INFLUENCE OF SECONDARY SCHOOL MATHEMATICS APPLICATION ON ENTREPRENEURSHIP PERFORMANCE OF FASHION DESIGNERS IN BOSSO LOCAL GOVERNMENT MINNA, NIGER STATE

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2017/3/69303BE

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF SCIENCE EDUCATION, SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION, FEDERAL UNIVERSITY OF TECHNOLOGY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF TECHNOLOGY (B.TECH) DEGREE IN MATHEMATICS EDUCATION

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ABSTRACT

This study examined the influence of secondary school mathematics application of entrepreneurship performance of fashion designers in Bosso Local Government Minna, Niger State. This study was however identified various ways by which fashion designers apply mathematics and the difficulties encountered by fashion designers who do not have secondary school mathematics knowledge in the course of discharging their duties. It identified mathematics as very useful to fashion designers and out lined mathematical concepts that fashion designers should know so as to perform better. Survey research design was used. A- 24 item questionnaire on four point rating scale named questionnaire on application of mathematics to fashion design (QAMED); was used to licit data for the study. The sample was made up of one hundred and fourty (140) fashion designers in Bosso Local Government Minna, Niger State. Replace means and percentages were used for data analysis, targeted population of research comprises of two hundred and two (202) fashion designers in Bosso Local Government of Minna, Niger State. The sample size of (140) fashion designers was used for the study and comprises of both gender. The figure 140 was gotten using Taro Yamani formular. After the pilot test, the reliability coefficient was found to be 0.85 using Crombach Alpha formular. Mean and percentages were used for data analysis . In the findings, mathematics was identified as very useful in entrepreneurship performance of fashion designers and its application has great influence on the performance of fashion designers, recommendation were made one of which is that mathematics should be an integral part of fashion designers training program.

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CHAPTER ONE

INTRODUCTION:

1.1 Background to the study

Mathematics is a subject that is applied in every field of life. Mathematics being important in all spheres of life has application in fashion designing and human development. John (2014) state that fashion designing need mathematics in pattern design and drafting those patterns are drafted using measurement charts and complex mathematics involving two and three dimensional shapes. For example to draft the front neck, one should take the neck circumference and divide by three. Mathematics, the science of structure, order, and relation that has evolved from fundamental practices of objects, it deals with critical reasoning and quantitative calculation, and its development has involved an increasing degree of idealization and abstraction of its subject matter. Mathematics has been an indispensable adjunct to the physical sciences and technology, and in more recent times it's has assumed a similar role in the quantitative aspects of the life sciences. According to WCA, IJI and EKWNEME (2012), mathematics is predominately a service subject as it exists as a skill to be applied in other areas of study. For example in some business, industry, financial institutions, they all apply mathematics in various ways; Rapid National Development can be achieved through the application of mathematics on the national economy and even for human development. Mathematics is thereby useful in providing answers to questions and problems of everyday life such as buying and selling, sewing, designing, building and decorating.

The intention of the federal ministry of education in its national policy is to follow a trade or craft and possibly advancanced himself to the society. Human development is a situation where

one gets himself acquainted with knowledge and skills that will enable him carry on in life. Measure of America (2017) define human development as a process of enlarging people's freedom as opportunities and improving their wellbeing it is about the real freedom ordinary people have to decide who to be, what to do and how to live youth should be acquainted with entrepreneurship skill that will make them useful members of the society through trade and craft therefore developing them.

Entrepreneurship is about starting a business based on a recognized business opportunity as well as operating and maintaining the business (ODUNAIKE and AMODA 2014). Ogundele (2007) viewed entrepreneurship as a multidimensional phenomenon in the sense that it involves numerous aspects of life, psychological, economical, sociological and educational perspectives. Bula (2012) in line with Ogundele also admits that entrepreneurship is a multidimensional phenomenon. Entrepreneurship is all about baking innovative, ready to take risk and practice for an entrepreneurship to excel, these three dimensions of innovativeness. Risk taking and activeness must come into place as the determine the failure or success of an entrepreneur.

A person who is creative, innovative and always looking forward for new opportunities, either in the existing enterprise or by creating a new one is bound to develop himself. Fashion designers are found in this group as they do not wait for anybody to develop them but apply the acquired knowledge for self development. Fashion designers are Entrepreneurs. According to Jean – Baptist (2015), a fashion Entrepreneur is a person who was possession of a significant accountability of the inherent risks and outcome. Fashion designing is based on creativity and innovation there should be knowledge skills and mind-set to excel in new and under chartered business environment so as to transform creative ideas into business venture.

Fashion designers is the background of this study, comprises of all the people that have something to do with clothing, be it a practitioner in a fashion industry, a tailor or a seamstress, Jean Baptist (2015) indicated that fashion designing is a form of art dedicated to the creation of clothing and other life style accessories.

According to Charles (2014), a fashion designer is the creative mind behind any item of clothing or garment combination of lines, proportions, color and texture. A tailor is a true master and architect of clothing. He make customized clothing of different types, he goes through painstaking constructing skills including handwork and various fittings to come up with an awesome garment with perfect finishing for his client.

(Charles, 2014) in order words a person who makes repairs or alters clothing especially men's clothing is a tailor while a seamstress is one who make and repairs females clothing. All these categories of people are being addressed to in this work as fashion designers. The question is "can fashion designers applied mathematics in carrying out their duties"?

In the same way, to draft the shoulder chart, the bust measurement taken and multiplied by the fullness that is required. What this means is that mathematics is highly needed in fashion designing right from the product of the fabrics to the making of the cloth to fitness in creating fashion to be worn. There is a constant movement between 2 dimensional (2D) and 3 dimensional which are what fashion designers do all the time. Pattern cutting is really quite technical and mathematics as it involves a one- dimensional thread, creating a two – dimensional fabric to a three- dimensional body. Mathematics is used to calculate how much fabric to purchase, material cost, profit margins and production. A designer who is equipped with these entire concepts can apply them to develop himself through fashion designing.

In Bosso Local Government of Niger State where this study is being carried out, there are many fashion designers from one dimensional thread creation to two dimensional and to three dimensional which is cutting and sewing to fit the body. Since mathematics could be applied in fashion design and people go into fashion designing with or without studying mathematics or going to school at all, the study therefore is to find out the influence of mathematics application on the performance of the fashion designers in Niger State.

1.2 Statement of the Problem

Professionally, Fashion designing need mathematics in pattern design and drafting,the patterns are drafted using measurement charts and complex mathematics involving two and three dimensional shapes. For instance to draft the front neck, one should take the neck circumference and divide by three. Similarly, to draft the shoulder dart, the bust measurement is taken and multiplied by the fullness that is required. This is telling us that mathematics is highly needed in fashion designing right from the production of the fabrics to the making of the cloth to fitness.

Sandy (2009) from London College of fashion in a career interview explained that mathematics is highly needed in fashion designing, in the sense that mathematics is at the very heart of the cat walk. In designing or creating fashion to be worn on the body, there is a steady movement between 2 dimensional (2D) and 3 dimensional which are what fashion designers do all the time. Pattern cutting is really quite technical and mathematical as it involves a one-dimensional thread, creating a two dimensional fabric for a three dimensional body (Sandy,2009) Ugwueje(2014) opined that mathematics is needed in fashion designing. Invariably, in fashion designing, percentages, ratios, fraction, whole numbers, decimals, inequalities and measurement are applied. Mathematics is used to calculate the quantity of fabric to purchase, material costs, profit margins and production.

Ironically, illiterates and others who don't have the knowledge of mathematics go into the profession based on interest alone. Consequently, the complications and technicalities therein are left to chance. Thereby bastardizing the Fashion Designing profession.

Since mathematics could be applied in fashion design and people go into fashion designing without studying mathematics or going to school at all, this study therefore seeks to find out the influence of mathematics application to the performance of fashion designers in Bosso Local Government of Niger State.

1.3 Aims and Objectives of the Study

The aims of this study was to observe the influence of mathematics application on the performance of a fashion designer. Mainly ;

1. To find out the influence of secondary school mathematics application on Entrepreneurship performance of fashion designers in Bosso Local Government of Minna,Niger State.
2. To find out the influence of secondary school mathematics on fashion designers creativity and quality of clothing designs in Bosso Local Government of Minna, Niger State.
3. To find out the influence of secondary school mathematics application on entrepreneurship performance of fashion designers base on gender in Bosso Local Government of Minna Niger State.
4. To find out the influence ofsecondary school mathematics on fashion designers creativity and quality of clothing designs base on gender in Bosso Local Government of Minna, Niger State.

Research Questions

For the following objectives of the study to be achieved, this gives answer to the following.

1. What extent does the application of secondary school mathematics knowledge influences the quality of work of fashion designers in Bosso LocalGovernment Minna,Niger State.
2. What extent does secondary school mathematics knowledge, skills required for fashion designers influences the job performance in Bosso Local Government Minna, Niger State.
3. What extent does the application of secondary school mathematics knowledge influences the quality of work of fashion designers base on gender in Bosso local Government Minna, Niger State.
4. What extent does secondary school mathematics knowledge, skills required for fashion designers influences the job performance base on gender in Bosso Local GovernmentMinna, Niger State.

Significance of the Study

This study would be carried out to help calculate and educate fashion designers in carrying out Entrepreneurship performance. This study can also be of benefit in several ways such as. Fashion designers: this study will help expose fashion designers to the importance of fashion, making them understand that fashion designing is an easy skills to study so as to help improve the negative sentiment and fear in which the fashion designers are encountering towards the study of fashion, it will further help the fashion designers in concern to appreciate fashion designing, encouraging them to do more by putting their effort into doing fashion.

Entrepreneurship: the study will help the Entrepreneurs to add new knowledge in finding solutions to problems of fashion designers not performing well in their field, it will also help Entrepreneurs to understand how pattern drafting is being carried out and also change their attitude towards practical work. It will also expose the Entrepreneurs to areas where they need to put more effort in fashion and further help in employing better skills.

Curriculum planners: it will help enlighten and widen the knowledge of the curriculum planners towards making effective curriculum that will be well understood by Entrepreneurs who are to execute it in order to achieve there goals. It will help the curriculum planners to lay emphasis on the type of practical to be carried out and if possible, name proper fibres to be used.

Government: this study will help the government by putting more effort towards the production of adequate fibres needed for the enhancement of fashion and also organize workshops, seminars in order to expose the Entrepreneurs on how to teach and carry out practical in the fashion. It will further help the government on how to encourage their Entrepreneurs by making reinforcement and also making effort by increasing their welfare.

General public: it will help the general public by making them see the importance of fashion and its usefulness, it will also help increase the number who will go into the study of important Entrepreneur such as, fashion, crafting, and so on. It will further improve measures in the practice of fashion to produce more and better qualified graduates in fashion design which will contribute immensely to the uplifting of the society through entrepreneur.

Scope of the Study

this study was limited on the influence of secondary school mathematics application on Entrepreneurship performance of fashion designers.

The scope of the study is geographically restricted to Bosso Local Government of Minna , Niger State

Definition of Major Terms

i. Influence
ii. Fashion
iii. Designer
iv. Entrepreneurship
v. Performance
vi. Application

i) **Influence:** the capacity to have an effect on the character or behavior of somebody (or effect)

ii) **Fashion:** a popular or the latest style of clothing, or behavior.

iii) **Designer:** a person who plans the look or workings of something prior to it being made.

iv) Entrepreneurship: the activity of setting up a business or businesses, taking on financial risks in the hope of profit.

v) Performance: an indication of the degree of which an instructional goal and objectives is been achieved

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Introduction:

This chapter reviewed the following concepts in the study, identifies the theories related to the study and reviews related literatures carried out by other researchers. This chapter was reviewed under the following sub- headings: conceptual frame work, theoretical frame work, related empirical studies and summary of related literature review.

2.2 . Conceptual Framework

Conceptual framework deals with the concept that make up the topics of interest in a broadly turn that will ease breakdown of the subject matter.

2.2.1. Concept of Mathematics

1. Mathematics is more than just the science numbers taught in schools, either enjoyed feared by many students. It plays a vital role in the life of individual towards the development of the society. This became necessary because we rely on mathematics to solve our daily problems. Also mathematics is important for many careers and job opportunities in today increasing technological society as pointed out by the importance of this indispensable subject to individual's business advancement, technological knowhow, etc. cannot be emphasized and this has been expressed in several research effort Nigeria like every other nation in the world, depend upon mathematics as one of the most important subjects that could help the nation meet her objectives.

Erin schereiner (2017) upon entering vocational school, Fashion designers begin to develop their basic math's skills.

Mathematics makes it possible for fashion designers to cut fabrics to any shape. Though the use of mathematics, fashion designers can add up store purchase, determine necessary quantities of fibres to be used. While the discipline of mathematics does become quite complex there are some basic mathematical skills that fashion designers should learn during their mathematics program, such as.

1. Number Sense: the first mathematics skill that a fashion designer is basic number sense. Number sense is the order and value of numbers. Though the use of their number sense, fashion designers can recall that ten is more than five and that fashion designer begin learning numbers sense skills in pre-school, and continue developing a more complex understanding of the concept throughout elementary school.
2. Addition and Subtraction: the first mathematical operation that fashion designers learn is addition, followed closely by subtraction. Fashion designers begin studying these skills through the use of manipulative or physical tools that represent objects, as early as pre – school and continue building their skills, adding and subtracting ever larger numbers through elementary school.
3. Fractions: after fashion designers develop a strong understanding of numbers sense, the explore fractions numbers that lay between whole digits. Commonly this study begins in first grade with the exploration of basic fractions of $^{1}/_{2}$and$^{1}/_{4}$. After learning fraction, including how to add and subtract. A strong understanding of fractions is important, as fashion designers will use these extensively as they continue fashion designing.

2.2.2. Concepts of Entrepreneurship

The concept of Entrepreneurship has been widely discussed in fashion designing and results in a vast amount of variant definitions. A universal conceptual framework or generally accepted definition does not exist. An approach to capture the most significant characteristic of Entrepreneur is provided by Wickham (2013). Who defined Entrepreneurship as "a style of management" and Entrepreneur as a "distinction between the Entrepreneur as a fashion designer, as an agent of economic change and a personality".

The Entrepreneurs identifies a business idea and create a new venture. Being an Entrepreneur is complicated, demanding and requires knowledge and skills. Since there are individual differences between Entrepreneurs, there are various intentions, approach and goals towards a company foundation. The Entrepreneur set up a business to generate value, whether value can mean a financial, social, or emotional outcome. There is a complex of factors that influence the start of a new venture on the other hand; there are personal factors of an Entrepreneur like the individual background.

According to OCCD – Eurostat, "Entrepreneurship is even higher on the policy agenda today than in the past, as governments look for remedies and way out of the economic crisis. Entrepreneurs contribute to society in different ways for instance as creator of jobs and as a stimulator of economic growth. The process of innovation and Entrepreneurship are closely connected several studies relate innovation and sustained fashion designers growth to Entrepreneurship (Zhao 2014, Praag et al 2012). This is not only enhancing the dynamic of the fashion designers but also creating new value. For this reasons the society needs to encourage the constant emergence of Entrepreneurs.

According to author Cole, Entrepreneurship can be conceptualized as the discovery of opportunities and continuously creation of new fashion activities, often via the creation of a new fashion. It is totally engrossed with something new, innovative and novel Entrepreneurship as a dynamic process get manifested through the endeavors of the Entrepreneurs to bring about new inventories, new products.

Science and technological advancement towards the realization of the vision 2020, which is to be one of the first 20 countries economy in the world, depends greatly on the success of Entrepreneurship, which depends greatly on the knowledge of mathematics for her success.

2.2.3 Concept of Fashion Designers

Fashion designers attempt to design cloths which are functional as well as authentically pleasing. They consider who is wearing a garment and the occasion in which it will be worn. And they work within a wide range of materials, colours, patterns and styles. A fashion designer is responsible for creating the specific look of individual garments including a garments shape, colour, fabric, and other aspects of the whole. Fashion designers hold a special place in the world. Fashion design is define by the creator of new footwear, clothing and accessories fashion designing involves a set of skills that range from market research and creativity to sketching and fabric selection. Apparel designers sometimes use the vogue term ‘design concept’ as a synonym for ‘inspiration’ or ‘beginning idea’.However, a ‘design concept’ is the representation of a designer’s abstract idea of final entities, garment in the case of apparel design. A design concept plays the important role of establishing the vision of a final product (Aspelund 2010). Whether derived from a conscious intention or driven by subconscious sequential doodling, design concepts are developed through a process in which the designer perceptually and conceptually proceed by processing information. Nagai, Taura

and Mukai (2009) Examined concept blending in a simple creative product design task, focusing on how concepts are broken into subconceptsand how those are synthesized into a new concepts. The fashion designers guide the process from inception to production. The fashion designers begins with an idea of how a garment should look, turns that idea into a design and specified how that design should be made into an actual piece of clothing by other workers (from patterns maker to finishers). The category of fashion design includes people at different levels of the fashion business from well known countries to unknown designers working for commercial reading to wear houses, to stylists who might make out small modification in existing designs. Fashion designers hold a special place in the world. Their talent and vision not only to play a major role important contribution to the cultural and social environment.Becoming a fashion designer might be the ideal career path for you. To help you out, we have put together this in depth guide covering all aspects of becoming a fashion designer so you can decide whether this is the right profession for you. Although the job may vary on your chosen field and niche, day-to-day task will usually involve the following.

i. Reviewing and following fashion trends
ii. Creating a design that will appeal to your target advance
iii. Deciding on a trend/theme for you collection
iv. Selecting fabrics/ trimming, colours and style for each garment or accessory
v. Locating and liaising with textile suppliers
vi. Showcasing your new designs in a fashion show or at a trade show.

You must have passion for designing and creating unique pieces so as to have understanding of various sewing techniques.

2.2.4 Concept of Entrepreneurship In Fashion Designers

As Renzo Russo, creator of diesel, stated: fashion is inspiration creativity, but it is also a strategy.

These worlds apparently have ensured the success of a business idea. Like in fashion, Entrepreneurship is the fashion designer combines the creation of a venture with the specific aspects in the case of fashion designers.

As mentioned above, Entrepreneurs make a relevant contribution to the society. (Davidsson 2012; Zhao 2015; praag et al 2014).It is significant to look at the concentration ratios of fashion designers in order to analyses the impact of a fashion business:

Additionally to the relevance, the cultural contribution to society of the fashion designers has to be considered fashion as a part of people social life and as an object of cultural value account for the wellbeing of people and services at the same time basic need to wear cloths.

Fashion is embedded in people's minds in their free and working time as a way to express identity.

Innovation is the main factor in the scope of Entrepreneurship and is first and foremost important for the fashion designers, cultural and aesthetic dimensions. Fashion design Entrepreneurs innovate inside these dimensions with creativity and constant change as Dickerson (2017) stated to the point "the constant in fashion is change" according to Schumpeter (1985

Pointed out that there is the need for continuous innovation. Both statements are true for fashion Entrepreneurs who must be continuously innovative in there sphere of activity;

fashion can be copied but not innovation a fashion design Entrepreneurs is the key person that manages the Entrepreneurial process and sets up a business to integrate their design ideas into the market place. Fashion design branch is parts of the creative sector consist of a high number of individuals who set up a business or who are self-employed. The total number of self-employed people in Nigeria is ten percent, whereas in the field of fashion designs are 50 percent self employed. However, a sizable number of fashion designers, confronted with various problems and obstacles, struggle on their own to start a business. Only five percent of around 2.000 fashion design graduates who leave the approximately 85 Nigeria fashion schools year are successful in creating an own business only a few fashion Entrepreneurs are capable of making it through the first years and many do not succeed in reaching a stage of retention. In this background retention can be specified as gaining a sustainable position in the fashion business. In terms of creativeness (as Jones 2008). Subjective in the sense that fashion is based to a great extent on individual preferences and the taste of people. Some of the challenges are.

1. Unable to choose target customers: aside the type of product you want to design and for whom. Whether it is children, women, or men, you must decide your target audience. Find a niche or develop your strengths in specific area rather than distinguishing yourself in too many product lines and losing your focus.
2. Lack of innovation: why do customers need your product? Find out what differentiates your products line so you can be different. Today's market is flooded with a lot of designs, and consumers are confused what to choose.

   Designers must consider attracting loyal customers show strengths in your products that makes u different from your competition.

3. Competition on price: you need to be smart enough to read your competitors prices and come with your profitable price range. How do you know exactly which products are going to sell and in what products can analyze your competitors information.
4. Design copy-cat: lazy designers will copy your design and sell it very cheap. Consider trade marketing your work and involving a legal team, such as legal zoom to protect your work.

   According to MushiBhuiyan (2016). A fashion designer is just like any other professional who is required to have proper skills. Not everyone can become a fashion designer, fashion designers must be visionaries and be good at executing their visions from the concepts to the final products of the clothing line, and not all fashion designers want to be Entrepreneurs. Some want to start their own business.
5. Role of fashion designers by John C. Bertoletti (2009): fashion designers work on the design of clothing. Which many are generalist; working across a wide field, some fashion designers may focus completely on a specialist area, such as sportswear, children wear, women's wear, men's wear or accessories. Development in technology means that a designer is ready to wear product that can be produced as a high street version in a short period of time.

A fashion designer may work towards. (Including specification in relation to colour and fabric) and develop a product from this task depends on the fashion designer but come responsibilities including creating/ visualizing an idea and making a sketch by hand using a computer aided design, keeping up to date with emerging fashion trends, buying and productions teams to ensure the items complement other products, negotiating with

customers and suppliers are overseeing production. Experienced fashion designer focus more on the design aspects, pattern and sample garments.

Jackson et al (2006) argued that fashion designers must be multi-skilled. The task of a fashion designer vary of cause from company to company but as on Entrepreneur, a fashion designer needs a large set of skills, it is a leave taking from the traditional designer role into the balancing act of two elements – creativity with business skills and with commerce. Firstly, the design part consists of the development process. Secondly, the business parts include the business strategy and management of the label. Fashion design Entrepreneurs have to be aware and in charge of all different fields of the business.

- Research (market research, trend research, consumer behavior)
- Production
- General management (business strategy, direction of the brand, positioning pricing, corporate identity).

Jones (2008) cities in her article Yohji Yamamoto; "fashion consist of both commerce and creation. You need to find the right balance, if not you cannot continue. Although I will always defined a pure creation. Fashion designers have chosen the profession due to the creative and artistically sphere of activity founding an own label is often considered as the highest creative goal a fashion designer can achieve in day – to – day work as an Entrepreneurs. Design is only a fraction of the whole. Much more time consuming are all the other aspects that have to be managed, which requires time and energy.

Paul Smith stated. "The highest mistake of beginners leaving the school is to believe that they are able to establish a label right away. A fashion designer has the possibility to out

source certain fields of responsibility but it has to be mentioned that to hand over certain tasks to specialist like the pattern making process, requires financial capital. A lot of designers want to do all the different tasks by themselves but that makes it difficult. Designers lost interest when turning tasks to others.

2.2.5 How Fashion Designers Applied Mathematics.

Mathematics is related to fashion through geometry and symmetry. So, mathematics is not just a subject in school. Mathematics can be applied in many things in our (daily life style). Even going to the grocery store requires math (to count the money). Fashion and mathematics are compatible because symmetry and geometry are mathematics in order to create fashion designs you must know that.

i. Symmetry is: the quality of being made up of exactly similar parts facing each other or around an axis.

ii. Geometry is: the branch of mathematics concern with the properties and relations of points, lines, surfaces, solids, and higher dimensional analogs point's lines. Surfaces and proportion are needed in fashion. These mathematical statements need to be understood by fashion designers because they are basics of creating fashion length, width and height are the measurement used to find how much fabric is need to make the garment.

Fashion designers use math – based computer programs to help manipulate flat garment pattern into three dimensional shapes. Flat sketches of garments must be mathematically accurate. They are then pared with the measurement specs and given to the factory to produce the garments. Without knowledge of mathematics, designers would not be able to draft garment patterns. Mathematics is also used when creating trim pages of the factory.

Designers used trim pages to tell factories the number of trim needed for each garment. Mathematics is necessary to allow designers to order correct numbers of buttons. Any error is in arithmetic can result in huge cost over runs. Designers need a particularly good sense and understanding of geometry to successfully create three dimensional patterns. They also need to be able to add fractions in their heads easily since most patterns are measured out in $^{1}/_{8}$inch increments. Being able to calculate regarding area is also important when it comes to designing how pattern should be laid out on fabric. A designer sees that women's shirt made from fabrics whit patterns on them are popular this season. A pattern can be a repeating set of objects. The designer has looked at many shirts in magazines. She has been pattern with many of them. She decides to design her new shirts using fabric with patterns. Too many times when a designer get an idea for a pieces of clothing, he make a sketch to show what he thinks his new creation should look like. A sketch is a simple drawing, often, it is not very detailed. The sketch shows the basic idea of how something should look. A sketch can be drawn by hand. It can be made on computer. When fashion designers sketch their clothing ideas, they often use geometry. They draw basic shapes. They draw different kinds of lines. They draw angles.

iii. Clothing and Geometry. Sketches may use circles or triangles, some may use rectangles. For example a designer may sketch a boy's jacket. He may use two rectangles to stand in the sleeves and one for the main body of the jacket there may be a hood shape like a triangle. The designers can also use geometry in the design of the jacket. Maybe it will have square pockets on the front. Designers use lines when they are sketching. Let's say a designer in sketching a man suit. The designer wants stripes on the suit. So he draws parallel lines. Parallel lines do not interest or cross each other and are always the same distance apart. If a

designer wants a cardboard pattern on the suit, he draws perpendicular lines. Perpendicular lines interest each other to form 90^o angles. A 90^o angle is also called a right angle. Fashion designers often create clothes that have line symmetry that's because many people thin k that cloths with line symmetry look good. Many designers give dresses line symmetry. Suppose you draw line down the center of a dress with line symmetry.

The left side of the dress would look like the right side of the dress flipped over.

iv. Using Congruent Shapes. Designers also use congruent figures in some of their designs. Congruent have the exact same shape. Designers also use angles, suppose a designer create a shirt. The shirt has a V-shape collar. The designer must decide how large an angel to use for the collar opening. A small angle will make the collar opening narrower. A 30 degree (30^o) angle, for example, will make a narrow collar opening wider.

By the yard, designers use math to make proto – types. The first thing they do is to determine how much fabric they will need to buy. Fabric is often sold by the whole number of yards long. If you buy one yard of fabric, for example, you are buying a piece of fabric that is one yard long. Since there are three feet in a yard, you can also say that a yard of fabric is three feet long. You can figure this out by multiplying the length by width to find a square measurement, like this 3 feet x 4 feet = 12 square feet.

A designer is ready to make her prototype. So she takes out her measuring tape. A measuring tape is used to measure length. It is a type of ruler. Most rulers are stiff, but a measuring tape is flexible, it can be used to measure things that are not flat. Designers also measure people. Suppose a designer is making a long – sleeved shirt for a man. She needs to hold the end of the measuring tape on the top of the man's shoulder. She runs the tape down his arm.

Role of mathematics in enhancing Entrepreneurship, Entrepreneurs have been seen as self taught, self –made individuals. The influence dates back to the days of men like Carnegie Edison and other who had little formal schooling (Cone, 2009). However the great Entrepreneurs of the past did not really learn or do it all themselves. In the early industrial cities – which were adventurous places, teeming with Entrepreneurial activities in the new fields like telegraphy and railroading, Entrepreneurs had access to informal communities of fashion designers of contacts for the additional skills and resources their own new ventures needed (Cone, 2009).

According to Bushell (2012), Entrepreneurship is risky mainly because few of the so-called Entrepreneurs know what they are doing. They lack the methodology (especially the scientific and the mathematical processes). To fill a key gap in mathematics circular fashion designers should be looking at refining. Redefining and disseminating a very promising new approach to fashion opportunities recognition. The world in our time the world these young people will go into permanent. It is always being reinvented. That is precisely what Entrepreneurship is about. It is a means of re-inventing the world through science and mathematics risk taking, imagination, problem solving and decision making skills (Omogiate – iwelu, 2016). In all the mathematics teacher emphasizes practical skills. Foresight and vision, it is a general consensus that a well organized fashion classes in Entrepreneurial ventures enhances the chance to start up and set employment. You must see opportunities (Ajacro, 2010). As mathematics in fashion designing your vision must be ahead of all their vision. (Ajacro, 2010) also compare the scientific processes and the Entrepreneurial processes with a view to integrating them for maximum benefits. Mathematics stands to build

a wide range of I interdisciplinary skills that can prepare fashion designers adequately for the future.

(OmogiateIwelu 2016).Mathematics helps an Entrepreneur to understand his or her strategies in marketing and how to improve better. Entrepreneurs with sound knowledge of mathematics often perform better than their counter parts that are not proficient in the subject. Knowledge of mathematics helps the Entrepreneurs to analyse data, compute probabilities and statistics, have the concept of investment systems evaluate target consumers and understand taxes. The Entrepreneurs according to his rich, Peters and Shepherd (2008) is one who brings resources, labour, materials and other assets into competitions that make their value greater than before.

2.3. Theoretical Framework

2.3.1 Problem Solving Theory

Problem solving is a significant element of mathematics education. In fact, problemsolving in mathematics helps students to develop a wide range of complex mathematicsstructures and gains the capability of solving a variety of real-life problems (Tarmizi&Bayat,2012). Moreover, the National Council of Teachers of Mathematics (NCTM, 1980) hasemphasized that the mathematics teachers should focus on problem solving throughout theirteaching since it "encompasses skills and functions which are an important part of everydaylife." Furthermore, problem solving helps people to adapt to changes and unexpectedproblems in their careers and other aspects of their lives. Problem solving lies beyondmathematics teaching dimensions so that students experience the influence of mathematics inthe world around them (Taplin, 2011), concerning these required skills and approaches to problem solving, (Polya, 1945) stated a four-step approach to problem solving, including:

i. Understanding the problem: it is impossible to solve a problem if you do not know what the problem is. What is known or unknown? Is there enough information or ismore information needed? What do the terms mean?

ii. Devising a plan: the way we solve the problem. Possible strategies:

(a) Draw pictures (b) Use a variable and choose helpful names for variables or unknowns; (c) Besystematic; (d) Solve a simpler version of the problem; (e) Guess and check, Trial anderror; Guess and test (Guessing is okay); (f) Look for a pattern or patterns; and (g) Make a list

iii. Carrying out the plan: If the plan does not seem to be working, then start over and tryanother way. Often the first approach does not work. Do not worry just because anapproach does not work. It does not mean you did it wrong. You actuallyAbdolrezaLessani, Aida Suraya Md. Yunus, Kamariah Abu Bakar, AzadehZahediKhameneh168accomplished something, knowing a way does not work is part of the process ofelimination; and

iv. Looking back: Did you answer the question? Is your result reasonable? Is thereanother way of doing the problem which may be easier?

In today's mathematics and science, problem solving does not only help to gain moreskills and knowledge to solve the problem, but it also goes further in helping to increasereasoning skills among students (Hmelo, Guzdial, & Turns, 1998). Therefore, problem solving methods are considered as essential factors to increase level of students' mathematicsachievement. Also, it can be utilized to solve problems that arise in real life.

2.3.2 The Fashion Life Cycle

An innovation is perceived as having a life cycle, that is, it is born, matures, and dies. Rogers's (1983) classic writing spells out rate of change, including characteristics of the product, the market, or audience, the distribution cycle, and those characteristics of individuals and societies where innovation takes place.

Diffusion of Innovations

Diffusion is the spread of an innovation within and across social systems. Rogers (1983) defines an innovation as a design or product perceived as new by an individual. New styles are offered each season and whether an innovation is accepted depends upon the presence of five characteristics:

Relative advantage is the degree an innovation is seen as better than previous alternatives, in areas such as function, cost, social prestige, or more satisfying aesthetics.

Compatibility is the degree to which an innovation is consistent with the existing norms and values of the potential adopters. An innovation is less likely to be adopted that requires a change in values.

Complexity concerns how difficult it is to learn about and understand the innovation. An innovation has a greater chance of acceptance if easily learned and experienced.

Trialability is the extent to which an innovation may be tested with a limited commitment, that is, easily and inexpensively tried without too much risk.

Observability is the ease with which an innovation may be communicated to others.

2.4 Related Studies

Joseph (2013) in his study of community secondary school students in Kagera, Tanzania found out that the majority of students (55%) had a general negative attitude towards mathematics, with a positive and significant correlation between attitude and performance (r=0.33). J.M.S.A Narez, Martinez, and cuervo – arango (2014), open that entrepreneurship is important for having a healthy and rich economics structure characterized by high well-being levels. As a result, in the economic, political and social fields a wide range of private and even public policies have been implemented aimed at entrepreneurship (Evald, 2013: Shapiro, 2014) have found a certain relationship between the degree of unemployment and the growth rate of self-employment, which implies that self-employment increases when salary- based employment opportunities are limited. Gartner (2004) indicated that 62% of social network sources of opportunity comes from business associates, friends and family, Gartner highlighted that opportunity recognition can occur at the beginning of entrepreneurship process as well as recurring step in the business life cycle. (Krueger et al., 2000). Some scholars suggested that prior applications of the TPB in the entrepreneurship literature account for 30-45% of the variance in intentions in explaining attitude towards performing the behavior, subjective norm, and perceived behavior canto,

Factors of International Students Entrepreneurship (ISE),

This research uses the successful components factors to build a working mechanism of factors of intentions of secondary school student's entrepreneurship. Personal traits / motivation, enabling environment and opportunity identification are considered as the independent variables, which influence willingness to take risk, achievement, independence, self-efficacy, and venture support, easy business registration, supporting innovation ideas, social network and prior knowledge. The entrepreneurial intention in the working mechanism is the dependent variables which is said to have some relationship with the independent variables. Kunz and Garners (2011) illustrate the

shift in power between manufacturers and retailers which demonstrate the role profit have played on a global scale. A few keys statistics wholesale gross margins from 15-20% in 1970 to 35 – 40% in 2008. This has also led to an increase in retail gross margins from 35 – 40% in 1970 to 55 – 60% in 2008. Kunz and Garners statistics are a result of the decrease in labour cost on the manufacturing side and the total material and fiber cost. They further explain that the money is used in the retail environment to pay for marketing, branding and design costs rather than for the materials and labour production which demonstrates how a shift in power leads to a shift in profits.

Though these authors have followed various research topics, they collectively provide a greater understanding on how culture and fashion interest and yet, at times, play parallel roles to one another. These scholars have studied the link between fashions, identify, and culture in different environments and situations. The use of mathematics makes fashion enjoyable to fashion designers and increases their understanding of creativity. The study recommended that fashion designers give an opportunity to engage in deep learning during mathematics. The objective of the research was to prove whether there is any significant difference between fashion designers and those not so exposed. This is against the background of the need to find out the appropriate role played and the reality of what is actually achieved by fashion designers especially with continued turn down in entrepreneurship performance in fashion designs.

2.5. Summary of Related Literature Review

Mathematics the science structure, order and relation that haveinvolve from elemental practices of objects, it deals with logical reasoning and quantitative calculation and increase in idealization and obstruction of it subject matter. Mathematics is a subject that is applied in everyday life according to Uka, Uyi and Ekwueme (2012), mathematics enhance vital role for quality teaching and research by ensuring that fashion designers are been well equipped with the right knowledge and skills to produce goods and services which will help to meet human needs for food, health care product aiming to improve the quality of human existence.

(Mustapha 2002),Omosewo (2006) stated that a deeper knowledge and understanding of the science and technology processes can be achieved through laboratory activities, which improves active participation and develop critical thinking, it create concocts experience to provide considerable information to the theoretical aspect that has been taught.

Theories were also used to explain the phenomenon, whereby problem solving theory, Family life cycle perspective represents a shift from viewing fashion designers as responding to external stimuli. In problem solving perspectives, fashion designers directly develop knowledge by experiencing things and by reflecting on such experiences, fashion designers can actively learn through processes, constructing and understanding of the world around them. Two major role were identify for facilitators to support fashion designers in constructivist learning environments which are; Coaching and Scaffolding.

CHAPTER THREE

RESEARCH METHODOLOGY:

3.1 Introduction

This chapter present the systematic procedure used by the researcher to collect and analyze important data for this study. under the following subheadings , research design, population of the study, sampling method, instrument for data collection, validation of instrument, reliability of research instruments, Method for data collection and data analysis techniques.

3.2 Research Design.

The study adopted descriptive survey research design to ascertain the influence of secondary school mathematics application on the performance of fashion designers. Questionnaire was used to gather relavant data to determine the responses of the fashion designers. Kanam (2006), pointed out descriptive survey design as the appropriate way to describe condition that exist, opinion that held, processes that are going on, trends that are developing and also to access the opinion of large sample size.

3.3 Population of the Study.

Targeted population of the research comprises of two hundred and two (202) fashion designers in Bosso Local Government of Minna, Niger State Area.

3.4 Sample and Sampling Techniques

The sample size of 140 fashion designers was used for the study and consist of both gender. A simple random sampling technique was used to select the sample size.

The fashion designers shops selected were:

1. Egviksheg couture. Address: No.3, Julius Berger street, Minna, Tundun Fulani, layout Zungeru Road.
2. La – Adama fashion designer. Address: opp. Nana's place Bosso Road

3. Arewa fashion designers: fashion designers suite No. D3, Bahago complex
4. Ayuba Fashion designer: close to Federal University Of Technology

Each fashion designer's shop will be administered 35 questionnaires making a total of 140 fashion designers.

Table 3.1: The Distribution of the Sample

The research instrument was distributed to 35 fashion designers in Bosso Local Government Minna, Niger State.

Sex	Frequency
Male	22
Female	13
Total	35

3.5 Research Instrument

The instrument used for data collection was a structured questionnaire designed by the researcher known as questionnaire on application of mathematics to fashion design (QAMED). QAMED was made up of twenty four items arranged in four clusters to answer the four research questions. The questionnaire has two sections, section A sought for personal information from the respondents, section B tried to elicit information from the respondents to answer research questions 1,2,3, and 4 respectively scale of Very high. (VH), High (H) Low (L) and Very low (VL).

3.6 Validation of Research Instrument

Validity means the degree to which the measuring instrument is used to serve the purpose intended. The instrument which was named (QAMED) was validated by three mathematics

education lecturers in the department of science education, Federal University of Technology Minna, items on the instruments were to subjected to face and content validation, all observation raised were implemented.

3.7 Reliability of Research Instrument

According to Galadima (2009) reliability is the consistency of the instrument in measurement. The instrument adopted for the research study was found reliable according to the data obtained from fashion designer's responses; the reliability coefficient was calculated from the result of the pilot test and was found to be 0.85 using crombach alpha formular.

3.8 Method of Data Collection

The researcher visited the selected fashion designs shops to carry out the study. The questionnaires were personally administered to fashion designers. These were filled and returned by the fashion designers.

3.9 Method of Data Analysis

The data collected was analyzed using mean and percentages to answer the research questions. A cut – off mark of 2.50 was used as criteria. This was calculated from the simple mean of 4,3,2 and 1.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter shows the presentation and the analysis of data collected from fashion designers in Bosso Local Government Area of Minna, Niger State. This data collected is based on the influence of secondary school mathematics application on entrepreneurship performance of fashion designers, which was analyzed through descriptive and non-parametric statistics that involves mean and percentages which was used to answer the research questions.

This chapter presents the analysis of data under the following sub-headings

- The distribution of the sample
- Presentation of data analysis based on the research questions
- Summary of findings
- Discussion of results.

4.2 Presentation of Data Base on Research Questions

Research question one

What extent does the application of secondary school mathematics knowledge influences the quality of work of fashion designers in Bosso Local Government Area of Niger State.

4.2.1 Mean and percentages of applications of secondary school mathematics knowledge influences the quality of work of fashion designers.

No	Item	$\overline{X}$	%	Remark

1	Pattern cutting is really technical and mathematics related	3.70	92.5%	High
2	The mathematics knowledge I have is making my sewing job easier	3.53	88.3%	High
3	My poor mathematics background is affecting my fashion designing work	3.12	78%	High
4	Lack of numeracy skills affects my work as a fashion design.	3.30	82.5%	High
5	For one to sew nice cloth, the person should have basic mathematics knowledge	3.31	82.8%	High
6	Cutting of cloth and sewing involves mathematical skills.	3.81	95.3%	High

Key: X = mean % = percentage

Table 4.2.1: indicate the responses on the extent of application of secondary school mathematics knowledge influences the quality of work of fashion designers. The mean in all items were greater than 2.5 and percentage not less than 70% which show that respondents agreed that they apply mathematics knowledge to their job in a high extent.

Research Question Two

What extent does secondary school mathematics knowledge skills required for fashion designers influences the job performance in Bosso Local government Area of Niger State.

4.2.2 Mean and percentage of secondary school mathematics knowledge skills required for fashion designers influences the job performance.

No	Item	X	%	Remark
1	Innovate creative thinking is needed in fashion designing	3.96	99%	High
2	Fashion designers do addition and subtraction in the process of cutting cloth	3.49	87.3%	High
3	Division is also applied in fashion designing	3.59	89.8%	High
4	Critical thinking skills is required in fashion designing	3.26	81.5%	High
5	Finding the slope also needed in fashion designing	3.84	96.0%	High
6	Division of fraction into fractions involves when scaling pattern up and down.	3.30	82.5%	High

Key: X=mean, % = percentage

Table 4.2.2: report that respondents of extend to which secondary school mathematics knowledge skills required for fashion designers influences the job performance. All means were above 2.5 with percentages not less than 70%. This showed that the knowledge of secondary school mathematics to a high extent make the work of fashion designers better.

Research Question Three

What extent does the application of secondary school mathematics knowledge influences the quality of work of fashion designers base on gender in Bosso Local Government Area of Niger State.

4.2.3 Mean of application of secondary school mathematics knowledge influences the quality of work of fashion designers has on gender.

No	Item	$\bar{X}_1$	Remark	$\bar{X}_2$	Remark
1	Measurement of cloth involves secondary school mathematics	3.64	High	3.81	High
2	Secondary school mathematics knowledge is enough to enable fashion designers to know the quantity of cloth to sew	3.52	High	3.54	High
3	Knowledge of secondary school mathematics enables fashion designers know the number of colour of thread to use in sewing	3.06	High	3.23	High
4	Secondary school mathematics knowledge is enough to help fashion designers to know the amount of money to charge for a particular cloth	3.28	High	3.33	High
5	Knowledge of secondary school mathematics gives fashion designers the focus on how to shape cloth to fitness.	3.29	High	3.33	High
6	Some fashion designers apply secondary school mathematics without noticing it	3.84	High	3.77	High

Key: X_1 – male, X_z - female

Table 4.2.3: showed that extent to which application of secondary school mathematics knowledge influences the quality of work of fashion designers base on gender. All item had mean above 2.5 and average mean above 2.5 which indicated that the respondent agreed.

Research Question Four

What extent does secondary school mathematics knowledge, skills required for fashion designers influences the job performance base on gender.

4.2.4 Mean of secondary school mathematics knowledge, skills required for a fashion designer influences the job performance base on gender.

No	Item	X_1	Remark	X_2	Remark
1	Knowledge of secondary school mathematics enhances individuals critical thinking in contribute positively to fashion designing	3.94	High	3.98	High
2	Knowledge of secondary school mathematics enhances reasoning power of an individual in taking right decision in fashion designing.	3.52	High	3.44	High
3	Knowledge of secondary school mathematics provides adequate tools in decision making of fashion designers	3.41	High	3.88	High
4	Knowledge of secondary school mathematics is enough to enable fashion designer to sew cloths with the required symmetry	3.34	High	3.12	High

5	Knowledge of secondary school mathematics is enough to enable the fashion designers to sew cloth with the required congruence	3.82	High	3.87	High
6	Knowledge of secondary school mathematics is enough to enable fashion designers to sew cloths with the required beauty	3.32	High	3.27	High

Key: X_1=mean of male, X_2= mean of female

Table 4.2.4: showed that the extent to which secondary school mathematics knowledge, skills required for fashion designers influences the job performance base on gender. The mean and average mean were above 2.5 which showed that the respondent agreed.

Summary of Findings

1. Result shows that the application of mathematical knowledge to a great extent influences the work of fashion designers. This is because the data depict the opinion of fashion designers that pattern cutting is really technical and mathematical and that, lack of mathematics knowledge affect their performance in fashion designing as all the question recorded a mean above 2.5
2. Mathematical skills like numerical skill, creative skill and critical thinking skills are needed in fashion designing based on their responses to the item that recorded means above 2.5 acceptance level. It also displayed fact that basic mathematical concepts of addition, subtraction, fractions are all needed in fashion designing.
3. Both male and female fashion designers to a large extent apply mathematics both in measurement in selecting colours, in costing and in shaping cloth to fitness. It also indicates that mathematics is being applied in all areas of fashion designing.

4. Both male and female used for the study are fashion designers; also about 80% of the respondent had at least secondary school mathematics knowledge. This indicated that both male and female fashion designers used for the study had secondary school mathematics knowledge.

Discussion of the Findings

The main objective of this research is to determine the influence of secondary school mathematics of application on entrepreneurship performance of fashion designers in Bosso Local Government Minna, Niger State.

The analysis shows that the application of mathematical knowledge to a great extent influences the work of fashion designers, because data portrays the opinion of fashion designers that pattern cutting is really technical and mathematical this goes to support john (2014) who lamented that he would have paid more attention to mathematics in his school days if he knew that it will make his job easier. He comments" I wish I was better with mathematics, it would make my job easier".

The analysis indicated that mathematical skills like numerical skill, creative skill and critical thinking skills are needed in fashion designing based on their responses to items that recorded means above 2.5. Basic concepts of mathematics like addition, subtraction, fraction are all needed in fashion designing. Chole (2009) commented that the correct shape of a seem line can make or break the drape of skirt and that fashion designing uses fraction as there is a lot of division of fractions into fractions when scaling patterns up and down thus the comment "I wish I paid attention to fraction while in school" this is in agreement with a

study carried out by Ugwueje (2014) whose findings showed that for a fashion designer to effectively carry out his work a certain level of mathematics concepts must be attained.

The analysis of both male and female fashion designers to a large extent apply mathematics both in measurement in selecting colours, in costing and in shaping cloth to fitness. It also indicated that mathematics is being applied in all areas of fashion designing which goes to support the findings of Uka et al (2012) who indicated that mathematics is a service subject that exists as a skill to be used in other area of study.

The analysis to what extent does the application of secondary school mathematics knowledge influence the quality of their work of fashion designers based on gender indicated that hundred and fourty (140) of both male and female used for the study are fashion designers, it also revealed. That about 80% respondents had at least secondary school mathematics knowledge.

CHAPTER FIVE

5.1 Introduction

This chapter is the concluding chapter of the research work and presents the following summary of the study, major findings of the study, conclusion, limitations,recommendations and suggestions for further studies.

5.2 Summary of the Study

This study analyses the influence of secondary school mathematics application on the entrepreneurship performance of fashion designers in Bosso Local Government Minna, Niger State. Four research questions were answered using mean and percentages. A sample of thirty five fashion designers (35) from four (4) fashion designers shop in Bosso Local Government Minna, Niger State.Both male and female fashion designers were used to respond to the questionnaire with twenty four (24) items. The questionnaire on application of mathematics to fashion design (QAMED) was adopted using four point rating scale. The research instrument was created by the researcher and accepted by the supervisor and two other lecturers from science education department from Federal University of Technology, Minna. The instrument was additionally pilot tested to gauge the inward consistency before undertaking for data accumulation. The information gathered wereanalyzedusing mean and percentages.

Result shows that application of mathematics knowledge to a great extent influences the work of fashion designers. This is because the data portrays the opinion of fashion designers that patterns' cutting is really technical and mathematical and that, lack of mathematical knowledge affect their performance in fashion designing.

The result shows that mathematical skills like numerical skill, creative skill and critical thinking skills are needed in fashion designing based on their responses to the item that recorded means above 2.5 as acceptance level.

The results shows that both male and female fashion designers to a large extent apply mathematics both in measurement, in selecting colours, in costing, and in shaping cloth to fitness. It also shows that mathematics is being applied in all areas of fashion deigning. The result shows that 140 male and female fashion designers were used for the study and result also reveals that 80% of the respondents had at least secondary school mathematics knowledge.

5.3 Major Findings of the Study

The following are the major findings of the research.

1. Fashion designers perceived that pattern cutting is really technical and mathematical and that, lack of mathematics knowledge affect their performance in fashion designing.
2. Fashion designers perceived that basic mathematical concepts of addition, subtraction, fraction, finding slope, division, length and width are all needed in fashion designing.
3. Both male and female fashion designers perceived that 80% of fashion designers had secondary school mathematics.

5.4 Conclusion

Result obtained from the study on the influence of secondary school mathematics application on the entrepreneurship performance of fashion designers shows that mathematics is highly needed in fashion designing work from the beginning till the end. Mathematics knowledge and skills needed in fashion designing were also outlined. The study equally brought out the

strategy that mathematics should be integrated into the training program of fashion designers apprenticeship. This will enhance their efficiency as the result of the study already indicated that the application of mathematics has great influence on entrepreneurship performance of fashion designers in Bosso Local Government of Minna, Niger State.

5.5 Limitations of the Study

The researcher encountered some problems which leads to limitation of this study, this limitation are stated as follow.

1. The researcher focuses on the influence of secondary school mathematics application on entrepreneurship performance of fashion designers.
2. Bosso Local Government is capacitated with different ethnic groups and people with various socio- cultural backgrounds; as a result of this the fashion designers of some of the shops were based in given full attention to the investigation by the researcher.
3. The researcher only focuses on the fashion designers in which the apprentices are also important for the research.

5.6 Recommendations

Based on the findings of the study the recommendations made are.

1. That people going into fashion designing apprenticeship should at least have secondary school mathematics knowledge.
2. That mathematics should be integrated into the training of fashion designers.
3. Those mathematics teachers should be employed to brush fashion designers apprentices on the basic mathematics concepts and skill necessary for their work.

5.7 Suggestions for Further Studies

Further research studies could be made with the following areas.

1. Factors affecting the choice of fashion designers as a profession
2. Fashion designers attitude towards apprentice.
3. Factors militating against the improvement of fashion design in Minna metropolis.
4. Gender influence on the choice of fashion design in secondary schools.

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