

UTILIZATION OF GEOMETRIC SHAPES AMONG SUBANEN PEOPLE IN SELECTED BARANGAYS IN KATIPUNAN, ZAMBOANGA DEL NORTE

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ABSTRACT

Geometric shapes like squares, rectangles, and triangles are precise and regular. They are used in making things, like buildings and machines. The study determined the utilization and significance of geometric shapes to Subanen people in terms of materials, designs and constructions, recreational activities, equipment, functional food designs, and quality quilting. The research was conducted at barangay Patik, Sitog, Seres, Bulawan and Dabiak in the Municipality of Katipunan, Zamboanga del Norte. Findings revealed that only square and circle are frequently utilized in materials, courtships, marriages, designs, and constructions. A livelihood program in the utilization of geometric shapes will be conducted in five barangays to enhance the skills of the indigenous people to improve their artworks in weaving and designing materials in the production of native products. It is also recommended to the young generations to adopt the technology to preserve their custom and traditions.

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INTRODUCTION

Geometric shapes like squares, rectangles, and triangles are precise and regular. They are used in making things, like buildings and machines. Geometric shapes have played a vital role in our society before and even today. In fact, they serve as a medium for establishing distinct patterns and classic designs. Consequently, beginning as infants, humans are easily captivated by these eye-catching forms. Fortunately, geometric shapes are now being utilized as decorations in homes and even in big cities. But what is the very interesting is that there are Subanen tribe particularly in Katipunan, Zamboanga del Norte who utilize these geometric shapes as a way of respecting their culture, traditions, and customs. Most of these designs are relic-inspired one. Subanon (also spelled Subanen or Subanun) is a group of lumad or non-Muslim indigenous tribe of the Zamboanga peninsula area, that exists particularly in the mountainous areas of Zamboanga del Sur and Misamis Occidental, Mindanao Island, Philippines. The Subanon people speak the Subanon language. The name means "a person or people of the river."

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These people originally lived in the low lying areas. However due to disturbances and competitions the Subanen were pushed into the interior from other settlers like the Muslims, and migrations of Cebuano speakers to the coastal areas attracted by the inviting Land Tenure Laws. Subanon are the biggest group of Lumad or non-Muslim indigenous cultural community on the island of Mindanao. The word is derived from the word soba or suba, a word common in Sulu, Visayas, and Mindanao, which means "river" and the suffix "-nun" or "-non" which indicates a locality or place of origin. Few types of native baskets and bags may be found in a typical Subanen house. Some are shape round baskets from materials of different colors, such as the nito vine, split rattan, bamboo, and sometimes wood or tree bark. The bark bottom and sides are all of one piece to form a cylinder. The top may be closed either with the same piece of bark, or with a piece of some other material. There are also bags woven from the leaves of the screw pine, buri, or nipa to carry all sorts of things. According to Carrie Cousins (2015), "Sometimes a shape is more than just a group of connected lines. The elements in a design are the use of different shapes." He also stipulated the three categories of shapes namely: Geometric, organic and abstract. Steven Bradley (2010) defined shapes in a different way.

According to him, “Shapes have meaning and are an important building block in the visual grammar and visual thinking we have at our disposal as designers. In addition, Pdraig Cahill (2016) stipulated that the meaning of shapes can vary widely depending on the type of shape, its context and the culture analysing it. According to Debbie O’Connor (2014), “designers use shapes to symbolise ideas or concepts, set a mood or emotion, create a travel path for the eye around the design, create depth or movement and connect content and imagery in a layout.” Moreover, according also to Orana Velarde (2017), an artist of many trades, currently working as a graphic designer for bloggers and small businesses, “The success of any visual storytelling or visual marketing strategy relies mainly on what the audience perceives. This study sought to determine the utilization and significance of geometric shapes when utilized by Subanen people in real life situation in terms of materials, design and construction; games and other recreational activities; sports, athletic fields and equipment; functional food designs and quality quilting in Katipunan, Zamboanga del Norte. Specifically, it determined the respondents profile in terms of the age and gender. It investigated the utilization of the geometric shapes made by the subanen people in real life situation. Most of the material things were made of circles, rectangles, triangles, squares, pentagon, heptagon, hexagon, octagon, nonagon, decagon, undecagon, and dodecagon. Moreover, it also seeks for the significance of these geometric shapes to the cultures and traditions of subanen people in terms of materials, design and construction, games and other recreational activities, sports, athletic fields and equipment, functional food designs and quality quilting.

Theoretical Framework: This study is anchored on Leon Battista Alberti (1472) theory of Architecture that the relationship between geometry and architectural design are described and discussed along some examples. Geometry is the fundamental science of figures, forms and transformations that build the material of architectural design. The idea of harmony and proportion are the concept of symmetry with motions of figures and shapes. Geometry can be seen also as a structural science. Based on geometric structures of architectural design were developed out of the idea of transformations. The symmetry transformations are visible as design concepts through history of architecture. There are no fixed rules about design concepts in contemporary architecture but there are still relations to the concepts of geometric shapes. Many other areas in math that geometry is related, and is used daily by engineers, architects, designers and many other professionals. Catherine Beyer (2017) firmly explained the twelve geometric shapes and their symbolic meanings. She said that, “Because basic geometric shapes are so simplistic in construction, they are found all over the world and have wide variety of uses and meanings. However, there are a variety of meanings that are more commonly ascribed to these shapes, particularly when used in a religious or magical context”. The twelve geometric shapes that she mentioned are circles, rectangles, triangles, squares, pentagon, heptagon, hexagon, octagon, nonagon, decagon, undecagon, and dodecagon.

METHODS

The descriptive method of research was used in conducting this study to determine the utilization and significance of geometric shapes in real life situations made by Subanen people.

The respondents of the study were selected from the five barangays in the municipality of Katipunan, Zamboanga del Norte via purposive sampling. These barangays include the following: Bulawan, Patik, Sitog, Seres and Dabiak. The questionnaire was utilized to the households to gather the data. The Subanen people used frequency count to determine the utilization and significance of geometric shapes.

RESULTS AND DISCUSSION

Figure 1 shows the age profile of the respondents, with age group 55 and above posts the highest frequency of 31 or 31.0 percent of the total 100 respondents and with the lowest frequency of 2 or 2.0 percent for age group 25-30. Most of the Subanen people who utilized the geometric shapes are within this age bracket. Figure 2 manifests the frequency distribution of the respondents in terms of gender, with 72.0 percent female and 28.0 percent male. This finding clearly indicates that there are more female than male Subanen people who used the geometric shapes in weaving and designing materials.

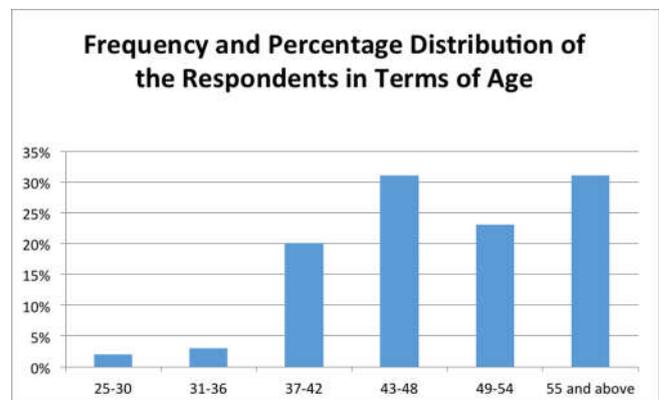


Figure 1. Frequency and Percentage Distribution of the Respondents in Terms of Age

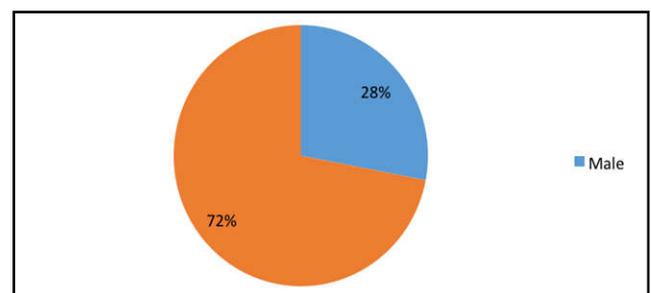


Figure 2. Frequency and Percentage Distribution of the Respondents in Terms of Gender

It can be gleaned on the table 1 that the square obtained a frequency of 32 or 32%, which is the highest among the twelve geometric shapes used in the study. Next is the circle which has a frequency of 27 or 27%. This means that the Subanen people in Katipunan, Zamboanga del Norte utilized the square and circle most frequently in their real life situations. Square is an important shape for constructing houses and other equipment’s and facilities while circle in making material designs. Triangle, rectangle, Heptagon, hexagon, nonagon, decagon, undecagon, and dodecagon have obtained the least frequency. This implies that only few Subanen people who used these figures in weaving and making designs. Although they can be used for star-design making or in other construction of equipment and facilities.

Table 1. Summary Table on Subanens' Extent of Utilization on Geometric Shapes

Geometric Shapes	Frequency	Percentage
Circle	27	27%
Triangle	6	6%
rectangle	9	9%
Square	32	32%
Pentagon	2	2%
Hexagon	4	4%
Heptagon	2	2%
Octagon	4	4%
Nonagon	3	3%
Decagon	2	2%
Undecagon	6	6%
Dodecagon	3	3%
Grand Total	100	100%

Table 2. Summary of the Significance of Geometric Shapes to the Culture and Tradition of Subanen People

Culture and Tradition	Frequency	Percentage	Rank
Death	9	9%	4 th
Dances	7	7%	5 th
Courtship/Marriage	23	23%	2 nd
Pasungko	8	8%	4 th
Materials, Designs, and Construction	26	26%	1 st
Games & Recreational Activities	6	6%	7 th
Sports, Athletic Fields & Equipment	8	8%	6 th
Functional Food Designs	8	8%	3 rd
Quality Quilting	5	5%	7 th
Grand Total	100	100%	

Table 2 shows the summary table on the significance of geometric shapes to the culture and tradition of Subanen People. The materials, design and construction obtained a frequency of 26 or 26%, which is the highest among the nine cultures and traditions used in the study. This means that the Subanen people in Katipunan, Zamboanga del Norte seldom utilized geometric shapes in materials, design and construction. Games and recreational activities and quality quilting have obtained the frequency of 6 or 6%, the lowest among all the frequencies obtained. This implies that the Subanen people in Katipunan, Zamboanga del Norte almost never utilized geometric shapes in games and recreational activities and quality quilting. They are less creative in applying the said shapes in culture and traditions specifically in designs and weaving bags, baskets and etc. because the rate is beyond 50%.

Findings: Results revealed that only circle (27 or 27%) and square (32 or 32%) are mostly utilized by the Subanen people. They also utilized geometric shapes most frequently in materials, designs and constructions (26 or 26%) and in courtship and marriage (23 or 23%).

Conclusion and Recommendation

The Subanen people are less creative and poor in weaving and designing materials. A livelihood program in the five selected barangays in Katipunan, Zamboanga del Norte relating to the utilization of geometric shapes will be conducted by the competent Mathematics Instructors in JRMSU-Katipunan Campus in order to educate the Subanen people to improve their artworks in weaving and designing materials in the production of native products and would serve as additional source of revenue. It is also recommended to the young generations to adopt the technology to preserve their custom and traditions.

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