theories that propose to improve ideation can be confirmed. This research is thus an attempt to explore if the same foreign (Western) ideation-process threads run similar to the current ones in use in the Ghanaian setting.

1.3 Objectives Of The Study

This research focuses on:

- Obtaining representative insights and presenting qualitative data about ideation from the local Ghanaian perspective.
- Documenting interactions with authentic Ghanaian kente artisans who could provide a richer understanding of the social, political and ritual functions, symbolic meanings, and the cultural contexts of the Kente craft and art.

It is hoped that this research would then go a long way towards achieving the specific objective of:

- Improving upon local students' ideation capabilities through practices gleaned from within the local context. This applied research should then aid designers in using critical thinking skills to produce original, creative, and conceptual designs.

1.4 Research Questions

1. Which ideation approaches best imitate kente weavers' ideation technique?
2. What transferrable ideation processes are there in the local kente weaving culture that can be applied to Graphic Design?

1.5 Delimitation

The scope of this project was restricted to the Kente weaving township of Bonwire in the Ejisu-Juaben district (near Kumasi), Ghana. This geographical area is identified as one of the main kente-weaving communities in Ghana, producing kente pieces with distinctive characteristics (Frimpong & Asinyo, 2013).

1.6 Importance Of Study

It must be realized that the environment and cultural background have a great effect and inherent positive influence on the way designers draw out their ideas (Pressler, 2013). An understanding of these influences will expand self-awareness (by drawing attention to the things of influence around), enhance appreciation and knowledge of art, and aid in the creation of a more personal form of artistic expression.

Previous experiments read about, identified ideation methods in controlled experimental and hypothetical settings and often, when they are translated and brought into actual real-world situations, they are not as effective as they were under fixed ‘lab’ settings. By studying actual occurrences, without simulating or placing participants (kente weavers) in “boxes”, it is hypothesized that responses gathered will be better suited and applicable for any further studies and implementation.

In exploring local ideation models, it is hoped to establish best practices in ideation processes within the local context so as to reduce wastage in time and effort in adapting other models that do not fit as well.

1.7 Organisation Of Chapters

The research project is segmented and presented in five main chapters. Chapter One introduces the project as a whole, and covers the background to the study; its problem statement; aims and importance of study, amongst others. Chapter Two covers the review of related literature/publications and other sources of information, including primary sources; and all such historical references consulted. Chapter Three is an

extensive coverage of the methodology used in identifying and acquiring methods and strategies in the ideation processes. Chapter Four details the findings /results and their analysis. Chapter Five provides an interpretation of the findings, and an analysis of the project objectives, with the results compared against the hypothesis and conclusions drawn, and recommendations made.

1.8 Definition Of Terms

K.N.U.S.T. – Kwame Nkrumah University of Science and Technology

Western – relating to or characteristic of the West, in particular Europe or the United States

CHAPTER TWO REVIEW OF RELATED LITERATURE

2.0 Overview

Idea generation research which has led to “a range of systematic, psychologically motivated studies have identified principles behind a successful, efficient ideageneration process” (Liikkanen, Björklund, Hämäläinen, & Koskinen, 2009, p. 1). The first part of this literature review analyses some of these past and existing studies behind these principles of ideation, beginning with ideation and its place in the creative process. Some of the varying definitions of ideation are mentioned and proposed ways of measuring it.

The second part concerns the various philosophies of the determinants of successful ideation according to various researchers, as analysed by the researcher. Under the

philosophy of tools and techniques, attention is focused on Osborn's brainstorming technique and cognitive models developed from it, in particular 'S.C.A.M.P.E.R.', followed by another ideation tool: Mind-mapping. Another philosophy examined is that of pedagogy and its impact on the creative process, which then forms a link with another philosophy; that of ICT which has come to play a dominant role in recent times.

Several differing processes and steps taken are then discussed under the philosophy of methodology, which raises a concluding question of the appropriate and mostfitting practises to employ in the creative field. The various philosophies are then concluded with a discussion of factors aside from all the above-mentioned areas: components, which roughly encompass 'grey' areas, not captured under the main ideation areas.

With the groundwork laid on ideation, the research branches off into another area to make a case for the importance of cross-domain research and cross-cultural learning in the third and fourth parts of the review respectively, before linking up again with ideation. This is done to convince the reader about the need to further explore ideation from diverse angles, and is buttressed by experiments conducted by Yilmaz et al. (2012) and Sabutey (2009).

Lastly, the chapter explores the field of the Asante cloth Kente, which though limited in published literature, is rich in explorative content and lessons. Justification is made for the choice of this item with quoted statements from proponents of African cultural research and factual findings of the success of Kente. The rich history and weaving process of Kente is then stated with exploration made about the changing nature of

Kente with regard to colour, material types, weaving, etc. and researched reasons into this phenomenon.

The concluding part of the literature review then examines the joint subjects of Kente and ideation and studies that have made into this area, particularly referencing the research of Sabutey (2009). A case is then presented for the need for further research into this area to fill in the gaps of similar research undertaken and the resultant rewards of it.

2.1 Ideation

Coyne (2005), described design as beginning with an idea, bringing to mind alternatives and opposites, and then working to select the best option from the solutions that emerge. Ideational fluency, loosely defined as the ability to produce many ideas quickly, is often viewed as the key component of creative processes (Radclyffe-Thomas, 2011) with majority of creative process research focused on it, albeit some opposing viewpoints, like Plucker and Renzulli (1999), which view it as only one element of the creative process. This is reiterated in the research of Desai (2011), which concedes that although idea generation techniques are of use in formulating creative solutions, they are akin to methods only used to arrange and develop ideas for easier implementation. According to Desai, these methods could help develop ideas, but they seldom sparked the inspiration process, and without this spark of inspiration, even specific techniques like forced association would reach a dead-end and yield no results.

Ideas in themselves are believed to come from a variety of sources – word association, a shape in the environment or existing knowledge of the subject as well as from reinterpretation of marks (Stones & Cassidy, 2010).

The ability for thinking up that starter idea has come to be termed as ‘Ideation’. Several definitions exist for the word ‘Ideation’, which can broadly be summarized as the formation of ideas and concepts. Some definitions differ in approach, while some differ in purpose and consequently result.

Wroblewski (2009, para 3) conceded that “while ideation may include the creation of original ideas (generation), its primary focus was in working through concepts (development) to gain insights, understand implications, gauge feasibility, and give teams a deeper understanding of potential product experiences (communication).” This echoed an earlier rough definition by Kimbell (2004), which viewed ideation as ‘a sense-making activity that helps us to knock around our half-formed ideas in the search for greater sense that shapes our design solution’. For both researchers, the end focus of ideation was not necessarily to result in a concrete product/ an ‘idea’, but it had more to do with the person gaining a greater understanding of the problem. These definitions differed slightly from Johnson’s (2005) definition of ideation as “a matter of generating, developing and communicating ideas, where ‘idea’ is understood as a basic element of thought that can be either visual, concrete or abstract” (p. 613). Brown (2008) also viewed ideation as “the process of generating, developing, and testing ideas that may lead to solutions” (p. 88).

There are others, like Desai (2011), who believe the whole ideation notion of using methods and techniques to generate ideas to be itself flawed, because it is believed that one cannot generate *true* ideas. The term ‘idea generation’ or ‘ideation’ according to him is a misnomer; rather ideas are borne out of necessity and inspiration is what helps develop the ideas. Although idea generation techniques often streamlined and built up on inspiration pre-existing within the participants, without the initial inspiration, the idea generation process would not even begin. He believed the term ‘idea-MANAGEMENT’ better suited to the current term.

Others like Tassoul & Buijs (2006) rather believe the process of generating ideas to be a relatively easy task; the only difficulty lying in convergence; narrowing down the number of ideas to continue with in the design process. They believe this can be supported by numerous techniques for opening the process for more divergent ideas.

2.1.1 Components

In other studies, various factors have been identified within the area of ideation, which have been listed as ‘ideation components’. These are factors that have been observed to affect the process of ideation, with more than a dozen ideation components (Provocative Stimuli, Suspended Judgment, Flexible Representation, Frame of Reference Shifting, Incubation, and Example Exposure) being identified in previous works (Kulkarni & Shah, 1999; Mckoy, Vargas-Hernandez, Summers, & Shah, 2001). Regarding the experimentation on ideation components, there have been some studies on communication such as designers working in teams (Chirstiaans & Venselaar, 1991; Nagy, Ullman, & Dietterich, 1993; Leifer, 1996; Wilde, 1999), industrial team review sessions (Hale, 1987), and data representation

(Kan & Gero, 2005), among others.

Idea generation is also regarded by researchers such as Feldman (1999), as a cognitive process, strongly moderated by social and motivational factors (and indeed cannot take place without them). In general, however, average group experiments are conducted with the “ceteris paribus” mindset, disregarding the other human factors noted to influence the results of such experiments, as acknowledged in the context of the studies of Shah, Kulkarni & Hernandez, (2000). Even though each person (“ideator”) is believed to introduce a variety of important variables (e.g. personality, motivation levels, individual creativity levels, intelligence, etc), these factors, however, are sometimes not included in the scope of some research works since the focus is usually on design methods and not the designers themselves.

Then too are environment variables, that are the situation or design environment in which the group works, which are also likely to affect idea generation. Factors such as time constraint (deadlines) and incentives influence the environment in which a design team must work in industry. Additionally, the location, ambient temperature, lighting, seating, and so on, could consciously or subconsciously affect designers (Kulkarni & Hernandez, 2000).

2.1.2 Measuring Ideation

In studying ideation, four independent effectiveness measures have been proposed by Shah, Vargas-Hernandez, and Smith (2003), namely: *quantity*, *quality*, *variety*, and *novelty*. *Quantity* being the total number of ideas generated, *Quality*: a measure of how

close the ideas come to meeting design specifications, *Variety*: a measure of the explored solution space during the idea generation process and *Novelty*, which is a measure of how unusual or unexpected an idea is as compared to other ideas. Novelty, according to these particular researchers, could be assessed at multiple levels, depending upon the scale. The simplest level being personal novelty, in which an individual discovers or creates ideas that are new to the individual, even though a thousand others might have solved the same problem. A higher level is societal novelty, in which a product or idea is new to all people in a particular society, regardless of whether the product is commonplace in other societies. At the highest level is historical novelty, in which a product or idea is the first of its kind in the history of all societies and civilizations. Cognitive psychologists consider fluency and novelty as the primary measures of ability to generate ideas (Torrance, 1962 & 1964).

These are however only one of several proposed measures for ideation and as such, it is possible that the different methods for measuring idea quality may partially account for inconsistent results in the research domain of ideation (DeRosa, Smith, & Hantula, 2007)

2.2 Philosophies of Ideation

There are various schools of thought too about what conditions, practices, or researched theories begin and boost ideation. Criticisms of current/ past ideation practices ideation were considered and all the various notions eventually grouped under two particular areas. These were the everyday practices of ideation, namely

i) Methodology, under which tools and techniques are discussed, and ii) Pedagogy of ideation, under which ICT is discussed. Each area is considered according to past and existing research and pros and cons of each.

2.2.1 Methodology

Within the ideation process, one engages with the mind and tools in the process of brainstorming, organizing, sketching and drawing, when thinking and imagining with the view of creating ideas for implementation (Kimbell, 2004). This methodology is best described metaphorically as a system of spaces rather than predefined series of orderly steps (Brown, 2008) and within the three-phase designthinking model (Brown, 2008) ideation is classified between “inspiration” and “implementation”, a process which loops back more than once as ideas are refined and new directions are taken.

Hasirci and Demirkan (2007) were of the belief that preparation, research and investigation undertaken prior to commencing the idea-generating stage in the design process, often results in a more creative final output. This counters earlier research undertaken by Schon (1995) that concluded that by deliberately restricting preparation challenges and ensuring students rely on their immediate cognitive resources, current knowledge, imagination and intuition, students draw on these internal resources through creative ‘reflexive’ practice and are better able to perform throughout the early stages of a studio exercise.

Many other ideation methods have been developed to aid designers generate alternative designs. Within the graphic design process framework, Yeoh (2002) places

great emphasis on visual exploration in ideation by designers since that is considered to be an essential part of the design process. He also sees sketching in ideation as “that which materializes the content of an image and is importantly linked to the formation of images” (Yeoh, 2002). Through sketching, ideation can be reinterpreted, and this creates many opportunities for exploration and also becomes an important tool for understanding and discovering design paradigms. The research of Cross (1982); Schon (1995); Rodgers, Green, and McGown (2000) support the assertion that sketching made in the early stages of a design process are often used to communicate ideas, and help to explain ideas or develop an understanding of the problem being investigated.

Within research undertaken on ideation among engineering students (Shah et al. 2003), formal idea generation methods were broadly classified into two categories - intuitive and logical. Intuitive methods use mechanisms to break what are believed to be mental blocks. Logical methods involve systematic decomposition and analysis of the problem, relying heavily on technical databases and direct use of science and engineering principles and/or catalogues of solutions or procedures. These Intuitive Methods were further sub-classified into five categories and the Logical methods into two categories, each of which proposed different ways of overcoming ideation blockades. These differing methods are further discussed under the following section:

2.2.1.1 Tools and Techniques

According to Takahashi (1993), more than 300 idea generation techniques have been invented around the world. Some are well-known and popular while others are seldom

used. In initial informal discussions with one of the target groups of the research (communication design students), a few were identified to be the most popular/known about and have been discussed below:

Brainstorming

One of the most renowned/practiced techniques of idea generation is that of ***brainstorming*** (Stein, 1975; Fernald & Nickolenko, 1993; Leclef, 1994), introduced by Advertising Executive Alex Osborn. In brainstorming, participants are encouraged to voice or record as many ideas as possible, regardless of the practicality or feasibility of the ideas. Participants are also encouraged to build upon other member's ideas (Connolly, Routhieaux, & Schneider, 1993; Paulus, Larey, & Ortega, 1995).

In his widely distributed book, *Applied Imagination*, Osborn (1953) outlined a variety of tools and approaches to creative problem-solving. He made some bold assertions regarding brainstorming's effectiveness, backing up his claims by indicating that, in one study, a group using brainstorming produced 44% more worthwhile ideas than individuals thinking up suggestions without the benefit of group discussion. Many were eager to try this new approach, and it quickly became a sensation, widely used in a variety of settings and derivations of this technique commonplace in organizations (Isaksen, 1998). This intuitive appeal of using groups to facilitate creative idea generation seemed to come about because it was widely believed that groups were superior to unaided individuals in such tasks (Faure, 2004; Gallupe, Cooper, Gris , & Bastianutti, 1994; Valacich, Dennis, & Connolly, 1994). This increased popularity created some misunderstanding and misuse of the term and the tool (Isaksen, 1998). For those who jumped on the bandwagon, brainstorming had become the new panacea. Most people then just think brainstorming is the ideal ideation tool.

Regarding Osborn's claim in his earlier writings (1957), which suggested that groups that followed his guidelines should be twice as productive as similar numbers of individuals, later controlled experiments have not supported this prediction (Kerr & Tindale, 2004). Although the rules that Osborn developed for brainstorming have been shown to enhance the number of ideas groups generate (Parnes & Meadow, 1959), individuals in groups do not generate more ideas than individuals brainstorming alone. In general, groups appear to generate only about half as many ideas as the combined total of ideas generated by the same number of individuals brainstorming alone (called nominal groups) (Diehl & Stroebe, 1987; Mullen, Johnson, & Salas, 1991; Paulus & Dzindolet, 1993).

Due to such contradictory research, brainstorming has sometimes been discounted as an ideation tool, yet it must be noted that brainstorming was identified as only *one* of a variety of tools for generating ideas and idea generation was outlined as only one aspect of the entire creative problem-solving process. Group brainstorming was suggested as a supplement to individual ideation and not a replacement (Isaksen, 1998).

Based on this brainstorming technique, a variety of other ideation techniques have been developed with differing goals, some of increasing the quantity of ideas produced during ideation, and others still of the quality of ideas, as per the research of Briggs and Reinig (2006) that studied others' experiments. These techniques were observed to vary but generally manipulated either the group characteristics such as group size, or rules such as encouraging or discouraging criticism, the problem statement such as

breaking a task into sub-tasks, or the communication media such as computer-based participation.

Over the years, two independently developed cognitive models of group idea generation have been described (Brown, Tumeo, Larey, & Paulus, 1998; Coskun, Paulus, Brown, & Sherwood, 2000; Nijstad, Stroebe, & Diehl, 2003), which although have some important technical differences, have much in common too. For Paulus and Brown (2007), both models assume that idea generation involves the retrieval of existing knowledge from long-term memory. Because memory is associative – ideas tend to facilitate the retrieval of related ideas – brainstormers will generally proceed with ideas first being generated from the most common categories of a given topic and later switch to less common ideas (Paulus & Brown, 2007). However, individuals and groups will tend to generate clusters of ideas from common categories with the potential to get stuck in a rut and miss useful but less related and less common ideas (what cognitive psychologists call less ‘accessible’ ideas; Tulving & Pearlstone, 1966). Because of the associative nature of memory, working in a group and attending to the ideas of the others has potentially stimulating effects. An idea from another group member might spark a good idea from an individual’s less accessible area of knowledge. The same process could potentially lead to novel combinations of existing ideas (Nijstad & Stroebe, 2006).

There is evidence that exposure to the ideas of others can be stimulating (Dugosh, Paulus, Roland, & Yang, 2000; Nijstad, Stroebe, & Lodewijkx, 2002) and in fact lead to the retrieval of less common ideas (Dugosh & Paulus, 2005; Leggett, 1997).

S.C.A.M.P.E.R.

Another ideation technique is the heuristic S.C.A.M.P.E.R. method, also classified by Shah, et al. (2003) as intuitive method, and argued to be an intermediate method as it enables both, idea generation and problem analysis (Chulvi, Mulet, Chakrabarti, Lopez-Mesa, & González-Cruz, 2012).

S.C.A.M.P.E.R. was developed by extending Osborn's (1953) brainstorming recommendations (value of "copious ideation", the need for incubation, influence of emotions and effort in ideation, guidelines for brainstorming and ways to promote ideation), and convolves them into an extended ideation technique (Moreno, Hernández, Yang & Wood, 2014). S.C.A.M.P.E.R. is an acronym for the following set of categories and actions: (S) Substitute, (C) Combine, (A) Adapt, (M) Modify/Magnify/Minimize, (P) Put to other uses, (E) Eliminate, and (R) Reverse/Rearrange. The method presents the user with a set of possible action operator categories to generate ideas that may be used to develop solutions to a design problem(s). For each operator category, a set of questions suggests reflection and an action (add, modify, etc.).

Studies comparing S.C.A.M.P.E.R. (sentential stimuli) against images (graphical stimuli) found that the teams using S.C.A.M.P.E.R. adopted strategies to reframe a given problem, with dedicated efforts to develop generated ideas further (LopezMesa, Mulet, Vidal & Thompson, 2011). S.C.A.M.P.E.R. also has shown its effectiveness in increasing creativity (Mijares-Colmenares, Masten, & Underwood, 1993).

Mind mapping

Tony Buzan's Mind Mapping Technique, proposed in 1974 is also considered as a powerful graphic technique to unlock the potential of the brain and to also help express emotions and strengthen memories (Lin, Hong, Hwang & Lin, 2005). Mind mapping technique starts with a single idea, which then incurs more follow-up concepts. In the end, it connects all related ideas and presents them together in a concrete way (Buzan, 1995).

TRIZ

Another method TRIZ combined with a practice (sketching) were proposed by Okudan et al. (2010) to provide additional external information and cognitive support to enhance the traditional ideation process, which advocated using brainstorming and so forth, and called upon designers to look inward for inspiration, and then communicate their ideas to others, to create a synergetic and shared experience. TRIZ is a systematic approach to the generation of innovative designs to seemingly intractable problems, first developed in Russia by Genrich Altshuller after

World War II; it then grew in prominence there in the early sixties and seventies. TRIZ is based on the analysis of hundreds of thousands of patents. These original analyses articulated numerous solution patterns from diverse disciplines. Researchers worldwide are continually updating the patterns and the tools. TRIZ has been recognised as a concept generation process that can develop clever solutions to problems by using the condensed knowledge of thousands of past inventors. It provides steps that allow design teams to avoid the "psychological inertia" that tends to draw them to common, comfortable solutions when better, non-traditional ones may exist (Okudan et al., 2010).

Summary

All these differing tools and techniques pay testimony to the various strategies used in the creative process and ideation in particular, and each has chartered a level of success to justify its continued use. Some idea generation techniques appear to require a certain degree of skill in order to produce innovative solutions effectively and with the vast amount of idea generation techniques, it appears it will take cognisance of several techniques in multiple scenarios before being able to select an ideal method intuitively and perfect their idea generation process. This is especially when it comes to brainstorming sessions for example, where one must learn how to keep the momentum going without straying too far from the task (Desai, 2011). Sample studies have been conducted to examine the application frequency of selected techniques and their applicability in different contexts (e.g. Hong et al. 2005). Yet, as asked in the research of Desai (2011), are these idea generation methods important in coming up with new ideas? Are they the driving factors in generating ideas?

2.2.2 Pedagogy

The studio mode of learning and teaching continues to be examined as a mode of learning and teaching in the creative disciplines, with much attention being paid to educational outcomes and how they are realized (Kellogg, 2004; Forsyth, Zehner & McDermott, 2007). Criticism of the studio mode is often aimed at the masterapprentice model of learning and teaching used within it. This model is seen by some as representing a teacher-centred and content-focused mode of learning, which may result in students being more likely to take a passive approach to their learning, to look to the lecturer for design ideas and “[to] wait for faculty approval before making design

decisions” (Ehmann, 2005, p. 107). In fact, some believe that the “traditional master/apprentice model of studio instruction fosters greater student dependence on faculty for decision-making guidance” than is desirable (Bose, Pennypacker & Yahner, 2006, p. 33).

This belief about the master-apprentice learning style underlies the Bauhaus pedagogy, which requires strict student interaction with ‘studio masters’ for formulating and developing ideas in the design process. This situation introduces another sub-topic under pedagogy; the issue of ICT, which will also be later discussed.

According to the research of Desai (2011), the key to being an effective problem solver was having the ability to shift between an analytical thinking and creative thinking mind-set. Analytical skills were described as requiring logical thinking in completing tasks such as evaluation, comparison etc., while Critical thinking was described as something used on a daily basis either consciously or subconsciously. “Traditional education is seen to greatly encourage and develop analytical thinking and thus there is a necessity to come up with tools to produce ideas in the work environment, commonly known as idea generation techniques” (Desai, 2011, p. 4).

In pilot studies of ideation practices of engineering students (Okudan et al. 2010), there were significant drops in novelty and the total number of ideas generated, and a steady level for variety and the total number of unique ideas, regardless of the treatment conditions of the class sections. Reasons behind this were speculated that, there was a possibility of engineering students’ ideation fluency being adversely impacted by their education as they progressed in their curriculum. To this end, studies documented

revealed (1) that people whose personality types indicate high levels of creative potential were leaving engineering at higher rates than the student body average, and (2) faculty teaching methods lean heavily towards a ‘plug-and-chug’ approach to engineering problem-solving, stifling creativity (Lumsdaine & Lumsdaine, 1995)

Another common misdirection noticed in teaching practices in the educational system was the over-promotion of a narrow vocational focus adopting and reinforcing inappropriate models of industrial practice for subjects, which had the potential to constrain and inhibit the growth of pupils and the curriculum (Spendlove & Hopper, 2004). This approach was speculated on by the researchers that it could result in *reproduction* rather than *redirection* of existing curricular, as the vocational curriculum was shaped by the immediate rather than future needs of industry and could ultimately constrain the broader needs of pupils. The creative constraints that such models offered were thus more likely to inhibit rather than enable learners to develop innovative responses to creative challenges where possibilities and novel responses have greater currency than orthodoxy and the re-modelling of the ideas of others. This is a justification that education, and more importantly pupils, should remain free of many of the creative constraints whilst they are allowed to develop their own responses to problems in a progressive manner (Spendlove & Hopper, 2004).

In examining the brainstorming studies conducted in classrooms, the kind of tasks upon which groups and individuals were asked to work on were seen to affect the quality and quantity of outcomes (Watson, Michaelsen & Sharp, 1991; Zagana, Willis & MacKinnon, 1966). The vast majority of studies conducted in order to maintain appropriate comparisons also used the same few problems, which were generally

unreal, presented, and for which reason the group had no ownership (Isaksen, 1998). A challenge or task was defined to have ownership if it is of interest, can be acted upon or actually influenced by a member of the group, or if it engages the imagination of the problem solver because it demands a fresh new approach which is meaningful (Isaksen & Treffinger, 1985; Isaksen, Dorval, & Treffinger, 1994).

As stated by Withell and Haigh (2013), there appears to be a need to develop sound university curricula that are founded in relevant theory and research findings. However, there appears to be a relatively small amount of rigorous research on the learning and teaching of Design Thinking.

2.2.2.1 I.C.T.

Referring back to the theory of Bauhaus pedagogy, which requires strict student interaction with ‘studio masters’ in formulating and developing ideas in the design process, the introduction of ICT is believed to encourage students to go through ideation with little or no interaction with lecturers (Appiah & Cronje, 2013), which also seems to be causing a deterioration in innovative ideas (Vrencoska, 2013).

Students are now equipped with computers and internet resources which allow instant access to infinite repositories of visual material and ready-for-digital recycling creative solutions. While this is acknowledged to possibly accelerate the research and the development stages in design projects, it also often results in omission of important cognitive processes, hence the weakening of decision-making ability and decline in original thinking (Vrencoska, 2013).

Most seem to have forgotten the traditional paper-based drawing that had been the mainstay of professional practice, but is no longer used to any great extent to resolve or present solutions; however it still plays a significant part in the early idea development stages of design (Vrencoska, 2013). Students studied after a period of time, were seen to be influenced by ICT integration, and were ‘distorting’ the learning process of ideation against the ‘traditional process’ (Appiah & Cronje, 2013)

However, there still exist studies in which academics fully recognize the support that computers gave to student and professional designers alike. These have acknowledged that certain software could help express and even resolve ideas when limited drawing ability would have been problematic (Schenk, 1998). From a recent study, it was also concluded that when students were ‘forced’ to go with the traditional pencil and paper way of developing ideas, there was a clear circumvention of the ideation process, especially when student/lecturer interaction was notably absent. Yet, when ICT was included in the equation, the ideation process was evident (Appiah & Cronje, 2012)

Summary

Amidst the criticism of design pedagogy, though some benefits have been acknowledged, it is observed how some existing practices limit the creative process of students. The researcher is then led to partially side with the view of Spendlove and Hopper (2004), that there is a need to free students of existing creative constraints in the teaching of design. However, it is the researcher’s view that *total* liberation is not necessary as there are some successful and fruitful practices in existence, and to discard of them all would be akin to ‘throwing the baby out with the bath-water’.

While there seems to be no consensus by researchers on a unique theory or model of design ideation, it can be seen that each resulting theory and model provide valuable insight from their particular perspective.

2.3 Cross-domain research

Following Desai's (2011) research that inspiration was what drove ideation and that it was the key to unlocking new exciting concepts, the question raised was where can this inspiration be found? According to him, sources of inspiration exist all around us. Inspiration can be derived from anywhere, both from obvious and unexpected sources like magazines, music, literature, or from cross-referencing the famous artists of the bygone with modern contemporary lifestyles. One could even be inspired by observing other creative disciplines such as painting, sculpture, architecture and photography. This cross-domain learning method was utilized in the research of Stumpf and McDonnell (2002) that suggested that it was possible to understand the way designers work in teams by applying ideas from the fields of dialectics and rhetoric.

One other example of cross-domain research was in the ongoing research of Yilmaz (2012), an Iowa State assistant professor of industrial design, who in a three-year project to improve engineering students' ability to generate ideas engineered the idea of understudying *industrial* design students. This was designed to learn and apply their different approaches and behaviours of ideation. She was of the belief that "Ideation success depends on ideation flexibility, which is the ability to shift between approaches of generating ideas" (Iowa State University, 2013). The enresult of this project was to

provide instructional methods and materials to help guide the teaching and learning of deliberate approaches to creative problem solving in the design process.

Another research that supported the idea of cross-domain research was that of Kirchner and Sarhangi (2011). They studied the culture of the Navajo and their weavings to consider how this art form could be used to teach and extend mathematics concepts in secondary education. This particular research was found to be more directly related to the area of research undertaken herein, as it also involved the art of weaving and the study of a creative indigenous community. Their findings from the Navajo weavings in rugs and textiles presented them with an opportunity in secondary education for students to understand abstract geometric concepts by using concrete hands-on approaches. The Navajo weavings also provided an inspiration for their students to recognize the beauty of mathematics and fostered a better understanding of the Navajo Nation.

These approaches appear to confirm the findings of Csikszentmihalyi (1996) that some of the most creative breakthroughs occur when an idea that works well in one domain is transplanted in another.

Other justifications for such cross-domain research stems from the work of researchers like Kolodner & Wills (1993) who believe that designers across different domains perform many of the same creative activities, and creative designers frequently engage in cross-domain transfer of abstract design idea, that is, taking processes from one (sometimes unrelated, out-of-context) field and applying such to their immediate situation. There is also the belief that being open to people with diverse perspectives

and disciplines sharing ideas, and a willingness to tap thoughts from all ranks, all work towards enriching creativity (Amabile & Khaire, 2008).

This 'philosophy is what underlies Design Thinking, which is founded on the notion that many designers 'think' and 'practice' in particular and unique ways in the creation of products, graphics, artefacts, environments, buildings, systems and services, and that this way of 'thinking' can be studied, harnessed and improved (Bauer & Eagen, 2008). It is believed that it is possible to identify common behaviours among designers, who despite being spread across different domains perform many of the same creative activities, whether they are involved in designing artefacts or processes (Kolodner & Wills, 1993).

The implied ideology then is that it is possible to study from any discipline in the world and glean useful practices that can be applied in another; in this case, the field of ideation. The question raised again, is 'to what extent can this be true?'

2.4 Cross-cultural learning

Translated versions of creativity (ideation) methods are often used in cross-cultural research, with current design education providing many different design methods for students to learn and apply in their design projects (Cross, 1989, Jones, 1992). Yet, learning cultures and teaching methods have been found to differ from one culture to another (Wong, 2004) and most studies examining people's theories of ideation have been conducted in Western societies, particularly the United States (Niu & Sternberg, 2002) with little attention given to creativity in a globalized situation (Radclyffe-Thomas, 2011).

With a scarcity of cross-cultural creativity research (Chen et al., 2005; Niu, 2006; Sternberg & Lubart, 1995) and even less research that takes account of cultural contexts, it is pertinent to enquire how and to what extent cultures influence contemporary conceptions of creativity and creative production (Niu & Sternberg, 2002). The global dominance of a Western (American) conception of creativity (incorporating notions of individuality, democracy and equal opportunities) has led to a situation where according to some commentators, this view forms the notion of creativity and other perceptions of it are disregarded (Baer & Kaufman, 2006; Niu & Sternberg, 2002; Weiner, 2000).

Gardner (1989) recognizes creativity can be found in China, but not if one looks for it as it is defined in the West; using a Western lens to analyse practices in Chinese arts education. Such practices rather increase the temptation to oversimplify both systems and “superiorise” Western contemporary arts education as a process-led pedagogy, and to view non-Western students’ often superior technical skills in a patronizing way (Radclyffe-Thomas, 2007).

The study of Radclyffe-Thomas (2011) explored individual and societal level themes and concluded that contemporary creativity cannot be separated from cultural context and further went on to propose a model of intercultural creativity in concurrence with confluence models combining a number of individual and cultural factors. He conceived creativity as the fusion of individual creative potential with a favourable social context manifested in a collaborative learning culture.

The recent research of Debeli & Jiu (2013) considered culture as determinant factor and inclusive of all, in nourishing designers' imagination, working from the notion that sources from which design ideas are taken such as culture, environment and religious beliefs are very important for the whole design process.

According to Sabutey (2009), much emphasis appears to be placed upon European ideas, concepts and techniques in the Visual Arts taught in Ghanaian schools and colleges, which he alludes to the influence of European culture through Western form of education. "Students are taught to produce art works portraying wide range of Eurocentric ideas and features, to the total neglect of African concepts of Aesthetics, Appreciation and Criticism" (Sabutey, 2009, p. 6).

The contemporary student has access to the Internet and is flying hundred times higher with western form of culture and philosophy of education than the indigenous. We are now in the present of science and technology which is not bad at all, but it is suicidal if it overshadows the African philosophy of life – life will be more meaningful, and in fact, Africa; to be specific Ghanaian cultural values will be enhanced or augmented if the modern student is trained by blending both information technology and African values. This will bring diversification of knowledge for national development-the modern student will breed ultra-modern ideas: An African technology with rich treasures of the land- purely black technology. (Sabutey, 2009, p. 259-260).

Having established the need to source for ideas from other disciplines and within the cultures of the practicing designers, the proposed field of study was chosen to be 'textiles' and the particular object of study; Kente.

2.5 Why Kente?

Research has shown that, any education however "civilized" it might be which is not based on the culture of the people receiving that education, is bound to produce

societal misfits (Sabutey, 2009). These ‘misfits’ can be perceived to be the modern day student designers found out in the research of Appiah & Cronje (2013) who were “being influenced by ICT integration and were ‘distorting’ the learning process of ideation against the ‘traditional process’ ” (Appiah & Cronje, 2013, p. 16).

Foreign education or Western culture has had tremendous influence on students in Ghana (Sabutey, 2009) and according to Amenuke (2006), it is very imperative to incorporate positive ideas from other cultures and discard or do away with irrelevant or negative ideas that will mar the practices of Ghanaian culture.

To make Ghanaian art education more relevant or more culturally based, it is imperative to inculcate the cultural values, ethics, and norms into the educational curriculum and introduce students to African philosophy of Art (Sabutey, 2009); mostly found in Kente, which can offer ideation lessons to glean.

Just like most African visual art forms, the African conception of cloth is created not just to please the eyes. The African cloth has its underlying symbolism, which actually takes its root in the people’s values and belief system. In the African belief, cloth goes beyond mere covering of the body to prevent exposure. There is this inherent aesthetics in its symbolic usage, motifs and colours, and the messages, cloth “speaks” (Omatseye & Emeriewen, 2012).

Significantly, cloth as metaphor in Africa generates deep insights and personal understanding while, in the same vein, it unravels some untold stories, and captures unspoken words. It is more of a situation where Africans enter into reciprocal, reflexive relationships with their cloth (metaphor). Through this, they gain an

indepth understanding of themselves and of their concept of cloth (Omatseye & Emeriewen, 2012). Cloth serves the purpose of identification and communication. In the assertion of Domowitz (1992), “communicating by means of proverb cloth is like billboards, whose messages are repeated and reinforced, for as long as the cloths are seen and decoded” (p. 84). The original Adinkra mourning cloth for example, had its symbolic meaning printed as a motif on the cloth. This made the weaver carry a clothing poster that transmitted a message Dzobo (1992).

Most Ghanaian visual art forms are designed not only for aesthetic purposes but also carry underlying symbolisms rooted in Ghanaian values and belief systems. With Ghanaian art, its function goes beyond merely aesthetic appreciation to convey a metaphorical import inherent through its symbolic usage of motifs, colours and materials (Asmah, Frimpong & Asinyo, 2013). Affirmation is made by Borgatti (1983) that cloth use and cloth metaphors help to define concepts of humanity, culture, proper social relations and behaviour.

The zigzag lines in the *Akyempem* Kente cloth for example, have their aesthetic and cultural implications from contextual point of view. The Akans and for that matter the Asantes believe that life is not straightforward. In the journey of life one has to meet a lot of challenges and fortunes but what is paramount of it all is determination to achieve success. These and other philosophies the weavers portray through their Kente designs (Sabutey, 2009).

Avins and Quick (1998) reiterate that Asante Kente is unquestionably the most popular and best known of all African textiles because it is produced in greater quantity,

exported to more places, and incorporated into a greater variety of forms than any other African fabric. As of 1998, the total number of Kente designs of the Asante, exceeded 500 each for warp and weft patterns (Ross, 1998), yet this estimated number is believed to have reduced as per the research of Sabutey (2009, p. 65) which documented ‘over 300 different types of cloth designs’ only. Also, it has captured the attention of visitors since at least 1817 as observed in the following descriptions of Bowdich (1966); “the general blaze of splendour and ostentation”, “cloths of extravagant price” and “incredible size and weight, thrown over the shoulder exactly like the Roman toga...” (p. 35).

The effect of current technology and socio-economic changes has turned the Kente into an art form whose social importance now goes beyond ethnic, cultural and national boundaries. It has thus become an art tradition in transition. It is now being used variously as a decorative accessory of varying degrees. It can be seen in headgear, hats, neckties, shirts, on handbags and footwear. It decorates one wall of the United Nations Headquarters in New York, U.S.A. (Ofori-Ansah, 1993).

Kente Cloth plays very significant roles in Asante tradition as well as Akan societies in general. Apart from aesthetic qualities and its functions, it has been deduced that it represents the totality of Ghanaian ways of life. This is argued strongly by Sabutey (2009) because it can be stated in no uncertain terms how various designs of Asante Kente are displayed by diverse class of people from across different cultures and across the world. It has been woven and integrated together with Ghanaian culture so well that one would say that Ghana and Asante Kente tend to be synonymous.

Kente weaving validates proposed theories, which makes it a suitable observable phenomenon to support the aims of this research. One such theory is that of Kolodner & Wills (1993) that novelty (a factor in ideation) often results from substituting something different than the usual thing or from relaxing well-known structural constraints. This is played out in the history of Kente, which started out primarily in black and white woven strands (since those were the available colours), yet is now available in a variety of colours. Overtime, the stipulated requirement of Kente being in black and white was questioned (challenging constraints) and soon other colours were sought from the environment and formerly dull colours were substituted for more exciting ones (Frimpong & Asinyo, 2013)

It is hypothesized that in using Kente as a basis of study, the requirement of research that takes account of cultural contexts so as to positively influence contemporary conceptions of ideation (Niu & Sternberg, 2002), will be satisfied, and upcoming designers will have an appreciation of the lessons that can be learnt from within our own culture

2.5.1 Brief History of Kente

The origin of Kente is explained with both a legend and historical accounts. A legend has it that a man named Ota Karaban and his friend Kwaku Ameyaw from the town of Bonwire (now the leading Kente weaving centre in Ashanti) learned the art of weaving by observing a spider weaving its web. Taking a cue from the spider, they wove a strip of raffia fabric and later improved upon their skill. They reported their discovery to their chief Nana Bobie, who in turn reported it to the Asantehene (The Ashanti Chief)

at that time. The Asantehene adopted it as a royal cloth and encouraged its development as a cloth of prestige reserved for special occasions (Blakeney, 2012).

Regarding historical account, according to Saho, (2009) Kente was developed in the 17th Century A.D. by the Ashanti people and has its roots in a long tradition of weaving in Africa dating back to about 3000 B.C. The original Asante word for Kente cloth is *nsaduasoo* or *nwontoma*, which means a cloth woven on loom and is still used today by weavers. However, the term Kente is the most popularly used today in and outside Ghana and is believed to come from the word "kenten", which means basket in Akan dialect Asante, and refers to the woven designs of baskets on the cloth. The very first Kente weavers used raffia, or palm leaf fibres, and wove them into a cloth that looked like kenten (a basket); and thus were referred to as "kentenntoma"; meaning basket cloth.

Kente is made in Akan lands such as Ashanti Kingdom, (Bonwire, Adanwomase, Sakora Wonoo, Ntonso in the Kwabre areas of the Ashanti Region) and among Akans. Kente is also produced by Akans in Ivory Coast. Kente is worn by many other groups who have been influenced by Akans.

2.5.2 Weaving process

Weaving apparatus are hand-made by the weavers themselves or by others who have specialized in equipment making. A set of weaving apparatus include the loom which is constructed with wood; a set of two, four or six heddles (*asatia*, *asanan* or *asasia*)

attached to treadles with pulleys (awidle) with spools (donowa) inserted in them; shuttles (kurokurowa) with bobbins (awua) inserted in them; beaters (kyeree) and sword stick (tabon). The strip-woven cloth was previously made on narrow double-heddle looms with mostly two or four heddles. Presently, these looms are equipped with up to six heddles, which enable the weaver to produce more complex structures such as variations of twill weave. They weave several long, narrow bands of cloth, and then sew them together side by side to make one large piece of cloth (Picton, 1986).

Other supporting equipment are skein winder (fwirdie) and bobbin winder (dadabena), bobbins holder (menkomena) used for holding bobbins (awua) during warp-laying (nhomatene) and the heddle-making frame (asakuntun or asadua). These apparatus, like motifs in a cloth, have symbolic meanings and are accorded a great deal of respect.

The Asante and Ewe people weave basically warp-faced strips, with sections of weft-floats. The length of these sections is often carefully planned so that when the strips are sewn together, the "blocks" of weft floats line up, often in a "checkerboard" pattern (Clarke, 2002).

2.5.3 Changes in Kente

From the olden days, the earliest weavers understood the essence to improve upon the general appearance of the cloth by changing the materials, techniques and designs of the cloth (Sabutey, 2009). Within a rigid set of royal weaving guidelines, Asante artists innovatively used designated design features. These included the use of colours,

motifs, and patterns in endless variations in the weaving of narrow strips. The weavers ingeniously planned the composition and designs of the individual strips that comprise these dynamic garments. The altering of the type of threads, the use of different materials, the colour choice of threads, the arrangement of the threads, and the combination of weaving technique all dramatically affected the textile's character (Crosman, 2011).

In the research of Bergen (1998), a weaver illustrated how many of these changes were tourist driven, detailing how because of the economy, the weavers could not afford to ignore the tourist market and how with the availability of new materials and colours a domestic market had been created for new designs as well as old designs in new colours. Other respondents within the research emphasized that, all the olden designs were mostly in red (kogyan), green (apobibire), yellow (ayirewa), black (bibire), and blue (esoro), with cultural symbolisms (Fig. 1).

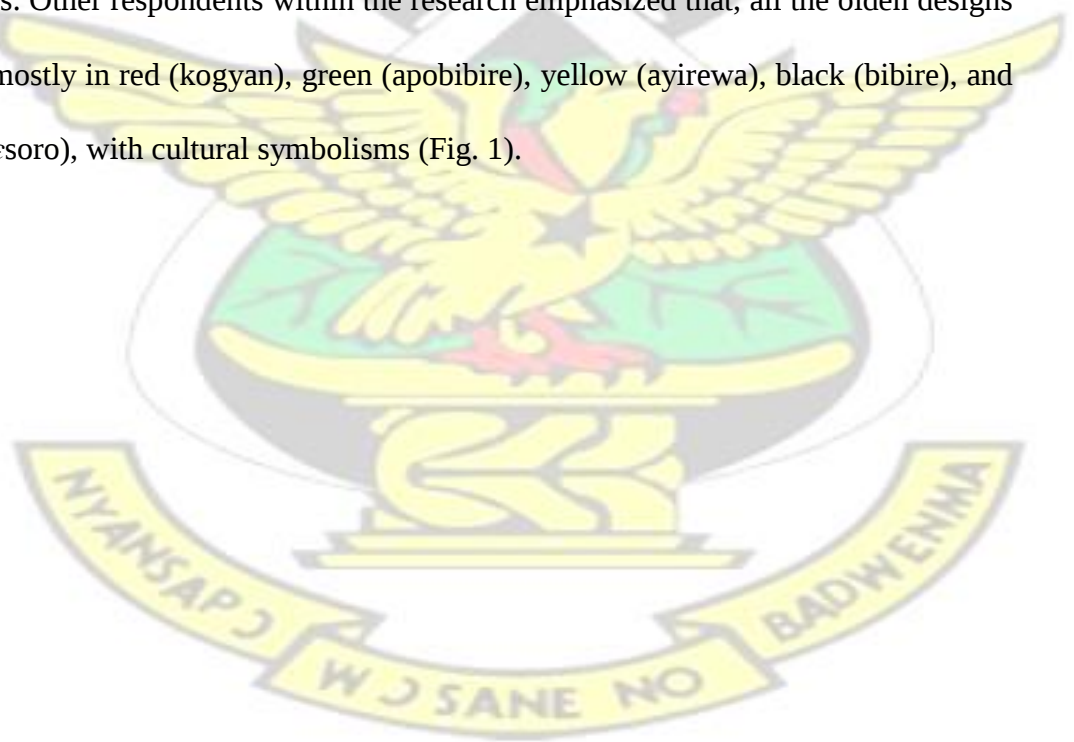




Figure 1: Old Kente patterns and colours

They again claimed that, all these designs were currently fading away due to demands of client and the fact that the basic concept to produce for only the royals of Asante had changed to include those who admired the significance of cloth and could afford it. Due to this, they were embarking on new designs and innovations, partially influenced by clients. Nowadays, colours of Kente are mostly green, violet (purple), orange, sea blue, mauve, silver etc. (Fig.2) making them more fashionable (Frimpong & Asinyo, 2013).



Figure 2: Modern day kente colours and patterns

It can be noted herein how the other local weavers, the Ewes, did not ever have to weave for a court or adhere to rigid royal design rules. Instead, individual patrons were unrestricted in their ability to order cloth that reflected their own taste and financial means (LaGamma & Giuntini, 2008). This non-hierarchical and democratic political structure allowed artists the freedom to experiment resulting in the creation of a diverse range of Ewe kente designs and patterns (Ross, 1998). This freedom is now being reflected in the designs of modern day Kente.

It has been established within these researches that change in customer taste plays a very significant role to the improvement of Kente designs. Customers mostly bring a wide variety of choices of designs and colours to be executed for them. Nevertheless, this is a positive practice, which augments their business because their storehouse of

designs is maximized (Sabutey, 2009). It is therefore, deduced that these new designs reflect politics, social, education, aesthetic pleasures, culture and other important activities. The quest to preserve the Asante culture and for that matter Ghanaian culture as well as the heritage of this profession, handed down from generation to generation made these weavers go the extra mile to discovering ways of constantly improving upon existing designs while maintaining cultural values (Sabutey, 2009).

Concerning symbolism, Gyekye (1996) illustrated that appropriateness or —fitness (Akan: *nea efata*) was still an important criterion of aesthetic value and judgment. For instance, the colours and designs incorporated into clothes for funerals or mourning must be suitable. The colours must be black, red or brown – or, if the deceased person was very old, white. He said again that a symbol worked into the design might express an Akan saying such as —Death destroys homes (*Owuo sei fie*). The quality, style, or cut of a dress must always be appropriate to the occasion.

According to a weaver interviewed in the research of Dickson (2009), there was now the use of several man-made shapes and forms, which are the dominant designs for European clothing. Examples of some of these shapes include diamond, circles, squares etc. These copied designs from Europe were usually modified by dividing the shapes into two or four parts to create new designs. Sometimes, some lines were added and other elements of design to the copied shape, all in the quest of bringing variety and ensuring creativity. This though, was seen as a positive impact from Europe since it helped in breaking monotony in design. Most of the respondents from Dickson's research, who were traditional cloth weavers, also said that the designs for the Kente

stoles they wove had been influenced by European concepts of design, as with the added several inscriptions in words woven as designs in the Kente stoles. This according to them increased the sales of the stoles and therefore served as a positive impact from Europe.

It was anticipated in the research of Sabutey (2009), that although the weavers were so sensitive to stay in business so as to improve their social and economic lives, they would never sacrifice their legacy or cultural principles through the influence from the public. To achieve this, they quickly innovate every design received from their clients into even several different designs and assign them names reflecting deeds of society. “Their sense of aesthetics is highly pronounced, so much so that, at times they convince their clients about how the innovative designs is appreciated from the angle of colour and design” (Sabutey, 2009, p. 114).

Nowadays, as existed with the ancestors, the indigenous Asante Kente weavers do not only see beauty externally but also see beauty more from within, the language of an object and its cultural and political implications. Important persons of various political persuasions are now responding positively to patronizing their products because they really understand the philosophies of Kente (Sabutey, 2009). Some politicians order production of Kente to suit their tastes and ambitions. The commissioned cloths have attractive names that reflect their political thoughts, achievements, victory, successions, etc. With the cloth “*Kuffour Apagya Ghana*”, which literally means Kuffour has elevated Ghana or Kuffour’s administration has made Ghana see numerous developments, the weavers designed this cloth specifically for the former

president to commemorate his enormous contributions to the nation's development. It is an “*Adwini si Adwini*” design cloth, which is a triple weave.



Figure 3: Kuffour Apagya Ghana

These patterns and motifs were generally created by weavers who also assigned the names and meanings to them. Forms, names and means of such patterns and motifs were usually given by weavers who obtained them through dreams and during contemplative moments when they are said to be in communion with the spiritual world. The elders and Chiefs in the Asante societies also played significant role in the cultural values as well as naming of cloth produced by the weavers (Sabutey, 2009).

Overtime too, the system of nomenclature included...

The manufacturers' “representatives” amongst the Ghanaian market women who furnished them with common sayings or feelings amongst the women or the general public. These women critically analysed the designs in the cloth, particularly a design that stood out, and then sought an appropriate title or name for it. Moreover, customers too brought their own designs and name to be produced for them. Other representatives toured the country to record popular events, songs, and general feelings among the people, which could also serve as a name for a new weave for the market. After these representatives made their reports, a designer would design a cloth, which suited the event or the song. Frequently cloths were purchased because of their popular names, even if the buyer did not find the cloth pattern pleasing. (Sabutey, 2009, p. 87-88).

Another development in the art of Kente has been with the weavers. Long an important industry in the Ashanti province of Ghana, weaving has traditionally been considered a male craft (Bergen, 1998). Recently, however, this tradition is gradually changing with “women slowly emerging as skilled weavers despite the powerful social forces operating against them” (Ross & Adu-Agyem, 2008, p. 34).

Other elements of Kente weaving that have changed overtime include the traditional Kente loom being replaced by European-inclined looms like the broadloom. Then with the accessories, raw materials for Kente weaving which were primarily cotton and silk have been influenced by imported raw materials from Europe like rayon, acetate, tencel etc. (Dickson, 2009). Osei (2002), Salm and Falola (1966), Asihene (1978), Asmah (2004) and Adom (2005) all asserted that there has been an influence on the tools and materials for Asante textiles by European tools and materials. Osei (2002) and Asihene (1978) stressed upon the importation of high quality yarns from Europe which are used in the Kente cloth production.

In research conducted, Dickson (2009), it was conceded that there were both positive and negative aspects of the influences of the European elements, and further research was undertaken to critically examine whether these influences were reflecting negatively or positively on the rich textile heritage of the Asantes, so as to advise on what aspects of them need to be discontinued or promoted.

2.6 Kente and Ideation

One particular research undertaken (Sabutey, 2009) has attributed Kente inspiration to master weavers, philosophical ideas and sometimes ideas obtained from demands or

orders from clients, existing designs and sometimes, the elders of the town giving ideas. At times, existing designs are also adapted from earliest weaves, which are either repeated or modified slightly into new designs. "Ideas are also sought from the environment, both natural and man-made objects. Examples are cloths such as *anomaa* (bird), *sɛsɛ gua* (stool), and adinkra symbols such as *sankɔfa*, etc." (Sabutey, 2009, p. 107).

Another example being the popular *Nyankonton* Kente Cloth, designed several decades ago by the indigenous Asante Kente weavers. *Nyankonton* is Asante name for the rainbow. According to the weavers interviewed within that research, it was created in exaltation of the beauty and mystery of the rainbow phenomenon. The arrangement of warp threads mimics the visual characteristics of the rainbow. This cloth symbolizes divine beauty, gracefulness, divine creativity, uniqueness, and good omen.

The weavers also claimed that they had a store of ideas in their heads while others pointed out that they dream of creative ideas and sometimes the new patterns come accidentally while executing a particular design.

Provided the design is unique, society does not impose ideas on the weavers. They do not have fear of society rejecting their work but rather receive praises from society. They have freedom to create whatever they want. According to one old respected weaver interviewed in Sabutey's research; Nana Opanin:

"If you know the major patterns, of which there are many, you may be inspired through dreams to invent new ones. When you are endowed with skill and intelligence, through the family blood, you are expected to innovate and discover new patterns. There are thousands of patterns. Now there are innovations in colour. You need not ask permission to use the patterns others invent"

In addition to all the above-mentioned works of research discussed, others that were considered concerning Kente addressed issues concerning its origin, and the various kinds of Kente manufactured. Others looked at the various design elements, meanings, and functions of the cloth. Some have explored the art and symbolism of Kente cloth and its expression of identity in African-American communities (Ross, 1998). Others have explored the lives and experiences of the weavers in understanding the role of the crafts person and the dynamics of gender relations (Bergen, 1998). One examines current changes in the functions and design elements of Kente, its present usage and some old design patterns (Atsutse & Apoh, 2014). Another has examined the history, patterns, design elements, symbolism, and evolutionary changes of the Kente textile tradition (Crosman, 2011).

In studying these works, the issue of ideation and its place in Kente weaving has not been delved into; the closest research to it being that of Sabutey (2009) which unravelled the concepts of aesthetics, appreciation and criticism among the indigenous Asante Kente weavers and its implication for Art Education in Ghanaian schools and colleges as well as national development.

The findings of Sabutey's 2008 field study revealed that the innovation of Asante Kente concerned material usage, enhancing aesthetics on design and improving the quality of the cloth. Their innovation was based on creative ideas and not on technique innovation alone.

His research looked at Kente holistically, but did not zero in on the ideation processes to study their methods and practices. One of his research aims was to analyse the concept of aesthetics, and this was done, but without delving into the matter of

ideation. This study was to analyse the ideation practices the Kente weavers engage in and its similarity to any existing Western ideation practices so as to confirm which ones are the most successful in their context, which should then better guide pedagogy on ideation within the African (and specifically) Ghanaian context.

Summary

Having considered the various components of ideation, as well as some factors of pedagogy and methodology of creativity and laying the foundation for the importance of cross-domain research, Kente has been seen to be one suitable means of exploring the subject of ideation. By delving into the ideation field of kente, under certain methodologies outlined in the next chapter, it is hoped that the findings of this research will generate the knowledge needed to, not only investigate and evaluate the numerous ideation philosophies, but also to distinguish between their necessary and superfluous components. This is hoped to improve the lot of the African (and specifically Ghanaian) design student so that they would contribute their quota to design discipline, especially as ideation gains increasing attention as an important area of research, theory and practice.

CHAPTER THREE

METHODOLOGY

3.0 Overview

The purpose of this chapter is to describe the procedural methods and activities utilised in this study, explain the sample selection, describe the procedure used in designing

the instrument and collecting the data, and provide an explanation of the procedures used to analyse the data.

3.1 Research Design

Qualitative methodology was employed as a framework for this study due to its ability to achieve rich and textured knowledge about people's experience of some phenomenon or issue (Fischer et al. 2008). The research was not necessarily looking at the number of successful ideation cases among the weavers but to explore their components of ideation so as to better understand the *factors* behind it.

With little, if any published research existent about the ideation practices of the Bonwire weavers, an open mindset was adopted, in line with inductive research and thereby leading to the inductive approach.

3.2 Population of the study

Population of the study were the Bonwire people of the Ashanti Region of Ghana who have been weaving Kente for decades. The town Bonwire is deduced to be the birthplace of kente (Sabutey, 2009). With a recorded population of about 5,085 in 2000 projected to increase to 7,099 in 2013 (Ghana Statistical Service, 2005), almost all of the male members of each household have knowledge and practical experience in Kente weaving.

3.3 Sampling Method

According to Creswell (1998), research participants must “be individuals who have experienced the phenomenon being explored and can articulate their conscious experiences” (p. 111). The participants (sampling frame) in this study were narrowed down to the weavers within the community and not simply all residents of the township. However, since almost everyone (male population) within the township had some knowledge and experience in weaving, the approach would have meant interviewing nearly the entire adult population there. There was a need for a smaller sample population.

The Bonwire Weaving Centre weavers were selected using purposive sampling, specifically *Homogenous Sampling*. The purposive sampling method was chosen based on its specific purposes associated with answering a research study’s questions (Teddlie & Yu, 2007). This group of weavers shared the same interest in Kente weaving, and was a readily-identifiable organized unit.

As the research sought to glean information from representative samples of the population, yet acquire information rich cases, the researcher felt it necessary to include other weavers in the township who were not members of the Centre. The researcher then enlisted the services of one native weaver (identified during initial ground research and preliminary visits to Bonwire) and snowball sampling was again used to identify other participants

As the with the aim of studying in depth and in detail (Miles & Huberman 1994; Patton 1990).

Although there were no closely defined rules for sample size (Baum 2002; Patton 1990), a guiding goal of qualitative research to enter informants’ lived experiences

tended to create small sample sizes (Punch, 2000; Silverman, 2005; Strauss, 1987). As such, a target of 20 (twenty) weavers was originally estimated for the sample. Information gathering began and continued until the researcher recognized that no new data was forthcoming – a point of data or information redundancy (Lincoln & Guba, 1985), agreed upon by Josselson and Lieblich (2003) as a key determinant of sample size. The total sample size realized was 14 (fourteen) – seven (7) from within the Bonwire Weaving Centre, and seven (7) from the main township.

3.4 Data Collection Instrument

In the initial ground research undertaken, it was discovered that most of the weavers, though literate and semi-schooled (up to primary level), were not as comfortable with any instrument requiring written responses, and as such fill-in questionnaires were discarded as a possible instrument.

Interviews however, are considered central to qualitative research (Bryman, 2004; Marshall & Rossman, 2006; Silverman, 2000) allowing access to diverse people and experiences (Bryman, 2004) and facilitating the gathering of large quantities of research data (Fontana & Frey, 2000; Robotham, 2004).

Relevant data for the study were thus solicited using the interview and a notebook used as a supplementary information source to record impressions, reactions, and other significant events that occurred during the data collection phase of research.

A face-to-face interview was the specific instrument chosen due to the unique characteristics of the study population and the efficiency of the data collection.

In accordance with van Manen (1990) recommendation that the interviewer usually needs only an outline or general framework of questions, the researcher saw it fit to use the semi-structured interview to assist in proper realization of the objectives of the study. Semi-structured interviews have been seen to explore topics more openly and enable the participants to express their opinions and ideas in their own words (Esterberg, 2002). The interviews were designed to take the form of open-ended conversations, aimed at getting in-depth information from the participant's subjective viewpoint. The questions were formulated based on the objectives, research questions and hypothesis.

The researcher engaged in *Progressive focusing* (Parlett & Hamilton, 1976), a process of adjusting the data collection process itself when it begins to appear that additional concepts need to be investigated or new relationships explored. Thus, open-ended items were sometimes restated or asked differently all in the quest of soliciting required information from the respondents.

3.5 Administration of Instruments

The interviews were conducted over a one-month period (Wednesday 21st January 2015 – Thursday 26th February 2015) including preliminary visits. Participants were interviewed within their work environment so as to put them at ease and give room in expressing their views, attitudes and feelings in a more flexible setting. Where it was possible, respondents were isolated from the group during the interview period.

Since the researcher was limited in the use of the local language (Twi), a research assistant/interpreter was used in the interview process.

While some qualitative researchers believe a study may be invalidated if informants know too much about it (Kvale, 1996; Hammersley, 1998) and so choose to be ‘truthful but vague’ (Taylor & Bogdan, 1984; Marshall & Rossman, 2006), others stress the necessity of unequivocal disclosure of research objectives (e.g. Patton, 2002). This observation was adopted for this research study. Each participant was briefly introduced to the scope and aims of the research, individual consent sought, and then the interview began.

The interviews were audio-recorded, hand-written notes were taken and the researcher’s comments were jotted down in a field notebook too. The experiences in the research field were also recorded on a daily basis, to serve as a reminder of shortcomings and successes during previous interview sessions, so as to enable more-appropriate preparations for the upcoming ones. Some of the interviews and artefacts were also photographed after permission was sought for photographs to be taken, which was granted in every case.

On the whole, the field notes, photographs, and the audio recordings, provided the needed perspective from which to review, transcribe, understand, collate, and interpret the research findings.

3.6 Data Analysis

Qualitative data analysis is the range of processes and procedures whereby a researcher moves from the qualitative data that has been collected into some form of explanation, understanding or interpretation of the people and situations that are being investigated (Lewins, Taylor & Gibbs, 2005).

After conclusion of the interviews, the audio-recorded information was transcribed into English, with the help of a Twi/English-fluent colleague and then analysed.

Analysing the data in qualitative research is described as an on-going process, entailing several steps. In analysing the data, the researcher followed the six steps recommended by Creswell (2009) for analysing data:

1. Organize and prepare the data for analysis;
2. Read through all of the data to gain a general sense of the information and its overall meaning;
3. Begin the coding process of organizing the material into chunks of text before bringing meaning to the information;
4. Use the coding process to generate a description of the setting or people as well as the categories or themes for analysis;
5. Advance how the description and themes will be represented in the qualitative narrative to convey the findings; and
6. Make an interpretation of the data by asking “what are the lessons learned?”

The coding was done by identifying all relevant information (words, phrases, sentences/sections, activities, concepts, differences, opinions, and processes), labelled, and then categorized into various themes. Where evident, the themes were then linked with various theories and concepts of similar studies conducted elsewhere. A qualitative narrative procedure was used in the presentation of data, analysis, and interpretation

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CHAPTER FOUR

RESULTS, ANALYSIS AND DISCUSSION OF FINDINGS

4.0 Overview

This chapter comprises of the results and findings of the interviews. Information gathered are grouped under various categories for easy discussion and interpretation.

4.1 Interview procedure

According to Janesick (2000), simply observing and interviewing do not ensure that the research is qualitative', and so the researcher followed the advice of Jones (2002) that the researcher must also interpret the beliefs and behaviours of the participants". In doing this, the researcher engaged the help of the native weaver identified during preliminary visits to Bonwire as an assistant researcher, making the research partly ethnographic.

The guidelines of Armstrong (2008), gives an account where this assistant researcher was fluent in the local language (and English) and had spent enough time in the setting to know how people live, what they say about themselves and what they actually do, and what they value. This provided more insight and understanding into the culture and served to "blend the local knowledge one has learned with what we already know sociologically about such settings" (Anderson 2003, p. 236).

For this study, the researcher, assisting translator and photographer were introduced to each weaver by the assistant native researcher, and then a brief background to the research was shared.

The interviews were initially targeted to be between 15-30 minutes each in duration. However, in following the rule of interviewing as according to Bernard (1995), to “get an informant on to a topic of interest and get out of the way. Let the informant provide information that he or she thinks is important”, weavers talked more about the kente *weaving process* than on the initial design process. This resulted in some interviews exceeding the allotted time and running into 45mins-1 hour. Yet, by following another of the guidelines, probing to stimulate an informant to produce more information (Bernard, 1995), more direct and relevant information were sourced.

4.2 Interview participants

The study involved a total of fourteen participants – all weavers within the Bonwire community in Ashanti Region, Ghana. The weavers were all males aged between 27 and 54 years and were communicated with using the local dialect (Twi). Seven participants were weavers housed within the Bonwire Weaving Centre, and the remaining seven were individual weavers located in the main township. Each weaver within each group was identified through snowball sampling.

4.3 Interview questions

Interview questions were semi-structured and open-ended to allow for further exploration and insight into the mind of the weavers. According to Stake (1995), “Initial research questions may be modified or even replaced in mid-study by the case researcher. The aim is to thoroughly understand [the case]. If early questions are

not working or, if new issues become apparent, the design is changed” (p. 9). This approach was adopted during the interviews.

Below is the general framework of the questions, with the Twi-translations added. The order routinely changed, based on the discretion of the researcher and the answers of the respondents. Personal profile questions (name, age, hobbies, etc.) were asked as preliminary questions to provide a background to the respondent and put them at ease instead of delving straight into the interview.

4.4 Coding and categorization

The transcribed texts were sorted into groups of like substance and meaning, by assigning codes that reflected the various categories and properties. According to (Merriam, 1998), categories should:

- Reflect the purpose of the research
- Be exhaustive
- Be mutually exclusive
- Be sensitive to category content, and
- Be conceptually congruent

The main categories identified, in relation with the issue of ideation were:

- Pedagogy
- Work Environment

- Personal creativity and Skill
- Motivation
- Source of ideas
- Open source culture
- Number of ideas
- Process
- Computer/ICT use
- Sketching
- Ideation technique
- Group meeting/Advice

In contributing to knowledge and gaining further insight into the subject area of Kente weaving (as outlined in the research objectives), other categories relating more to the Kente-weaving field were noted down. No specific/direct questions were asked on them, yet the information emerged during the interviews and added to the observations made by the researcher:

- Customer Demands
- Identity and Capabilities
- Problem-solving
- Retentive Memory

- Naming
- Trends

4.5 Presentation of Findings

On the whole, the field notes, photographs, and the audio recordings, provided the needed perspectives from which to review, transcribe, understand, collate, and interpret the research findings. As there was not a set time or period wherein the weavers ideated, the information gathered through interviews took the form of reflective insights rather than direct observational information.

In presenting the data for analysis, the researcher followed the suggestions of LeCompte and Schensul (1999):

- Reviewing the research questions. These are used to guide the design and implementation of the study. Hence, it is important to view the data in terms of ensuring that sufficient data were collected to enable the researcher to answer the questions posed within the study.
- Creating collections of quotations. Organizing quotations related to the same topic to help the researcher recognize patterns found in the data.
- Developing a metaphor - presenting the data in various ways verbally.

In ensuring that the researcher was drawing and verifying conclusions correctly, the researcher also used a few of the various strategies suggested by Miles and

Huberman (1994) for generating meaning from the data: Noting patterns and themes; making contrasts/comparisons; noting relations between variables and counting. The use of counting/numbers in documenting, verifying and testing one's interpretations or conclusions was advocated for by Beck (2003) as a tool for identifying patterns in data and also by Kawulich (2005) to generate meaning or show the complexity of a theme. Pseudonyms were used in identifying each participant's input and conceal their identity as according to the guidelines of Guenther (2009).

These findings have been presented below:

4.5.1 Ideation categories/codes

In recording the data findings, the data was not presented on a question-by-question basis but instead key points were summarised, using selected quotes to illustrate findings. These key points were seen to be the main ideas related to the topic of Ideation.

4.5.1.1 Pedagogy

Half (8) of the interviewed weavers were taught by close relatives (fathers, uncles, brothers) with a second smaller group taught by mentors with no family ties. A much smaller fraction (2 people), shared how they were not really sat down and taught by anyone. According to them;

“You’ll learn on your own if you’re interested.” (A.S.) and “it’s not an occupation that we deliberately teach someone.” (E.B.)

One young weaver (A.E.) shared how being taught by his artist father and later by computer-literate persons such that unlike his colleagues, he was able to design using the computer, had influenced his creativity.

Yet at the same time, the point was made that no one actively had to decide to learn to weave, it was a given that one would learn it:

“The way the work is structured, if you’re in Bonwire, you’ll end up learning and doing it. From childhood, you find yourself going through the process though it’s a long and slow process.” (A.S.)

Children usually were tasked to beat the threads and engage in other micro-but equally important tasks. The teaching of it usually progressed in stages, with young weavers expected to learn everything:

“Someone will pass through all these stages, so when someone comes to learn, you have to move from one stage to another before you come to the weaving. And even the weaving itself, you have to learn the single weave, which is the plain weave. And that one you have to learn it for a long time until we see that you do it without mistakes. Then you move on to the ones with designs.” (K.E.)

The later value of this stage-by-stage process revealed itself in the capability to weave anything and everything:

“I learnt all those things. I know how to straighten it and place it in the loom. I can weave every design that you bring to me.” (E.O.)

One weaver outlined the importance of having guidance in learning not just the process of weaving, but also the aspect of colour combinations among others:

“You ask questions about designs and they show you how to achieve it. When I do this here and that one here, then you join them here. If you don’t get anybody to teach you, how will you know how to join which piece to which? You will need somebody to help you. If not you will not achieve much.” (O.M.)

Learning weavers were free to experiment with weaving on any loom they came across and then were chastised and/or encouraged, but regardless, they picked up the trade.

4.5.1.2 Work Environment

With their ‘computer’ being the loom, cloth has to be woven in a wide-enough area to accommodate the loom – usually porches and open grounds. In such open areas, passers-by are free to comment on work being done and offer advice or question anything.

Then sitting in the loom, weavers think through what they want to do and brainstorm for further ideas by actually weaving. The loom served as their creative-thinking area, much like a designer’s workshop. It was not a matter of simply finding somewhere to sit; *“Not just sit down; sit in the loom. The loom is where we sit.”* (O.F.)

Another weaver (O.K.) confirmed this: *“while I’m at the loom that is when I’m thinking through”*.

This was the shared experience of roughly half of the weavers; however one weaver differed from this common practice and usually sat in a quiet place and thought with the aid of his phone's internet:

“When I want to do a design, I need to find a place that is quiet, where I think I won’t be disturbed by such things as music and all general noises. One sits down and for me I sit down and using internet on my phone, I Google and search around and then from there I create my design, adding and removing as I go.” (B.M.) Designs/kente pieces were usually worked on individually with the only instances of people who come together as they weave new pieces for the town chief, or the Ashanti regional chief Otumfuo. In those instances, the weavers work in seclusion in an inner room.

4.5.1.3 Personal creativity and skill

All but two of the weavers believed in their creative capabilities and affirmed their application of it in their work. One of these two, (E.B.) confessed to not having come up with his own design before, though he admitted to being good at imitating others' designs. This imitation of others' designs though seemed to be the accepted practice though and not much was made of it, except where it seemed a routine practice of particular people:

“We have some people who refuse to think. At times these people will just go from store to store and copy. Nowadays they're using phones. They'll come to you and say that this person wants this cloth, so open it and let me send it to the person. But he's copying your design.” (O.F.)

The remaining twelve weavers believed that every weaver was just as capable as the other, though they conceded that a few were slightly more skilled than others, and some had more experience. One weaver gave the example of a man whose designs stood out from others' and identified his secret as drawing his designs beforehand in a graph book, which the other weavers did not do. Another weaver identified his family's creativity as being highly praised by others:

“The town here, what people say about us is that we are a 1000+ because that was the name people used to call my father. This is because he was unique.” (A.E.)

It appeared that while some were skilled in creating new designs, others were skilled in the actual weaving itself, with a few bragging that they could weave any and every pattern existing.

One was of the view that once a weaver; one had the particular skill in “designing” the kente:

“The main designing part is for us the weavers. It's the colours that when they are not arranged well, we can see that this and that colour should not be put together so it

will not make the cloth nice. Most of the ideas come from us the weavers and few from other people” (I.O.)

This view was confirmed by another weaver (E.O.) who further linked up this skill to experience in Kente weaving.

It appeared that simply being able to combine and rearrange patterns were not enough in helping one weave an aesthetically pleasing cloth; one had to have knowledge in colour harmony and appreciation. These were considered traits of a good weaver since *“some designs just don’t gel with other designs and even the colours may not let it work.” (O.M.).*

The general belief, voiced out by more than half of the weavers (9 out of 14), was that once one was born into the town, creativity was inherently a part of them and thus they could externalize it in their works. Four out of them attributed this to being in the profession for a long time, with the mindset that *“the longer you do it, the more you are able to create new designs on your own” (A.S.).*

One of them compared their (Bonwire weavers) creativity to that of other weavers born in other areas, namely, the Adanwomase weavers:

“Weavers in Adanwomase can create a design and when they bring it to Bonwire here, we can suggest better ways the design could have been made. And so through that, we can create a new design looking at what the people at Adanwomase have woven. But ours will be different from what they have done.” (D.)

One other discovery made was that ‘uncommon designs’ which are thought of as ‘new designs’ by outsiders, are often recreations of the forefathers’ designs, and the way in which it was recreated showed the weaver’s personal creativity. As one weaver put it, *“There are really no new designs just a variation of old ideas.” (O.M.)*

Paradoxically though, almost all the weavers insisted on their ability to create brand new designs, which have never been in existence. They linked this ability with their identity as a weaver and the number of years spent in the profession.

Yet one factor that came up with longevity in the profession was physical challenges with sitting in the loom to weave. One elderly weaver (O.M.) recounted how he could no longer sit in the loom to weave, and since most of the ideas were created in the loom and not on paper, he had no new ideas to show.

In summary, it was felt that as a weaver, one had to be very creative in order to attract customers and remain in business.

“Kente weaving is a profession and as it is now, you can choose to follow what other people are doing or you can be creative. And so if we’re able to create new designs, people will come and pick what you’ve done.” (A.E.)

4.5.1.4 Motivation

Although interview questions were targeted at discovering high-motivation factors, some of the weavers also gave insight into reasons behind low-creativity, which are firstly detailed below:

- Non-existent capital – the money for the threads to try out different/new designs. *“Sometimes just the weaving alone will cost about 500Ghc. So if you don’t have a customer who’s ready to buy that cloth, you don’t bother making it.” (O.F.)*
- Time: *“The time that you’ll have to look for a new/uncommon design is really not a lot.” (B.M.)*
- Customer preferences *“The reason I don’t think up new ideas often is that people want what’s already there or they also want a design like what they saw someone wearing. So it’s not for me to do anything new for that person. Because I also need the money” (A.S.)*

- Monetary losses: *“The main challenge is that these fabrics don’t get bought by themselves. Unless you are making it for a specific person... Maybe due to the colour, some fabrics will take a bit longer to sell and that will discourage you from making a lot of that design or colours. Otherwise, you will always have stock in the shop and the market will not favour you.”* (O.M.)

With this background motivation, weavers put their personal biases and preferences aside and commit to weaving ‘trending’ or popular designs.

Regarding motivating factors for increasing creativity, points mentioned were:

- Personal interests: One weaver, who had much interest in politics, shared *“I noticed that while people like Kuffour have patterns to celebrate him, there’s not been anything similar to celebrate Rawlings. So I see an opportunity to create a pattern for Rawlings and launch it with his name on it.”* (B.M.)
- Competitiveness: *“If you’re unable to create new designs, you’ll be out of the competition... There are a lot of designs in the market and you can find them everywhere you go and so if you are not creative with the designs and the colours, no one will come to you to buy cloth that he can easily find on the market. And so that inspires us to create new designs.”* (A.E.)
- Fame & Recognition: *“Anytime I sit down, I think about bringing up new patterns so that when others see it, they’ll know I brought up this pattern”* (I.O.)

“What I always think is that every day I could create a new design that’s never been in the system so that whenever you come and see that design and you’re interested in it, I’ll be the only person who can make that design.” (D.)

- Customer attraction & retention: This common reason was standard amongst 80% of the weavers:

“People really love Kente but they also prefer new designs, so when they come and you’ve done a new design or pattern, which they’ve not seen, they like it because they want something unique – that hasn’t been worn by anybody. They don’t want a situation where they wear it to a program and other people will be wearing the same thing. It motivates me to think fast to come up with such new designs.” (A.S.)

“We make our designs. It’s not always that a customer comes by. You have to make some and put it down so that when people come by they will see them and buy it if they like it.” (O.M.)

“As things change in this world, you also change with it. So as your customers come every day with new designs, you also have to create new designs that

your customers will like. So as things are changing, every time I have to get new ideas and weave new designs because your customers will not want the old designs there already. They'll want new designs. So if you have about 3 customers and every day you only have one design, they'll not come to you – they'll go to other persons. So anytime you have to think of bringing new designs.” (E.O.)

While these reasons appear to be inward motivating factors, one weaver differed from this and was seen as seeking outward motivation – from customers:

“In our work, motivation is also important. Because how people even talk to us motivates us to work hard. And sometimes when you buy something for people who are weaving your cloth, it motivates them.” (S.A.)

4.5.1.5 Source of ideas

Most of the weavers attested to the practice of sourcing ideas from the designs of their predecessors and their contemporaries. Regarding the old patterns and designs their forefathers made, these designs were identified as *“adwiniasa and edwini sibay and it was those two cloths that [they] took most of our designs from” (D.)*

Two (2) weavers made claims as to this being the one-main/exclusive source of ideas and not the works of their contemporaries:

“I don't really look at other people's designs to do mine, but I earlier said, most of the ideas that I have are influenced by the traditional Kente designs that we have” (B.M.)

“The designs are plenty and so if someone says he wants a design that is not common, they go and look at the old cloths worn by our forefathers, which are not worn again and then recreate them in a new way.” (E.O.)

For half of the weavers, a great number of their ideas came from the works of their colleagues as well as their forefathers' designs:

“Sometimes when I go out and see other people's designs and it's nice or I like them, I add it to the pattern I'm doing... For ideas, I borrow some from others. For example, from my uncle” (O.K.)

For these weavers who sourced out their ideas from the works of others, it was not thought of as a negative practice, but as one weaver (O.F.) put it, it was thought of as “*human nature*”. Some did this through direct observation of the works of others, or by browsing online, with two weavers flatly denying ever going to the Internet for ideas.

A few sourced their ideas from Kente pieces they themselves had done, often seeing other potential designs in that one design and which they experimented with in their minds, tweaking and modifying so as to think up new designs.

Because of the numerous Kente pieces existing, the weavers always had a large pool of ideas to reference from, which they used extensively. Half of the weavers interviewed mentioned other non-kente sources of ideas – books, carrier bags, shirts, etc. which they decided to translate into Kente. E.g. “*if I bring this design into Kente weaving, it’s going to be beautiful’, so that’s how I do it*” (I.O.)

Two others however, could not verbalise or trace the source of ideas: “*If you ask it that way, about how I get that creative thought, it’s a bit difficult to explain*” (A.S.)

The best explanation they could give was to link it to sudden inspiration in sleep. “*One thing about our Kente is that at times when you sleep, something can come up and then you start thinking about that thing*” (N.K.), “*sometimes when sleeping or lying down, something can just come up in your head that you want to work on*” (I.O.). Others just ‘had’ the ideas whilst at the loom “*We don’t sit to think about it, we just sit behind the loom and just weave the ideas as they come*” (O.M.)

4.5.1.6 Open source culture

A large percentage of the weavers (95%) were in the practise of creative appropriation – sourcing out ideas from the designs (both present and past) of other weavers. This open sourcing was referred to by one weaver as learning:

“Here we do learn from one another. So as someone can learn from you, so can you also learn from another person. You can either pick a design, or you pick the colour combination from another weaver.” (A.E.)

Once a new design came out which sold successfully on the market, many other weavers wove the same pattern, often times varying the colours. To them, it was pointless to try and hide one’s designs because:

“Even if you hide it and you send your cloth to a tailor to sew it for you, another weaver can go to the tailor and steal that design. So we don’t hide designs here” (E.O.)

With the Kente also woven in the open, it was easy for any passer-by to observe and copy a design.

What aided the ‘copying’ of designs was the ability of most weavers to memorize and replicate designs seen without any guidance or teaching: *“one thing is they know you’re a weaver. The moment you see the thing, you can copy it.” (O.F.)*

There was only one mention made by one weaver (E.B.) of weavers meeting to teach others:

“Maybe someone might have created a new design and then would want to show us how to work with that design.” (E.B.)

This was however refuted by another weaver as being an olden-day practise, which did not happen anymore;

“In the olden days, when they do a design, the weavers meet and they talk about it. They discuss the design. But now when this man has his store where he sells the Kente, when he does the design, it’ll just be in his store. So when you come to his store, you’ll

see it He wants customers not weavers. We don't deal with weavers. If you're a weaver, you're potentially taking away my money" (O.F.)

Upon finishing a Kente cloth, that pattern in a sense became public property with the originator not having exclusive rights or copyrights to the pattern.

"Nobody owns any specific design. There's no rule to stop anybody from making some." (O.M.)

One exception however to this open sourcing was for Kente pieces woven for Otumfuo, usually with several designs/patterns but with weavers only being allowed to pick one out to replicate and not everything. What appeared to guide this practice of open sourcing, according to one weaver, was the law of karma:

"There is one thing in our community here. If [weaver 1] is having this cloth and I don't have, I can just go straight to [weaver 1], open it and let me snap a picture of it, he'll just allow me. Because maybe you'll come to my shop for another one. So if you deny me, when you come to my shop, I too will deny you." (O.F.)

Despite this, it seemed some weavers found ways to guard against this blatant copying by placing *"glass in front of their cloth, sealing it. So if their customers come, they just take them in there, open it in there for them to see."* (O.F.).

Yet this particular weaver frowned upon this as he felt there was no need to hide it, since *"you should want people to know that Bonwire is well noted for good Kente"*.

4.5.1.7 Number of ideas

Only a handful of the weavers interviewed had been able to come out with any new designs over the past year, and these new designs/ideas for each weaver were often not more than three. These numbers appeared low at first glance but was justified by one weaver; *"It'll take you a long time to finish one work. So for the whole year, you can only create about 2 designs. Because you can't do a lot of weaving in one year"* (I.O.).

Another main reason outlined by another weaver was heavy workload; *“I have plenty works to do for people so I couldn’t really get the time to come up with anything new”* (A.S.).

None of the weavers attribute the low numbers to lack of competence or creativity, for they believed that in being weavers, one was able to get many ideas; *‘because I’m a weaver, at any time... It can come in your head at any time’* (K.E.). As they worked on other designs, ideas cropped up for new pieces, and at times too by collaborating with the customers, other ideas came up.

Yet there seemed a general misunderstanding of ‘new designs/ideas’ and most of the answers given were related to ‘new cloths’ woven, which were usually modifications of old designs, and not fresh new designs dissimilar from existing ones. However, one weaver explained it as thus:

“We don’t usually bring out any new designs, but the new design that you’ll work on might have been in the system but it’s the colours that we’ll be changing. And also if the old design has 3 patterns and you decide to add a 4th pattern, it becomes a new design. And so that’s how we do it. It’s not like in every month we get a new design.” (E.B.)

4.5.1.8 Process

Almost one quarter of the weavers (3 persons) described their weaving ideation process as an interdependent one in which they sought advice or direction before beginning the weaving process:

“For most times, you cannot decide on your own but when you want to do a design, it is advisable to consult an elderly craftsman or weaver by you to advice you on what direction to take” (B.M.)

Half of the weavers (7 persons) identified their approach as an experimental and trial-and-error process. Concerning the trial-and-error, one of them captured it this way:

“I would have had it in mind that today I’ll try some new design, and I’ll try it at the loom, and if it’s nice, I’ll continue with it. But if it’s not nice, I’ll undo it and think about another alternative design and try that as well” (A.S.)

He appeared disheartened by failure, and usually sought advice when stuck with implementing a particular weave pattern he had thought up. When this recourse did not yield results either, he still had a positive mind and saw his mistake as a new style:

“What I’ve observed is that, even though I may not have finished it, I can still continue it, and not discard it. That can even itself, become another pattern/design. So I continue it as another design even though I didn’t fulfil my original objective”

One weaver outlined a step-by-step planning process he engaged in at one time in the past, which also involved sketching:

“I sat down and planned how to arrange it; put this colour here, and that colour here. So I took a paper in the house and planned how to arrange it. I drew everything; place this colour here and that colour there. Then I went to the loom and did it. It was very nice;” (K.B.)

Three (3) other weavers outlined this planning process, though their descriptions were not as detailed, and were combined with other processes. In their planning processes, each of them first created a sort of brief by dialoguing with the client, asking questions of the client about the purpose of the cloth, preferred colours and occasionally stating their own recommendations. Ideas were also collected from other weavers. Any new additional ideas developed while weaving were usually tried out with the ends of the cloth currently in the loom.

Generally, they spoke about their longevity in the weaving and their identity and heritage as weavers, as being the factors behind their ability to ideate new designs. One of them therefore did not identify their process as ‘a method’. To him everything; the planning and experimenting, were done instantaneously upon sight:

“We don’t have any method we use to create the designs. For instance, if the existing pattern is 5 and we want 7, the moment we see it, we’re able to capture and create the pattern with 7. And so that one it comes with practice.” (E.B.) Or as two other weavers put it:

“We work straight from the mind...we don’t sit to think about it, we just sit behind the loom and just weave the ideas as they come. Like I take this piece and join it to this piece and move on.” (O.M.)

“It’s a talent; when you’re weaving, sometimes you’ll not even know what you’re doing, and at the end of the day, you’ll see that you’ve done something.” (O.F.)

One person admitted to not ever coming up with his own design, so had no ideation process to speak of. He basically asked the client to request a pattern and did the same. If he found any difficulty in the weaving, he opted to stop that particular pattern and add a much simpler weave pattern to the cloth.

Majority of the weavers did not appear to involve themselves in any multifaceted creative process such as sourcing out ideas online, creating roughs and comps, etc.

What one weaver even referred to as doing “research online” (B.M.), was found upon further probing to be nothing more than simply searching for kente pictures to copy, and not necessarily searching for raw inspiration from miscellaneous sources.

To help the weavers in their work, visitors and foreign individuals had introduced different computer/IT solutions over time and a few weavers had the chance of using those.

One mentioned the use of the computer in alleviating the “tedious job” of deciding which colours to use and acknowledged the time saving option it gave them. According to him, *“If I’ll sit down for 3 days and come up with what I’ve done, with*

the help of the computer, I'll only sit for about 30 minutes.” (E.O.). Yet at the end of the day, this computer use was discontinued because:

“What I saw about it was that it gave us a different design but you found it difficult seeing the design. They weren't sharp; they were blurred. So even though the software was good, to me they didn't continue building that software. Or maybe it could be we who didn't know how to use it. Because it gave us a nice design but whenever you printed it, it wasn't clear. And most of us do not have computers in our houses. So if you have a laptop by your side, you'll always be looking at it and that'll be a different case. But here is the case where you go to someone's house to create the design and then go to another place to print it.” (E.O.)

4.5.1.9 Computer/ICT usage

None of the weavers interviewed, except one employed the use of computers or software in their creativity process. This 33-year old weaver, though not as young as some other weavers interviewed, was abreast with the times and utilized the computer in creating designs:

“Later, those who knew how to use a computer also taught us how to create designs using the computer. For the designs, we have created some of them, which are now in the market.” (A.E.)

He felt this put him ahead of his fellow weavers in terms of creativity, as he was able to design Kente pieces different from others and the township recognized that:

“The town here, what people say about us is that we are a 1000+ because that was the name people used to call my father. This is because he was unique. So we make sure that whatever we bring into the system is very attractive.”

With regard to the use of the Internet, almost half of the weavers were involved with this and it was jointly used for referencing/sourcing out Kente designs online as well as marketing purposes; to showcase their works on Whatsapp and Facebook. One weaver (B.M.) who had received training at NIIT (National Institute of Information

Technology) spoke extensively about his use of ICT in marketing and even more about his use of the internet in Googling images and sourcing out ideas for kente patterns.

In earlier times, the Internet was accessed through computers in town, but with the advent of smartphones, most of these were done on a personal phone than an actual desktop or laptop.

In relation to phone use, three weavers admitted to sourcing out ideas from the Internet using their phones, while one other person (S.A.) mentioned knowing weavers who used their phones to design like others used graph books in creating patterns.

The use of phones was described by one weaver (O.F.) as a tool by “*some people who refuse to think*” to copy designs, under the guise of taking snapshots for prospective customers.

The weavers stated that some computers were brought to the township several years ago (installed with a custom-developed software) that were intended to help in the ideation process. However only a few (four weavers) had heard about it and only two of them had actually used the machines. Of the two who had used the computers, one lauded its colour-combination feature but did not find much use for it with actual designs:

“This computer didn’t help us with the designs but rather the colours. So in the colour combinations, it helped us because coming to weave them on the loom and then deciding whether the colour is not or not nice was a tedious job but if you use the computer, you can decide whether you like the colours or not and then change it.” (O.E.)

Reasons given by these weavers for not exploring its use further included: lowquality/pixelated print outs; same limited-number of designs in its database;

limited number and access to computers in the township to run the software on; and inability to use it.

“We couldn’t use it and we couldn’t get a place to put the computers so it became of no benefit to us. They brought them to us to create new designs. For example, one goes to the Internet and finds a new design, and then you come back and do it on the computer. If it’s nice, then you weave it. But because we couldn’t use it, we didn’t benefit from that.” (K.B.)

Overtime, the computers were utilized less and less and at the moment of interviewing, no one could tell where the computers could be located.

Yet, of the weavers who had some experience with computer (not necessarily internet) usage, one (O.E.) lauded its usefulness in the design process; *“if I’ll sit down for 3 days and come up with what I’ve done, with the help of the computer, I’ll only sit for about 30 minutes.”* This was however countered by another weaver (O.F.) who claimed, *“It was too complicated. To come out with one design you need to spend 2 or 3 hours”.*

4.5.1.10 Sketching

Practices and opinions towards sketching were divided with an equally balanced number of weavers (7) downplaying its importance and usage and another (7) advocating its role in the Kente weaving process. The younger weavers (below 30) appeared more in favour/more open about employing sketching in the weaving process, whilst the older weavers (above 30) shared the view that it was not part of the kente weaving culture. While some of the weavers stated that they that drew before

weaving, other older weavers emphatically and repeatedly ruled out the thought of any weaver in Bonwire sketching:

“Our gift is that we don’t make any sketch on paper or draw anything. Any design that you see a weaver doing is in his head. Any design that you see a weaver doing is in his head. If I’m the one doing the design, I have it in my head. Some of us can get it through a dream or can see it on a leaf. When someone sees those things, he can create his designs from it. So we don’t sit and sketch it on paper. Anything you want to do, you have it in your head and you work from there. Anytime you see a paper beside a weaver, it’ll be from a customer who created his own design and sends to you to work on it. If not that, if you go and meet a weaver who’s creating a design, he doesn’t do it on paper. But any design before you do it, you have it in your head...we don’t sketch anything or do anything beforehand.” (K.E.)

There were different scenarios described with reference to when sketching was employed. Some had engaged in it just one or two times, and for others it was a common practice. One weaver (B.M.) cited the only occasion in which he used sketching as when he found a Kente design online and had to alter it by adding and removing elements.

Another gave his as when weaving new designs:

“No, it’s not with every cloth that we sketch. But with new designs we’ve not done before. So with the old designs, we don’t sketch them because even after 1000 years if you tell me to weave, I can weave it. But with the new ones, we need to sketch them to look at it.” (E.O.)

One weaver with a similar mindset as E.O., went further to explain the reasoning behind it:

“At times we put it [the new idea] down on paper. And that helps because on paper, you’re able to sketch out, how it should be. Because when it’s in your head and you call somebody to help you, the person won’t know what’s in your head. But when it’s on paper, he can see it and help you out. So whenever we get such ideas, we put it on paper.” (I.O.)

However, an older weaver disproved the need for sketching new designs and shared his method of getting another weaver to weave his new designs. He insisted, even upon

further probing by the researcher and follow up ‘what-if’ questions, that sketching was not necessary:

“As soon as you tell the weaver, he will know. You will use the yarns to explain. That use this yarn till here and then continue with this yarn and continue with this design... I will use the yarns to explain. Use this colour of this yarn to make this design up to here... I know the design I want in my mind and he also knows designs so I will explain to him which design we are doing and what we are using... Worst case, I will go with him to get the yarns and then sit with him while he works, then I can show him exactly the way I want it. Mount a black yarn and weave it like this. At some point, mount this colour of yarn and weave it like that etc.” (O.M.)

This seemed to rule out the use of sketched comps shown to the customer (which no one described doing anyway) so as to help the client visualize the final design. Rather, customers were the ones known to bring sketches to the weaver detailing what they wanted.

One weaver explained the reason behind this;

“If I show him the sketch, he’ll not see the beauty of it.” (E.O.)

Sketches were thus rather showed to fellow weavers, by those who found sketches as useful aids.

For weavers who did not sketch, it was explained that sketching was not used as a tool to remember/capture new ideas; actual weaving was reflected in the following statement:

“Normally we don’t do it that way [sketch ideas down]. So immediately you get the design, and you know that you’ll forget, you start working on it” (S.A.)

Averagely, sketching was an occasional tool the weavers used. For creating most of the patterns, they employed their “eyes and mind to do it” (K.B.). One weaver appreciated the difference sketching made and gave the example of a weaver who used

to sketch, such that; “when you see his, his own would be far better or more beautiful than others. It may be the same design but because he’s done it in a graph book, it’s nicer” (S.A.) Despite this, he himself did not sketch. One possible reason given by one weaver for not sketching himself was that he did not know how to draw.

4.5.1.11 S.C.A.M.P.E.R.

One ideation technique clearly identified during the interviews was ‘SCAMPER’, of which almost all (12 out of 14) weavers spoke about. The weavers did not describe it with that mnemonic and seemed unaware of it, yet their ideation process followed the guidelines of it outlined in Chapter 2:

“What gave us new ideas was that for instance you wanted this Kente and then you will bring a design or idea that if it goes this way it’ll be better...These old designs woven, one can see designs in it, which one can transform into better designs” (N.K.)

Most of them spoke about ‘adding’ and ‘removing’ patterns in existing kente designs to come up with new cloth designs:

“Sometimes when one does research online and gets an artwork, one can sit down and draw the artwork on paper, add some and remove some.” (B.M.)

With regard to substitution (S):

“There are times when you see a design and you see where a pattern is might not be the best. So you can also put another design there. Then when you’re done, you see that it’s looking nice.” (O.K.).

An example of this is seen in Fig 4:



Figure 4: Two kente cloth variants. The cloth on left was created with the weaver substituting the checkered *Puduo* pattern with a new pattern, whilst maintaining the zig-zag *Nkyimkyim* design. Both designs are referred to as '*Edwine si edwine so*'

Most often, the weavers were the ones who used their discretion to apply the SCAMPER technique. Other times, the customer assists in developing the design (Fig 5).

“So the person will look at the sample and give you his ideas, whether he likes it or not, and want you have to do. Remove something, change this colour, change the shape, etc.” (E.O.)



Figure 5: Kente cloth woven based on customer preference. Customer admired the single woven strip atop and requested a cloth be made utilising a single pattern in different colours

One main aspect of the cloth SCAMPER-ed with, according to 10 of the weavers, was the colours:

“At times the colours – you can add something for it to become new. These days, more colours are coming so you can add the new colours...the youth of today like modern colours and so we try to combine them with the old ones that we have” (S.A.) (Fig 6)



Figure 6: Cloth on right being a modern colour variation of cloth on left

All these were usually done in a bid to attract customers and keep up with changing tastes.

One weaver summarized the secret behind the numerous Kente patterns existing as such:

“We don’t usually bring out any new designs, but the new design that you’ll work on might have been in the system but it’s the colours that we’ll be changing. And also if the old design has 3 patterns and you decide to add a 4th pattern, it becomes a new design. And so that’s how we do it. It’s not like in every month we get a new design.” (E.B.)

Another weaver backed this view: *“The designs don’t change that often. It’s the colours that change very often.” (O.M.)*

When the colours changed though, *“the name remains the same”* (O.M.)

Regarding the actual patterns, the foundational base that the weavers applied the S.C.A.M.P.E.R. technique to, were a few historical cloths, which later generated into most of the existing patterns:

“At first, there were only three or four designs but currently we have managed to expand the base Adwen Asa (Knowledge is finished), Sika Futro (Gold Dust), Fatia, Ebi si bi so (One on top of the other). These are the fabrics that have names. All the elderly people know them. All these ones are just derivatives, plenty of them... it was those cloths that we took most of our designs from.” (D.)

In addition to this, the weavers highlighted the role of creativity on the part of the weaver, which when combined with the numerous designs existing, led to newer designs which they could call their own:

“The truth of the matter is that there are a lot of Kente cloths in Ghana and there are a lot of designs also in Ghana but you can sit down on your own and look at those existing designs and change something about the existing designs. And so by being creative, you can come out with your own designs and colours.” (A.E.)

One other application of the S.C.A.M.P.E.R. technique to the kente pieces was in them putting the cloth to other uses: neckties, bowties, shoes, bags, etc. (Fig. 7)



Figure 7: Kente pieces put to other uses

4.5.1.12 Group meeting/Advice

All fourteen of the weavers asserted the practice of meeting others (either one-on-one or in groups) for advice and direction, and usually when faced with a challenge in weaving a particular design. Close friends or relatives were often the ones called upon.

Out of that consultation, new ideas were sometimes brought out:

“What gave us new ideas were that for instance you wanted this Kente and then you will bring a design or idea that if it goes this way it’ll be better. And I’ll also bring my idea that if mine is 3-3 and yours is 4-4, we’ll combine and get a new design. So he’ll get his design, and I’ll also get my design” (N.K.)

With the completion of the cloth design, the outlined practice was for the elders or more experienced weavers to be shown the design in search of comments, and most importantly, approval (Fig 3):



Figure 8: Weavers discussing a finished strip

“When we get any Kente design, we have to show it to one of those who’ve been in it for a long time for him to determine if what you’ve done is nice and sellable on the market. So the minute you weave a new idea, you have to show it to someone to remark on it. So that if the person has any better idea, he can help you with it.” (I.O.) This background reason for collaborating was reiterated by one other young weaver (K.E.):

“In this business, we accept ideas from other people. Like I can call a brother of mine to look at a design I’m working on... All these ideas we can accept from our brothers who are in the occupation. For us to bring out a very nice work accepted by all”

He later elaborated further that:

“Because the cloth is coming to stay in the town or every weaver is going to use it, I can call any weaver to come have a look at the design or colours I have combined. So it’s like collective ideas. So for creating the design, you can do it alone or by yourself, but you need the advice and approval of others.”

Upon further questioning, historical explanation was also provided for the need for partnering with others:

“So when they saw how the spider wove, they came together and someone brought the colours, and another the design. At first we didn’t have the colours we have today. The only colours we had were the black and white. The first cloth woven was called ‘Akeoma fitaa’. So it was later that one of our forefathers who was a hunter went to the forest and saw a tree that when cut seeps out a white fluid. He brought it and through that, we got the other basic colours... (Stopped...incomplete statement). There was also a forefather who knew how to design. So it was a combination of these people who came together and wove the first cloth. That’s how the nature of our work is. So if someone gets the work and wants to create something new, he calls his colleagues and they share ideas.”

Aside this reason of creating something new, weavers also met one another to seek a name for the finished cloth (refer to section on ‘Naming’):

“When you are done and want to put a name on that new design, you can’t just decide on your own” (B.M.)

This was attributed to the idea that better name ideas could come up from others:

“You may finish a design and not have any name for it but someone can suggest a name that’ll match with the design you’ve made. For instance, this cloth that we have

here, someone suggested a name for it (Odo 3y3 f3). And another one suggested '3mer3pa 3w) anim', and so we found out that '3mer3...' will be better than 'odo...' and you can also suggest a name for a design but when you come out and others see it, they might also give another name which you might consider. Because some names attract people." (S.A.)

Aside these reasons, there was a cost implication mentioned of weavers not collaborating:

"It's expensive weaving one cloth, so if you don't discuss with people and you complete a cloth and it doesn't come out well, you incur a lot of cost. So when you weave a sample, you show it to your fellow weavers and they will check to see whether you're on the right track or there's a mistake in what you've done. And if you show it to them and most of them say it's a nice cloth, you continue. And if they pass any comments on it, you can take it and improve on what you've done already." (E.O.)

Though most of the weavers wove independently and later came together for advice or to seek approval for finished works, it was an accepted practice for passers-by to give advice and direction on work being done. The only times mentioned that they collectively came together to weave or think up patterns was when weaving for Otumfuo (the Ashanti king) or presidents and other high-ranking personalities, and that was normally done in a secluded private room:

"Most of the times, we work individually but if we're to come together to decide on a design or cloth, then it'll be a cloth we're weaving for Otumfuo. For that one, no one person can decide on the design to be made with that cloth. Even if one person would decide on the design, he would have to take approval from the elders. Because whenever we're weaving a cloth for Otumfuo, we make a design that's never been in the market before." (D.)

Also, during the Kente festival, the chief (Kentehehene) usually selected professional weavers who reportedly sat in a room, shared ideas and then chose one person to weave the new cloth.

One weaver concluded it thus:

“We don’t have a group to sit down and decide to come up with it. One person will sit down and design his own thing – put this thread together, that thread together. Experimenting without any particular idea in mind. Then someone will take that design, build upon it and do another design. We don’t have a group to sit down and say let’s design it this way.” (O.F.)

Through all these practices, the weavers are able to refine and improve their designs by building on each other’s works.

4.5.2 Kente weaving categories

During the interviews, other findings were made which did not directly fall under the sought-out information related to ideation, but proved noteworthy and insightful into the Kente weaving field in general.

These have been detailed below, in line with one of the research aims of acquiring a richer understanding of the social, political and ritual functions, symbolic meanings, and the cultural contexts of the Kente-weaving craft.

4.5.2.1 Customer Demands

Unlike other art pieces (e.g. paintings and fashion pieces), which appear to be created out of the artist’s desire for self-expression and personal preference, kente pieces were observed to be created out of customer preferences and demands. As one weaver put it, *‘the demand for the Kente is driven by the customers and it’s not about whether the design is nice or not but it’s more about what the customers like and buy as well as recommend to others which ultimately becomes a design that sells’* (B.M.)

In the shared experiences of the weavers in the Bonwire Weaving Centre, the trend was for their main customers - the foreigners (from abroad) to request for the traditional designs and colours. For the other weavers in the township, the demand was from locally based Ghanaians for new and diverse designs.

Almost all weavers shared at least one experience of customers dictating the cloths to be woven; some by bringing samples and pictures, and others directing as to which existing patterns to combine. The few cases where the weavers were free to determine the kente cloth to weave, control was still given back to the customer to determine their colour preferences. Despite this handing over of control, several weavers shared how they sometimes advised on aesthetically pleasing colour combinations:

According to one such weaver:

“The main designing part is for us the weavers. It’s the colours that when they are not arranged well, we can see that this and that colour should not be put together so it will not make the cloth nice” (I.O.)

A few weavers however, still go ahead and *“do according to what they want. The colours they recommend I use are what I use” (O.K.)*

Generally, designs were created based on customer preferences of colour. For instance, *‘the youth of today like modern colours and so we try to combine them with the old ones that we have’ (S.A.)* In seeking to retain old customers and attract new ones, weavers were constantly pushed to be more innovative and create new designs the customer would like: *‘As things are changing, every time I have to get new ideas and weave new designs because your customers will not want the old designs there already. They’ll want new designs’ (E.O.)*

Customers also tasked weavers with sketched designs they brought and left it to the weaver *“to find ways of creating that new design the person has brought.”* (D.) This tasking was common and the weavers appeared to accept it:

“In this weaving practice, when someone brings a design, the important thing is to look at their design and see how it was done and how you can also follow the pattern” (I.O.).

When the sample piece was ready and shown to the customer, there too the customer wielded the power and could ask that *‘remove something, change this colour, change the shape, etc.’* (E.O.). This is similar to graphic designs jobs where the client sometimes advises the designer to edit and tweak parts of the design.

4.5.2.2 Identity and capabilities

About one-third of the weavers (5) believed they had that inborn, innate ability to weave and think up creative designs. As a ‘son of Bonwire’, they believed that *‘anyone who comes from Bonwire has that creative ability and is quite dexterous at picking the trade’* (B.M.). As another weaver put it:

“Because Kente is from this town, any cloth I can weave; aside what hasn’t been invented before” (K.B.)

One weaver described it as a ‘gift’:

“It’s a gift from God given to our grandparents, our forefathers and so for natives of Bonwire to learn how to weave, you don’t sit down and say you’re going to school to learn it like how the hairdressers and seamstresses take their time to learn how to sew for about 4 year or something. For us you were born into it and have it in your blood. And as it’s in your blood, there are only some petty-petty things you have to learn to be perfect in it.” (K.E.)

Having accepted this, they identified themselves as weavers and saw the weaving as:

“A work for the natives/people in this town. So the moment you are born, then you come to know of it and know this is the work you have to do” (K.B.).

The weaving to them was their heritage and their capability lay simply in their identity as weavers. The fact that one was a weaver meant you possessed that skill to weave any pattern of cloth, regardless of whether you had a picture/sample of it or not. As K.B. again put it: *“Because it’s my work, I can do it the moment I see it.”*

To the question of the frequency of thinking up a new idea, one weaver (K.E.) answered; *“Because I’m a weaver, at any time...”* These similar responses all emphasized how much they identified with their weaving culture and saw the weaving as a kind of inheritance for those born into it such that *“It’s normally a bit difficult if you’re an outsider to know the work”* (B.M.)

There were, however, two exceptional cases to this (difficulty for outsiders in knowing the work): 1) 30 year old E.O. who was not born in this town, though his father was from the town, and had only moved to Bonwire in Class Four, and 2) 34year old D. who also was not born in the town.

For them even though they had not been born in Bonwire, they had been able to pick up the weaving and after living in the town for 20+ years, they also now identified themselves as Bonwire weavers.

In interviewing these two respondents, two other bases for the weavers’ creativity in their work, aside birthright was found: methodical/thorough learning of the trade and longevity in the trade

““I can create without facing any difficulty because I am a weaver. And because I have done this a number of times, I know if you place this one here, you get this style, if you place this one there, you get that style. But not all of us can do that. There are some people who can weave but will find it difficult to arrange and will not even know how

to straighten the threads. All he knows is placing it in the loom and weaving. But I learnt all those things. I know how to straighten it and place it in the loom. I can weave every design that you bring to me.” (E.O.)

Clearly this weaver felt that his capabilities were linked to the knowledge he had in the whole Kente process or that is, by learning all there was to learn, he was capable of weaving anything.

For the other natives of Bonwire, one felt that because *“the work is something you do every day, you’ll always be thinking up something you want to try”* (I.O.)

This equating of creative competence with daily working or longevity in weaving was reiterated by another native weaver:

“The work that you’ve been doing for a long time, even when you are sleeping/lying down, you can get an idea and work on it” (N.K.)

One weaver (B.M.) who tried to break out of the mould and pursue other interests eventually came to the realization that *“there’s not much work for me to do in computing but the weaving is something I already have”*. Others chose to focus on Kente weaving solely because *“that’s the only job I do”* (A.S.). They found their identity in Kente weaving and their livelihood was intricately tied to it.

4.5.2.3 Problem solving

Due to the ‘reversible’ nature of weaving, if new designs thought up did not look as good as they were originally envisioned to, they could be unwoven and started again – a practice some of the respondents admitted to doing. This was however used as a last resort. The weavers firstly sought opinions, suggestions/advice from others, since

the general belief was that when *“a person with experience sees any mistake in it, he can tell you and direct you how to correct that mistake”* (E.B.).

“And if it still doesn’t work out, you need to unravel all you’ve done and start the whole process again” (D.)

A few however, left it as it is was and moved on, with the mindset that *“Somebody will definitely come and discover it and like it”* (O.M.). This was a similar way of thinking other weavers had, based on the oft quoted ‘every mistake is a new style’.

One weaver spoke about sometimes going further to ‘add a new design’ to the problematic pattern so that *“at the end, you’ll have gotten the design that you want”* (S.A.).

With contract-designs however, like when the customer indicated their preferred colour choices, some weavers advised and counselled the customer about the chances of successful colour combination with their choice of colours. Others went ahead to still weave it regardless, with the mindset that *“if I combine it and I’m unable to weave it well, if you come and you don’t like it, you brought your own colours. So that one, there’s nothing I can do about it.”* (K.B.). In such instances, the blame for a poor design piece was laid squarely on the customer.

Most of the weavers though were not so perturbed when they came against a blockade and believed in trying another day since *“weaving is not a day’s work”* (A.E.) and so all problems could be solved later.

4.5.2.4 Retentive memory

All fourteen of the weavers interviewed touted their photographic memory with regard to past/existing Kente patterns. Concerning new/current designs however, opinions were divided. The older weavers (older than 35 years) believed themselves capable of remembering everything *including* new designs from others or they themselves. They claimed they were able to remember any new pattern they saw/thought up and weave it at any time without the need for memory joggers like photographs or sketches.

One weaver compared it to driving:

“The work that you’ve been doing for a number of years, you can store the design in your head. It’s like a person who drives. Whether he learnt driving with a taxi, or whatever car, any car you give to him to drive, he’ll know where the gears are.” (D.) For some of the younger ones however (below 35 years), they conceded occasional forgetfulness with the newer designs/their own ideas.

One weaver explained that: *“Yes there are times like that when you don’t write those ideas on paper or you don’t have a picture of what you’re weaving, you can forget about it. Then you can drop that design or put it aside and think about it for a very long time before you can remember such a design.”* (E.O.)

He emphasized that it was usually with the new designs and not all designs (old and new) in general: *“With the old designs, we don’t sketch them because even after 1000 years if you tell me to weave, I can weave it. But with the new ones, we need to sketch them to look at it.”* (E.O.).

He was of the view that overtime, with more years spent in weaving, the need for references to the sketches lessened:

“The more you work on it, the less you look on what you’ve drafted. So by the time you weave 2 or 3 designs you become perfect in the design you’re working on. So you don’t look at the draft you’ve” (E.O.)

His views about sketching though, was noticed to be in sharp contrast to an older weaver (O.M.), who upon further probing and insistence on the part of the researcher about the usefulness of sketching still denied its value (refer to section on ‘Sketching’).

One observation made though, was that some weavers used sketching not to necessarily *remember* ideas, but to create and refine designs. Yet even with that, sketching was hardly employed.

In instances where new ideas were forgotten, the loom (workplace) served as a reminder:

“At times it happens like that [forgetting ideas] ...but when we sit at the loom, we can remember those ideas and work on it.” (E.B.)

4.5.2.5 Naming

To the weavers, the name of a cloth was as important a customer-purchasing determinant as the design and colours and most weavers partook in the practice of seeking advice, usually from the elderly about the naming of designs. One weaver expressed his belief in the cloth name being the important determinant; *‘the name attracts people to buy it’* (S.A.).

As such, *“when [one is] done and want to put a name on that new design, you can’t just decide on your own”* (B.M.). This was explained by the weaver’s experiences of elderly coming up with better, more-fitting names than the weaver, which *“a knowledgeable buyer would be able to easily interpret and appreciate the cloth, and buy for the appropriate occasion”* (B.M.).

The weavers also shared examples about the successes and failures of certain cloths to sell based on their names. Some cloth names were said to be bequeathed based on political connotations and prominent people. Yet, some weavers also employed their imagination in re-naming certain cloths based on circumstances:

“Let’s say for example, a cloth has a name praising Kuffour, and you meet a customer who’s not an NDC supporter, if you mention the cloth name as praising Kuffour, he may not buy. So you can engage them in a conversation, know their political affiliation and use your imagination to change the name of the cloth right there and then so you don’t offend” (B.M.)

Other names arose when *“sometimes the design just coincides with an incident” (O.M.)* as in the example case given of the ‘*Aben w) ha*’ car coinciding with the musician Daddy Lumba’s song.

It was established that even if the colours of the design changed, the name remained the same.

4.5.2.6 Trends

As with other design fields, there have been developments and changing trends in the practice and process of Kente weaving which have all influenced the creativity of today’s Kente weaver. In the interviews with the various weavers, these trends were identified and then grouped under different themes, listed below:

4.5.2.6.1 Colour

Most of the weavers regarded this as one of the main changes concerning Kente. One weaver (K.E.) gave the history behind it:

“At first we didn’t have the colours we have today. The only colours we had were the black and white. The first cloth woven was called ‘Akoma fitaa’. So it was later that one of our forefathers who was a hunter went to the forest and saw a tree that when cut seeps out a white fluid. He brought it and through that, we got the other basic colours”

Another weaver also expanded on this:

“Our forefathers usually used these colours – red, gold, green, but now if you look at the system, the trend has changed and customers come with different kinds of colours, some of which are difficult to come by on the market. So when we’re there, we think about what these modern colours are. Mostly people do not look at the designs but rather the colours. Because the colours dominate in the market.” (A.E.)

There were a few weavers who expressed personal preference for the old traditional designs and colours but due to customer demands, most designs were done with modern colours and patterns.

4.5.2.6.2 Workforce

Overtime too, those who actively weave had reduced in numbers and two main reasons were outlined:

1. Old age.

As one weaver described, it was difficult to continually sit in the loom and weave because *“you sit up for a day you end up with body aches. And when you sit down, I mean I couldn’t even get up due to the pain.”* (O.M.) This 42-year old man was quick to add that *“all the ideas are there”* but when he recently tried weaving some, he could not and *“ended up giving it to one of the boys to do”*.

2. Financial pursuit

About one-third of the weavers admitted to not being involved in active weaving mostly due to profit seeking. This was the case for both the young and older weavers

alike. A few still wove occasionally but usually gave out their jobs to younger/morewilling weavers to do for them.

One weaver who had given up his loom gave the general reason for this as such:

“If you’re to sit in the loom for 6 months to take an amount of 3 million, it’s not worth it. So the weavers don’t want to weave anymore. They want to be at the store so they can sell and get money” (O.F.)

This 30-year old weaver continued that, *“As you grow, you’ll stop weaving and the younger ones will take it up... The bottom line is that weaving doesn’t fetch you a lot of money – selling does”*

4.5.3 Other observations

Other observations made by the researcher, as well as general profiling information are briefly mentioned below, to provide a holistic view of the whole interview process

4.5.3.1 Name dropping

There were several cases of name-dropping in the interviews when weavers would share their experiences of creating pieces for people such as Herbert Mensah (Football Club Manager), J.J. Rawlings (ex-president of Ghana), Kuffour (expresident of Ghana), and so on. This seemed to afford them a sense of bragging rights and proof of their skill and talent.

4.5.3.2 Other interests

Most of the weavers' hobbies appeared no different from other Ghanaians, with football topping the list and used as a stress reliever, especially due to the long hours spent sitting in the loom. Other interests included politics, farming and business. A few though had their main world being Kente and hardly engaged in other activities or pursuits.

4.5.3.3 Metaphoric Explanations

Lakoff and Johnson (1980) made the observation that people often represent their thoughts, behaviours, and experiences with analogies. This was found to be the case with the weavers, who used one particular analogy (cars), to explain the various concepts in the kente weaving, idea-generation, source of ideas, etc.

On the subject of creativity, one weaver (K.B.) stated:

“We came to meet most of the patterns so most of the patterns have already been done by the elders and we’ve just added a little to it. So it’s just like a car; Benz or Toyota. So the Toyotas and Opels we saw during our time aren’t the same; you can see changes. It’s the same Toyota, just that they’ve upgraded it. That’s how our work too is. We came to meet most of them but we’ve also created new designs to add to it.”

Another weaver (O.M.) also described it in similar car terms:

“Let’s look at the white people. You see cars, they start with one and then they move to another. Every time there is a new model. They move from one model to another. Like this one, the Ford has not been around for too long but this is here today, tomorrow there will be a different one. You will be there ahhh. Look at this Nissan; it is very common now but with small differences”

This car metaphor was again used in the subject of retentive memory. The weaver (D.) captured it in these terms:

“The work that you’ve been doing for a number of years, you can store the design in your head. It’s like a person who drives. Whether he learnt driving with a taxi, or whatever car, any car you give to him to drive, he’ll know where the gears are.”

Other random information the participants volunteered included their interests in patenting and copyrighting their designs, especially due to cheaper Chinese imitations in the market and their counterparts in the Volta Region.

4.6 Discussion of findings

The above-mentioned categories, and relationships between each were identified and an analysis conducted of common and different aspects. The findings were then triangulated and verified through literature and member checks as well as the data collection methods employed.

Member checking, as described by Lincoln and Guba (1985), involves testing the analytic categories, themes, interpretations, and conclusions with the participants of the study to establish credibility. This comprised telling their stories in a way that enabled them to recognize themselves in the writing, while telling the bigger story that encompassed the stories of all of the participants into a whole (Kawulich, 2004). A period of time after the interviews, by which time the data had been analysed and interpreted, the researcher visited the weavers and relayed the information and insights gained from the interviews to them.

The first member check was conducted at the site of the first interviews; the Bonwire Kente Weaving Centre. Participants included several of the original participants and three other weavers that were not present in the first session. The session took the form of a group discussion, wherein the researcher with the assistance of the translator,

relayed the summarized findings and sought out confirmation/denial, acceptance of the findings and further insight.

Thereafter, the weavers located in the Bonwire town centre who partook in the interviews were sought out. Only three (out of the 7) original participants were present at the time, yet these availed themselves as a group. Two weavers were also brought in who had not partaken in the first interviews but sought to hear the findings and provide their opinions.

The insights gained from these sessions were then tested against earlier observations and the initial statement of problems. Concepts were further refined, interacted with, and then summarised. The data was then ordered and reordered by importance and frequency, as advocated by Miles and Huberman (1994).

Discussion of the various findings was done under two major themes, which encompassed the various categories presented earlier.

- Pedagogy & Learning
- Creative process [includes work environment, sources and number of ideas, motivational factors, personal creativity and skill, computer/ICT use, sketching, and group meetings ideation tool (S.C.A.M.P.E.R.), Problemsolving]

These above thematic categories used were guided by the frequency of mention by participants, the audience for whom the study is conducted, and the uniqueness of the category, as according to Guba and Lincoln (1981).

4.6.1 Themes

The conclusions reached in this section have been based on how they are connected with other similar studies conducted elsewhere.

4.6.1.1 Pedagogy and Learning

The weavers were taught almost everything about their profession by the master-apprentice Bauhaus teaching style, wherein their ‘teachers’ were mostly older and more-experienced weavers, not necessarily blood-related. This teaching style however, as analysed by Appiah (2012), might not be as fully applicable today in graphic design today, especially with the introduction of ICT in graphic design. The weavers however appear to face no such future problems as there were few/ no cases where modern technology (e.g. computers and devices) was used in the teaching and learning process. It rather featured during the creative ideation process.

Regarding the learning style, the weavers engaged in peer-learning and experimental practices, which was an adoption of the collaborative learning or creative commons approach, whereby individuals of various performance/expertise levels work together in small groups towards a common goal. It is believed that this active exchange of ideas within small groups not only increases interest amongst participants but also promotes critical thinking, and is evidenced in the findings of Johnson and Johnson (1986) & Totten, Sills, Digby and Russ (1991).

Though the personal drive to learn was important, each weaver had come to accept the Kente-weaving as their first inheritance and heritage and thus was open-minded about

learning it and more willing to take up the profession. Almost all weavers started learning from an early age (childhood) and so acquired several years of experience under their belts, which made it relatively easier for them to excel in Kente weaving.

Most of the weavers were taught from the basics of the weaving (the thread spinning, etc.) and thus had a more thorough appreciation for the Kente-weaving. Learning was done practically and mostly devoid of the fear of mistakes (as they were easily correctable).

4.6.1.2 Creative process

This theme existed as the main ‘raison d’être’ of this research and so more attention was focused on the actual process of creating kente pieces, mainly the ideation process. Under this umbrella, were the aspects of working style, work environment, idea sources, sketching and I.C.T. usage.

Generally, weavers worked individually and occasionally came together for problem-solving advice or approval of designs. Though their main work environment was the loom, wherein they did all their thinking, planning and weaving, it was not solely restricted to just there.

In ideating, ideas came from all sources (dreams, varied non-kente objects, etc.) but most seemed to come from already existing designs (of their contemporaries and elders). These ideas varied between each weaver in terms of the measures of ideation (quantity, quality, variety, novelty) as according to Shah et al. (2003), but were generally in the same bracket. This practice of open-sourcing was quite common among the weavers and everyone seemed to subscribe to it.

The process of sketching during this idea-gathering/refining stage was not as common, but also was not non-existent either. Perceptions differed about the importance/need for sketching as an aid in the ideation and weaving process. Though sketching has been highlighted as a useful aid in the creative process (Schon, 1995; Rogers, Green, McGown, 2000), there have been a few disparate views that sketching is not an essential activity for expert designers in the early phases of conceptual designing (Bilda, Gero, Purcell, 2006). However the majority view supporting sketching was evidenced amongst half of the weavers, with some endorsing the improvement it makes in their Kente pieces, and others lauding the uniqueness of the Kente pieces of those who sketched beforehand.

Despite past partially-successful external efforts within the Bonwire weaving community to incorporate I.T./Computers in this process, most of this process went on generally unaided by computers and depended on the personal creativity and imagination of each weaver.

After considering all these generic elements of the creative processes, the personal aspect of ideation like the above-mentioned personal creativity and motivational factors were analysed too. Regarding personal creativity and skill, weavers differed from each other only slightly, with some evidencing more skill in weaving whilst others were known for more creative designs. As a creative community wherein open-sourcing was the *modus operandi*, it was challenging for the weavers to identify one particular virtuoso, even though several believed themselves to be that unique/different kente weaver.

According to the research of Feldman (1999), which intimate idea generation to be a cognitive process strongly moderated by social and motivational factors, the main motivational factor for most of the weavers was found to be attracting more customers, which translated more importantly into making money and secondarily, the weaver making a name for himself (fame and respect).

The other bits of information gleaned regarding customer demands, weavers' identity and capabilities, retentive memory and kente-naming process were seen to be major influences on their creative process as a whole. These all shaped their creative process and more specifically the ideation process.

4.6.1.3 S.C.A.M.P.E.R.

The ideating tool recognized and identified by the researcher based on the weaver's descriptions, the researcher's own knowledge and analysis of other ideation tools was 'S.C.A.M.P.E.R.'. This was noted as a key find in the research as it helped to focus on a successful ideation technique employed. Almost every weaver described at least one instance of using this tool, although none knew the name to be such. This ideating tool was described as increasing novelty in ideas generated and useful as a balanced fixating and de-fixating method, confirming the findings of Moreno et. al (2014). Examples of Kente cloths that employed the S.C.A.M.P.E.R. technique are shown in Fig 9.



Figure 9: Different kente pieces created using S.C.A.M.P.E.R.

The themes and the findings from them are believed to have yielded many insights for the researcher, which can be translated into further research and study and added to the general body of knowledge.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Overview

This chapter summarises on the findings of the research undertaken, drawing related conclusions, and noting recommendations for both the participants of this research and the targeted users of the study.

This research set out to explore the ideation processes of the Bonwire kente weavers so as to identify possible ideation techniques transferrable to the African community, specifically the Ghanaian communication design student. It was also to gain further insight into the practices and background of the Bonwire Kente weavers so as to gain a deeper appreciation of their arts and the work involved. Below are the summarized findings:

5.1 Summary of findings

One major aim of this research was to identify ideation practices in use by the Bonwire weavers that could be linked/compared to foreign ideation tools. This was so as to reduce the perceived ‘trial-and-error’ approach of teaching students foreign ways of ideating as observed in the communication design department of K.N.U.S.T.

This ideation tool identified was the S.C.A.M.P.E.R. method; an extension of Osborn’s brainstorming technique. All the 14 weavers interviewed described this as their main means of generating ideas, (although they seemed unaware of it existing as a foreign

researched technique). The technique was mostly applied to existing kente pieces of their fellow-weavers and ancestors, though not limited to that alone.

Various other insights were also gained into the creative process of the weavers. Regarding the pedagogy of the Kente weaving, almost all the weavers were taught from an early age and were schooled in the entire craft – from the basics of spinning the thread to weaving on the loom. This gave them a more thorough grounding and appreciation of their art. To be a weaver was to be a true ‘son of Bonwire’.

It was observed that each of the weavers have an appreciation of the inseparable tie between their creativity and their trade, and practice the philosophies outlined in Matson (1996) “Innovate or Die”. In addition to this, there is a strong sense of pride in their trade and self-belief in their personal creativity and skill. Having acquired several years of experience in Kente weaving, the older weavers felt more capable of producing their own patterns than novice weavers or those relatively new to the weaving process.

Regarding ideas, most were sourced not just from other objects in the surroundings, but also from their own collective repertoire of Kente pieces. This open-sourcing was evidenced as improving the creativity of the whole community, as the weavers learnt from each other and built on the other’s ideas, whilst keeping track of changing trends and fashion.

Their weaving process was similar to a designer’s creative process, where the client provides a ‘brief’ of the desired piece and any preferences, after which the weaver had to employ his own creative intellect to create it, oftentimes referring to past designs

and seeking advice from others. Some chose to sketch beforehand, whilst others saw no need for it. Still some others chose to browse online for references. Each weaver engaged in different combination of steps in producing the final kente piece, but the common thread that ran through was the S.C.A.M.P.E.R. ideation technique.

5.2 Conclusion

The weavers within the Bonwire community in Ashanti Region of Ghana have proven to be a creative community from which various lessons can be imbibed from pedagogy to creativity, ideation to process. The weavers' style of pedagogy supports the theory by researchers such as Dunn (2003) that the determinant of the students mastering the curriculum is not in the content; rather, it is how that content is taught. Considering the usefulness of the weavers' type of teaching, this must be well recognized, especially considering the profound effect of pedagogy on creativity (Coffield, Moseley, Hall & Ecclestone, 2004).

Having found the S.C.A.M.P.E.R. technique as the Bonwire Kente weaving community's successful way of ideation, it is believed this research validates the success of SCAMPER as a heuristic ideation method within the local African (specifically Ghanaian) context.

With the cultural backing of this ideation technique observed among this highlyproductive well-known community of weavers, it is hoped that by applying it to the communication design student, together with other practices observed, Ghanaian students' ideation capabilities can be improved and breakthroughs in design communications strategies and concepts made.

5.3 Recommendations

For the weaving community

- **Sketching**

Most of the older weavers did not sketch because they believed their ancestors never did. They viewed it as ‘untraditional’, and serving only for remembrance purposes (i.e. not forgetting new ideas), but since they hardly ever forget ideas, they saw no need for it. Yet rough thumbnail sketches have been shown to support a reinterpetive cycle in the individual thinking process and enhance access to earlier ideas (van der Lugt, 2005). Research of Dorst and Cross (2001), has also shown those who do not sketch are often limited in their ability to record and comprehensively develop ideas. By adopting the practice of sketching, initial ideas can be more varied and developed into more creative designs and patterns.

For design students & teachers

- **Design Pedagogy and Process.**

With most of the weavers having grown in their profession through the style in which they were taught (master-apprentice Bauhaus style), it behoves on the current educational system to take a second look at teaching styles of design students (Cusens & Byrd, 2013).

In the same way that most of the weavers did not have any strict outlined guideline for their work process, educational systems should relax the pressure for design students to follow the rigid process of thumbnails > roughs > comprehensive > final design. They can be taught simply as guidelines but not as a rule of thumb.

For some designers, such as some weavers, the creative process cannot be easily externalized and is sometimes difficult to explain. Being forced to follow a guideline may help monitor the students, but does not necessarily help creativity.

- **Motivational factors.**

Feldman (1999) has shown creativity to be strongly moderated by social and motivational factors and other researches have produced a wealth of knowledge about student motivation in learning and creativity; one of them being monetary gain (Kremer, Miguel, & Thornton, 2009, Fryer, 2010). The weavers link their creativity and ideation skill with their wallet, whilst current student design briefs exist for mostly fictitious, non-paying clients and design solutions are often not offered for real-life situations.

There is the need to explore other extrinsic incentives such as money, to get 'creative juices flowing' among designers. These financial incentives though, have been criticized as possibly crowding out intrinsic motivation (Gneezy, Meier, & Rey-Biel, 2011) and so must be carefully balanced to achieve the right results (Ryan, Koestner, & Deci, 1991).

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APPENDIX

APPENDIX A: INTERVIEW QUESTIONS

1. Are you naturally creative?

Wo ye obi a wo tumi firi wo pe mu dwene fa adee bi a wo pe se wo ye ho anaa?

Wo wo saa adwene a yede dwene yo nneema a eyefe? Saa adwene no, wo gyedisɛ yede wou wo anaa se wo suaa ye? Enye kente nwono nko ara.

2. What inspires you? Where do you get your ideas from for the kente patterns

– from nature, looking in magazines, dreams, etc.? Edeen na ehye wo nkuran?

Ehe na wonya adwene na wode yo kente nwono no?

3. What are the methods/steps/processes you go through in thinking up ideas?

Akwan ahodoɔ anaa anamɔntuo ben na wo fa so se wo re dwene fa adee bi a wo rebe yo ho?

4. Do you sketch out your ideas?

Eye adee a wo draw anaa wo twere adwene bi a wo anya no de to krataa so anaa?

5. On the average, how many ideas do you have? How often? How many of them are workable?

Se wo hwe mu a, adwuma no ho adwene beye sen na wo anya? Mperɛ dodoɔ sen? Emu dodoɔ sen na se wo wie a, wo tumi de yɔ adwuma ma no ye yie?

6. Are most of the ideas you think up yours? Or do the works of others influence you?

Adee a wo dwene hoo no, eye a dodoɔ no ara efiri wo nko ara wo tiri mu anaa wo nya bi nso firi obi foforo ho anaa?

7. When you're stuck for ideas, what do you do?

Se wo redwene biribi ho na se entumi ensi pi a, eye a wo ye dee ben?

8. Do you brainstorm in groups?

Eye a, mo hyia hyia mu fa mo ho adwene fa mo nnwuma no ho akuokuo mu anaa?

9. How much do you know about other subject areas? What's your selfassessment of your general knowledge? Apart from kente do you know about politics, football, science, technology, etc.?

Wo nimdee wo adesua foforo mu te sen? Se wo hwe wo ho a, wo nimdee ewo nneema foforo mu te sen?

Se yeyi kente nwono si nkyen a, wo nimdee wo Amannyɔsem, bɔɔlbɔ, abɔdee mu nyansape ne abeefo nimdee foforo mu te sen?

10. What do others say about you?

Nnsem ben na afoforo eka fa wo ho?

11. Pedagogy-wise, how were you taught? Master-apprentice or self-taught?

Se eba adwuma no sua mu a, wo yee den na wotumi suaa yɔ? Opanin bi na ekyeree wo firii abusua no mu, anaa se wo kosuaa yɔ, anaa se wo ara na wo dweneee na wo hunuu yɔ?

12. Do you use ICT/computers to ideate?

Eye adee a wo de abeefo nnooma bi tese komputa anaa afidie badwenmua de dwene fa wo nnwuma no ho anaa?