

# Employing Innovative Jewelry Design in Adding Value to Nora Beads in Tha Kham Community, Songkhla Province

**Worasuda Khwansuwan\***

*Rajamangala University of Technology Srivijaya,  
Songkhla,  
Thailand*

*Corresponding author*

*Email: worasuda.k@rmutsv.ac.th*

**Paweena Jaruteerapan\***

*Thaksin University,  
Songkhla,  
Thailand*

*Email: ajarneka@hotmail.com*

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*\*These authors contributed equally to this study*

## ABSTRACT

The objectives of this product development research were: (1) to explore the wisdom and the patterns of Nora bead weaving in Tha Kham Community; (2) to create the new designs of Nora beaded jewelry using innovative 3D weaving technique; and (3) to add value to Nora beads in Tha Kham Community, Songkhla Province. Methods for data collection included site visits, observations, interviews and surveys. The research team developed the design concept with a team of two experts in jewelry design and product development. After settling on the design ideas, the team drafted ten designs of Nora beaded jewelry. The members of the Nora bead weaving group in Tha Kham Community were asked to choose five designs that would be made into prototypes of Nora beaded jewelry. The results showed that beading patterns in Tha Kham Community simply employed basic designs that are commonly found in southern Thailand. Additionally, the group has been using two techniques of bead weaving—2D and 3D weaving, which suggests their potential to develop more advanced and innovative techniques. This study highlights the successful integration of modern jewelry designs and traditional wisdom of Nora dance. The new designs of Nora beaded jewelry can positively add value to Nora beads. By drawing on the design concepts that emphasize cultural and community identity, the prototypes of Nora beaded jewelry are not only unique and aesthetically beautiful, but they also maintain local culture of Nora dance in the community.

**Keywords:** *Innovative jewelry design, Nora beads, Nora beaded jewelry*

## INTRODUCTION

Manorah or Nora is a Thai traditional dance which is typically performed at important occasions, especially in Southern Thailand. It has been famous for more than a hundred years, and it can still be seen in many places these days. Nora dance is profoundly associated with people's ways of life as evidenced by how it commonly exists in ceremonies, rituals and public performances. It depicts the outstanding identity and distinctive culture of the South (Waiyawek & Tongkam, 2020). More importantly, UNESCO has officially announced during the Intergovernmental Committee for the Safeguarding of Intangible Cultural Heritage's 16th session that Nora performance is a piece of Thailand's "Intangible Cultural Heritage" (Thaiger, 2021). This shows how Nora dance is highly recognized and should be preserved as the national identity.

What makes Nora dance unique are skillful dancing postures and beautiful costumes. The Nora costume consists of "the golden crown, the silver wing ornament, the bird-like tail, and the long, bent fingernail extensions" (Horstmann, 2012, p.109). The artistic craftsmanship of Nora costume has been passed down from generation to generation. Of particular interest here is the ornament such as bangles and necklaces which are made from strings of colorful small plastic beads (hereafter called Nora beads). The vibrant pattern together with colorful Nora beads makes the costume the most recognizable and remarkably unique.

Nowadays, Nora beads are adapted and used in different kinds of artwork by many groups of people. One of them is the Nora bead weaving group in Tha Kham Community, which is located in Had Yai District, Songkhla Province. The group comprises individuals with shared interests in making products from beadwork. Tha Kham is a community that has high potential with natural, art and cultural resources. Particularly, it has local wisdom and learning resources of Nora performance. These features enable the community to make use of available assets and resources to make Nora beads products, which can create extra income for people in the community. However, due to market competition, it is vital that the community products have good quality and attract potential customers. Moreover, the market research conducted by OIE in 2021 highlighted that the export of gem and jewelry products is increasing as customers with high purchasing power continue to grow. This includes the high demand for accessory products that employ innovative techniques and technology (Office of Industrial Economics, 2020). As the bead market has a significant growth, innovation in beadwork becomes a key factor that can enhance the demand in the bead product market.

In light of this, there is a need for the development of Nora bead products that can be competitive in regional, national and international markets. This study, therefore, aims to develop Nora bead products in Tha Kham Community for better quality with modern design by using 3D weaving techniques together with the principles of art and design. Moreover, the study intends to preserve a southern Thai cultural identity by drawing on the key design concepts that integrate new design techniques with traditional wisdom of Nora. This study is of significance because it adds value to Nora beads and preserves the cultural identity of the community. In addition, the study sheds light on the processes of designing and integrating innovative product design which is important for providing effective training or knowledge sharing programs or workshops.

## Objectives

The overall aim of this product development research was to investigate the processes of innovative jewelry design. The objectives of this research were: (1) to explore the wisdom and the patterns of Nora bead weaving in Tha Kham Community; (2) to create the new designs of beaded jewelry using innovative

3D weaving technique; and (3) to add value to Nora beads, especially the beadwork in Tha Kham Community, Songkhla Province

## LITERATURE REVIEW

This section reviews the literature in the areas that are relevant to the study. It begins by providing the literature on Nora costumes with a particular focus on Nora beads. It then reviews key concepts of art and designs used in crafting Nora beading patterns.

### Nora costumes and Nora beads

Nora is a traditional performance which is characterized by its rhythmic dance, sing and plays about mythical stories (Yousuf, 2004). Historically, Nora is believed to have originated in the South of Thailand in the twelfth century from animistic performances (Brandon, 1997). It is regarded as the earliest drama in Thailand and associated with different purposes such as ceremony, entertainment, artistic, ancestral tradition and spirit possession (Horstmann, 2012). However, for the purpose of this study, this section will only focus on Nora costumes with a particular focus on Nora beads.

The historical photographic evidence shows how Nora costumes have evolved over time in Thailand. According to Nikomrat (2006), the early wearing of Nora costumes dates back to 1901 when King Rama IV visited the Southern provinces. A group of Nora performers performed Nora dance for the King and his followers at Pra Borommatat Temple, Nakhon SriThammarat Province. The photographic evidence shows that the dancers' costumes are layered with shoulder ornaments made from a string of small beads which sparsely cover some parts of the body such as the shoulder and the body side (see Figure 1). As the decoration only covers the upper body, the body's shape of the dancers is, therefore, clearly visible (Nikomrat, 2006).



**Figure 1. Manorah dance at Nakhon SriThammarat Province**

**Note.** From “ภาพชุด เมืองนครศรีธรรมราช เมื่อพ.ศ. 2448 ครั้งรัชกาลที่ 5 เสด็จประพาส” by ชงชัย ลิขิตพรสวรรค์, 2563, ศิลปวัฒนธรรม

(Source: [https://www.silpa-mag.com/old-photos-tell-the-historical-story/article\\_6421](https://www.silpa-mag.com/old-photos-tell-the-historical-story/article_6421))

Later, Nora costumes have gradually been made into more clothing pieces as evidenced in Figure 2. The photograph depicts Nora performance held to welcome King Rama VI during his trip to Songkhla Province in 1924. In the picture, the dancers are wearing two ornamental sashes over the shoulders (body chains) and the top made from strings of beads. Tiny seed beads which have light and dark colors are densely woven to cover the shoulder and the front part of the body (Nikomrat, 2006).



**Figure 2. Nora dance at Songkhla Province**

**Note.** From “เอกลักษณ์ของชุดลูกปัดโนรา” by ธรรมนิตย์ นิคมรัตน์, 2020, Blockdit  
(Source: <https://www.blockdit.com/pages/5e9368ffa36e2e0cbb19a5b9>)

Another historical photograph taken in 1971 shows that Nora costumes have used more bead weaving methods. As seen in Figure 3, the dancer is wearing body chains with a breastplate. The top is made from white and black beads woven together to cover both shoulders. There are strings of beads hanging around the chest and the shoulders for decorative purposes.



**Figure 3. Nora Pan Horpetch**

**Note.** From “เอกลักษณ์ของชุดลูกปัดโนรา” by ธรรมนิตย์ นิคมรัตน์, 2020, Blockdit  
(Source: <https://www.blockdit.com/pages/5e9368ffa36e2e0cbb19a5b9>)

By drawing on the historical evidence, Nikomrat (2006) summarizes that initially Nora costumes were of fewer pieces with two body chains to cover the upper body. Then, more shoulder pieces were added with the use of bead weaving techniques to connect pieces together until they became a larger piece of clothes. Other ornaments such as a pair of neck cover, which is made from beads woven into a triangular shape, was then used to cover both the front and the back of the neck. These components have become fundamental elements of Nora wardrobe used until today.

Notably, beadwork plays a crucial role in the crafting of Nora costumes. According to Norraratphutti (2019), the early Nora costumes did not use many beaded ornaments due to the high price. In fact, beads had to be imported from Penang, Malaysia. Moreover, the colors were limited to only black, white and brown. The materials used were made from glass, which were easily broken when they fell. Thus, their lifespan did not last long. Until the local production of beads in Hat Yai District, Songkhla Province in 1937, beads became more available and affordable. Nora costumes began to have more beadwork and different designs. Nowadays, Nora costumes can be varied in terms of the beaded ornaments. Design patterns depend on the materials, experiences and personal preference of the craftsmen. As Norraratphutti (2019) puts it, although the crafting of Nora costumes has evolved over time, many early bead weaving techniques are still commonly employed until today. There are three patterns of bead weaving as follows (Thailand Foundation, 2022):

1. Roy Chor Pattern [ร้อยช่อ] (net-like pattern)  
A method of stringing two seed beads with one bead to create a net-like pattern.
2. Ha-Sam Pattern [ห้าสาม] (five-three pattern)  
A set of five seed beads and three seed beads are woven in the same thread producing a floral design.
3. Sam-Sam Pattern [สามสาม] (three-three pattern)

A set of three seed beads is strung with another set of three beads to form a floral pattern. Over all, bead weaving is a delicate artistry that involves the use of artistic elements. As there are no ground rules involved, Nora beadwork can be designed in a diverse range of materials, shapes, sizes, colors and vary by the preferences of the creators. Crafters will come up with ideas of choosing different colors to create new and distinctive beadwork designs in order to express the unique Nora ornaments. The art of bead weaving is continuously developing and playing a key role in Nora costumes. More recently, Nora beads have become closer to people's everyday lives. They are also used in other kinds of artwork and fashion products as evidenced by a number of websites, publications or advertisements illustrating exquisite pieces of jewelry and accessories using Nora beads.

### **Theoretical background relating to the design of Nora beading patterns**

This section presents the theories that relate to the design of Nora beading patterns. Three key topics are discussed in turn as follows:

#### ***Elements of design***

In principle, it is important that the new products should be novel, innovative and have ongoing product development. According to Luilao et al. (2008), there are important elements that designers need to take into account when designing a local product (i.e., native textiles). First, design ideas should come from sources of inspiration as they can help the designer to conjure up creative and unique ideas for the

products. Other elements that the designer must consider include types of product, the use of colors, materials, and decoration.

Moreover, the right kind of pattern which is appropriate for the product type also has a direct effect on product usability and customers' needs. This means that the designer should pay attention to consumers' lifestyle and preference when selecting patterns and colors for handicraft products. The characteristics of the product should not only have a unique identity, but also be compatible with activities and interests of people in everyday life. Possibly, consumers can take the decision to buy a particular product when it fulfills their needs or preferences. In this case, the development of Nora beaded jewelry in Tha Kham Community is principally based on the key elements of design as will be discussed below.

### ***Principles of Composition***

Composition is the organization of the elements of art to create the artwork. There are many elements (i.e., lines, colors, weight, sizes, shapes, proportion and texture) which can be combined in order to create images to the eye of the viewer (Saengin, 2014). During the design process, artists will take visual elements into account including line, shape, color, value, form, texture, and space. These elements usually relate to each other. When the visual elements are optimally combined together, they create a balanced composition, which is aesthetically pleasing and increases the value to a work of art (Silrattana, 1993). Principally, there are three fundamental aspects of composition techniques. They involve creating a center of interest, balance, and a sense of unity. This study adopted the principles of composition in the process of creating and designing patterns for Nora beaded jewelry. The good composition will make the pattern design more fashionable, appropriate and beautiful.

### ***Color Theory***

Color is one important component in the design of patterns for Nora beadwork. Colors have been an important part of people's lives and they have an effect on our feelings and emotions. They also associate with belief, value and taste. In fact, the product color is likely to be the first thing customers see (Morton, 2022). It is important that designers have a clear understanding of their properties and how to choose the right colors according to color theory. There are basic terms that are commonly used in color theory as follows (Tungpornprasert, 1999).

1. Tone color describes how warm or cool a color is. In the natural order of color, colors can be divided into warm tones and cool tones.
2. Value is the degree of how light or dark a color is.
3. Intensity is the brightness or dullness of a color.
4. Monochrome is a single base hue which is extended by using its shades, tones and tints.
5. Harmony color is a combination of colors that create pleasing contrasts, consonances and harmony.
6. Tonality is one of the colors that dominate over all other colors.
7. Discord colors are color combinations that contrast or clash rather than harmonize.
8. Perspective of color refers to the use of lighter or darker colors in background or foreground to create a feeling of depth.
9. Objects that are further away are lighter in value while objects that are closer are darker in value.

The color theory has significant implications for the design of Nora beading patterns in this study. As mentioned earlier, colors elicit feelings and emotions. Thus, the researchers attempted to select the right colors for the patterns by drawing on the color theory in order to create visual appearance that are beautiful, distinctive, appropriate for the product type and also attractive to the customers.

Over all, the development of Nora beaded jewelry in Tha Kham Community is based on the design ideas aiming to create the products that are aesthetically appealing, fashionable and maintaining local identity. With the use of 3D weaving techniques together with the elements of design, composition and color theory, Nora beaded jewelry is aesthetically pleasing and good at usability. It is expected that Nora beaded jewelry in Tha Kham Community will possibly attract more customers both in national and international markets. More importantly, it can create extra incomes, promote job opportunities and develop more sustainable living in the community.

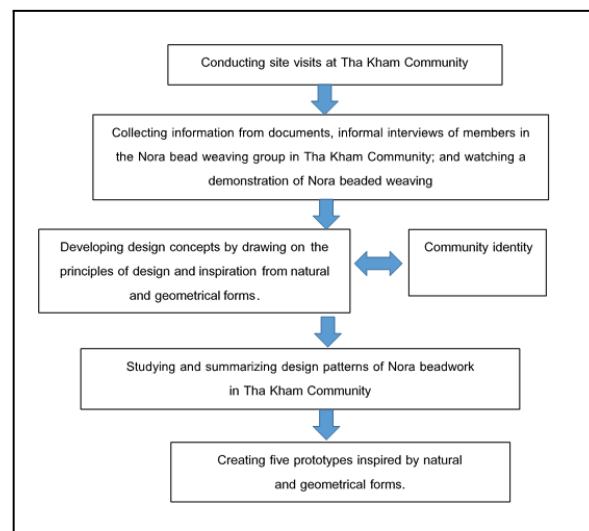
The overall aim of this product development research was to investigate the processes of innovative product design. The objectives of this research were: (1) to explore the wisdom and the patterns of Nora bead weaving in Tha Kham Community; (2) to create the new designs of beaded jewelry using innovative 3D weaving technique; and (3) to add value to Nora beads, especially the beadwork in Tha Kham Community, Songkhla Province. The methodology adopted to carry out the research will be presented in the next section

## RESEARCH METHODOLOGY

This research was conducted using a number of methods as discussed below.

### Conceptual framework

This study is product development research with an emphasis on the processes of designing innovative 3D techniques to add value to Nora beads. It was carried out by following the framework. Figure 4 Conceptual framework of the study



**Figure 4. Conceptual framework of the study**



The table above shows the list of prior digital learning platforms for dyslexic's students. The issues and problems obtained from the literature review that was collected, allowed the researcher to carry out the second objective, which was to analyze the best quality content and user interface design that will help attract dyslexic students to learning. As a result, in order to obtain more precise answers regarding the second objective, the researcher employed the first qualitative approach which is some visual analysis of prior dyslexic digital learning platforms. The learning platform will include three local apps and three International apps.

### **Research location and participants**

This study took place in Ta Kham Community, Had Yai District, Songkhla Province during the years 2020- 2022. The research team chose Ta Kham Community as the research location because it has available assets and resources relating to Nora bead weaving. In addition, the community has capability to engage in community learning activities such as collaborative knowledge sharing (Jeawkok et al., 2016). It is, therefore, advantageous for the research team to work with the community under a cooperative learning environment. The participants were members in the Nora bead weaving group in Tha Kham Community. Generally, there are twenty members in the group. The study was carried out using the following procedures.

### **Procedures**

The methods and procedures adopted to carry out this study are as follows:

#### ***Visiting the research site***

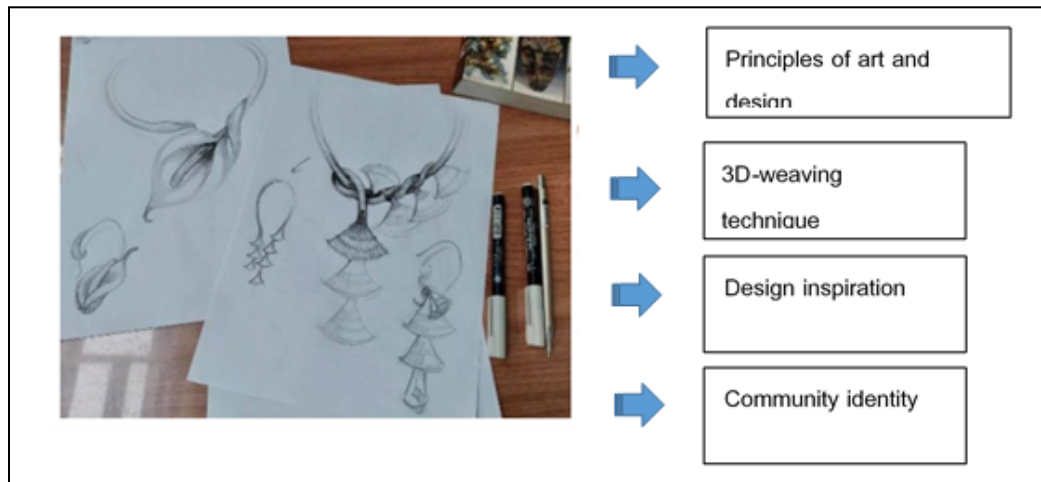
The research team conducted site visits to collect data from Tha Kham Community. At these visits, the team interviewed some members of the Nora bead weaving group and observed weaving demonstrations in order to understand the context, cultural background and cultural capitals in the community. This includes identifying community identity and beading patterns in Tha Kham Community. Particularly, the team looked for important features such as people's way of life, values, and local customs that could best describe the community identity.

#### ***Developing design concept***

The next step involved brainstorming the design concept with a team of two experts in jewelry design and product development. The expert team comprised one jewelry designer in Thailand and one from abroad. To get broader perspectives about the new product design, the researchers conducted a market survey with a target group of fifty potential customers to gain insight into their attitudes and preferences about beadwork products (58.30% of respondents are living in Tha Kham Community and 41.40% are from the other areas). The survey data revealed key aspects that potential customers reported having influenced their buying decisions, namely product type (jewelry) (100%), usability (90.90%); new designs (81.80%), and price range (1,001-2,000 Baht) (63.60%). Moreover, they also identified the identity of Tha Kham Community using these keywords— "livable community, Nora dance, new and modern products". These survey results provided important information for future prediction of a potential market where customers have high purchasing power and demands for innovative jewelry designs. Therefore, the design concept focused on developing Nora beadwork that was aesthetically appealing, unique, maintained local wisdom and reflected community identity. After settling on the design



ideas, the team drafted 10 designs of Nora beaded jewelry. Figure 5 below shows the preliminary sketches which demonstrate the concept behind the designs. A number of Important elements such as the principles of art and design, innovative weaving technique, design inspiration, and community identity were taken into account during this process.



**Figure 5. The sketches of the design concept**  
(Source: Author's personal collection)

### ***Making the prototypes***

The research team sought for feedback from members of the Nora bead weaving group in Tha Kham Community. They were asked to choose five designs that would be made into prototypes of Nora beaded jewelry. The group agreed on design numbers 1,2,5,7, and 9. The results of the study will be further discussed in the next section.

## **FINDINGS**

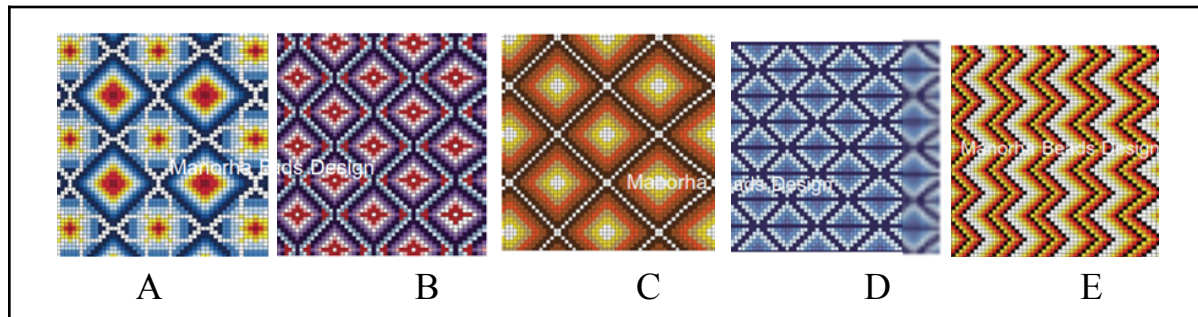
### **Results and discussion**

This section presents the results of the study in two key aspects, namely the original designs of beading patterns in Tha Kham Community and the new design for Nora beaded jewelry using 3D techniques. Each of these topics is discussed in turn below.

#### ***The original designs of beading patterns in Tha Kham Community***

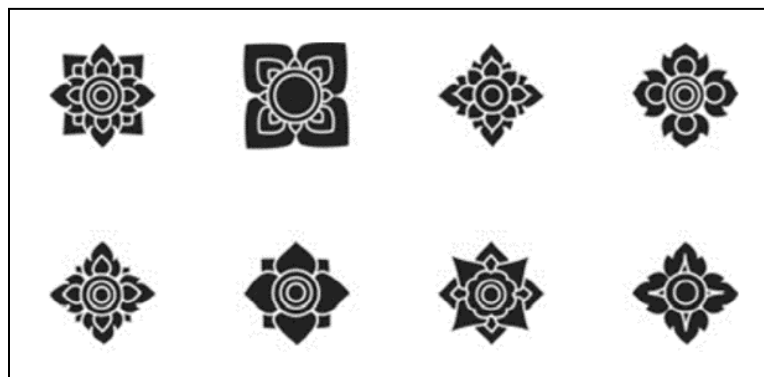
From the data collected during the site visits, it was found that beading patterns in Tha Kham Community simply employed basic designs that are commonly found in southern Thailand. In fact, the designs did not really stand out when compared with those of similar kinds of beadwork. Beadwork products in the community include keychain, mask-hanging strip, necklace, and basketry decorated with strings of colorful beads. Seed beads were simply woven together by hand with the use of basic tools such as paper or wooden board, lighters, Nylon threads and beeswax.

As seen in Figures 6 below, the patterns in the beadwork are Phikul flowers; Look Kaew (a round-glass ball); Kanom Tad (a rhombus shape); triangle; and Kang Pla (fish bone). These patterns are called after their characteristics and their representation of familiar objects in everyday life (Changsan, 2006). In addition, the patterns are also similar to Thai traditional patterns which have been used in Thai paintings since ancient times. Figure 7 below illustrates examples of Thai patterns that have been adapted in bead weaving. More importantly, the interview and observation data revealed that the group lacked experience and skills in developing patterns that reflected more complicated technique and unique design such as the use of gradient color combinations in color theory, or the principles of composition.



**Figure 6. Bead patterns in Tha Kham Community**

**Note.** A= Phikul flowers; B= Look Kaew; C= Kanom Tad; D= Triangle; E= Kang Pla  
 (Source: Author's personal collection)



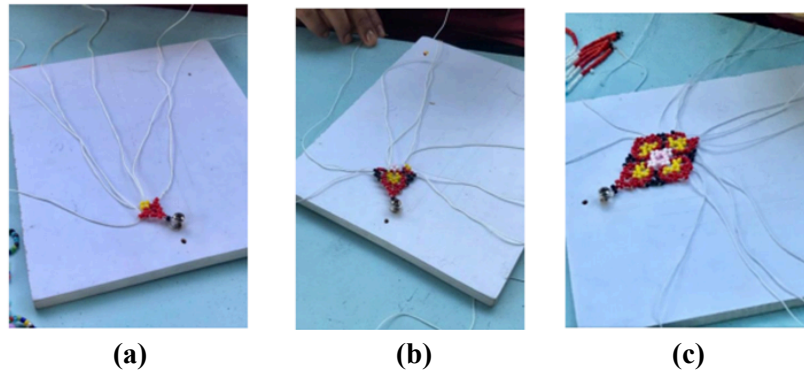
**Figure 7. Thai patterns adapted in bead weaving**

(Source: Author's personal collection)

Interestingly, the study also found that the group has been employing two techniques of bead weaving—2D and 3D weaving in their work. Each of these techniques will be discussed in turn below.

### ***Two-dimensional (2D) weaving technique***

The group employed 2D- weaving techniques to make keychains. As can be seen in Figure 8 (a, b & c), seed beads are woven together into flat strings. This weaving technique creates a flat plane beadwork that has two dimensions—width and length. The 2D-weaving technique is simple and requires less time to finish the work.



**Figure 8. 2D-weaving technique**  
(Source: Author's personal collection)

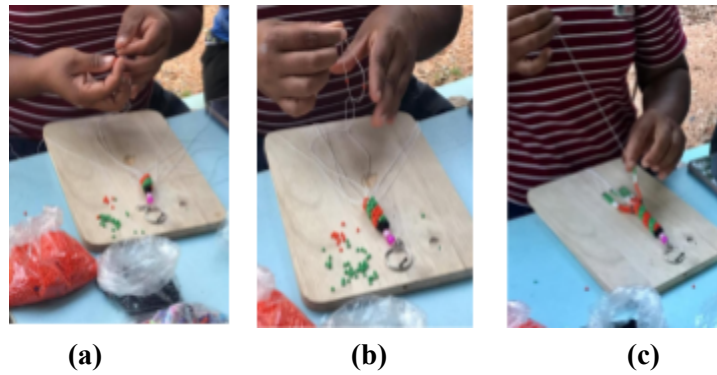
Examples of beadwork that uses 2D technique are shown in Figures 9. It illustrates a neck cover or Ping Kor in Nora costume, and a beaded keychain having a triangular shape inspired by Nora beading patterns.



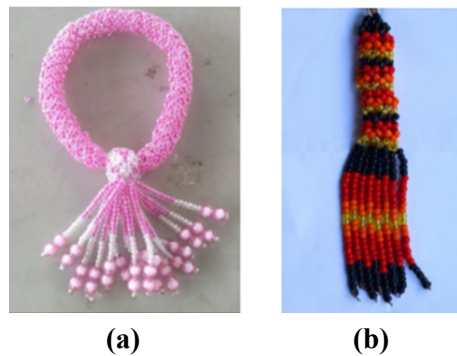
**Figure 9. Samples (a & b) of beadwork using 2D-weaving technique**  
(Source: Author's personal collection)

### ***Three-dimensional (3D) weaving technique***

Another technique used by the group involves threading seed beads into strings to make a 3D shape that has length, width, and height. Clearly, 3D-weaving technique yields depth or thickness and is more complex than the 2D technique. Examples of beadwork that uses 3D technique are shown in Figure 10 (a, b &c) below.



**Figure 10. 3D-weaving technique**  
(Source: Author's personal collection)

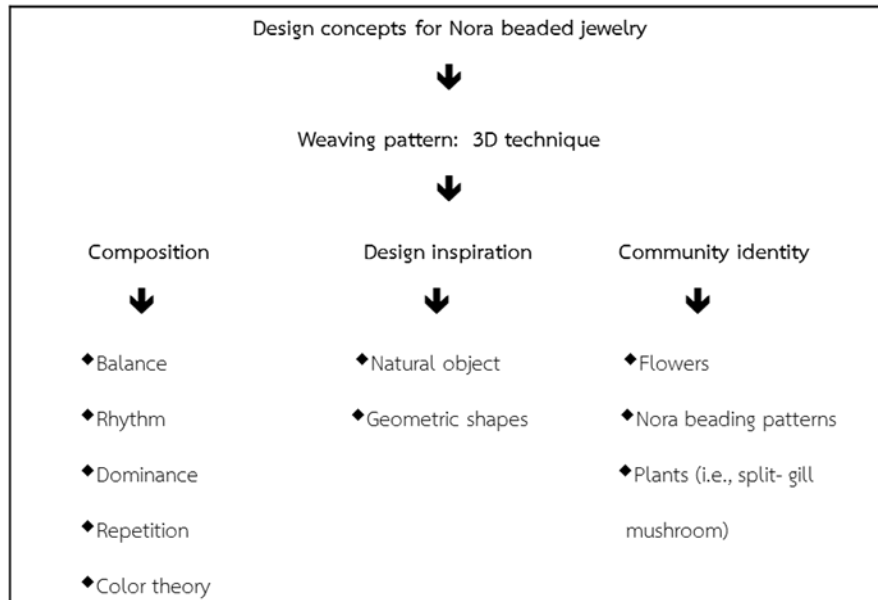


**Figure 11. Samples of beadwork using 3D-weaving technique**  
(Source: Author's personal collection)

Overall, the data from this study suggested that characteristics of beading patterns in Tha Kham Community reflect basic design and portray community identity, local culture and experience of the craftsman. Notwithstanding the limited experience and skills, members in the bead weaving group in Tha Kham Community have some level of knowledge and skills in using 3D-weaving techniques. Their 3D beading patterns suggest potential for developing more advanced and innovative techniques. In light of this, the research team, therefore, developed a new design using innovative 3D weaving technique that aimed to add value to Nora beads, especially the beadwork in Tha Kham Community, Songkhla Province.





### ***The new design for Nora beaded jewelry using 3D techniques***

As mentioned earlier, the research team collaborated with the specialists to develop design concepts for Nora beaded jewelry. The new design was based on key elements that involved the implementation of 3D technique, the principles of design, design inspiration and the community identity as illustrated in Figure 12.



**Figure 12. Design concepts for Nora beaded jewelry**  
 The five prototypes and their sketches are shown in Table 1 below.

**Table 1. The sketches and prototypes**

Sketches	Prototypes
Design 1 	Prototype 1 
Design 2 	Prototype 2 



Sketches	Prototypes
Design 3  	Prototype 3 
Design 4  	Prototype 4 
Design 5  	Prototype 5 



**Figure 13. Nora beaded jewelry on a model**  
(Source: Author's personal collection)

As seen in Table 1, Prototypes 1 to 5 are five sets of beaded necklaces and earrings using 3D technique. According to the principles of design, these prototypes demonstrate their unique characteristics deriving from different sources of inspiration. Noticeably, the sources of inspiration of Prototypes 1 to 3 are from nature. They reflect the community identity through the objects occurring naturally in the area such as, split-gill mushrooms (Prototype 1), flowers (Prototype 2) and Palmyra palm trees (Prototype 3). Prototype 4 expresses geometric forms that are normally found in Nora beading patterns while Prototype 5 is a geometric form of a round-shaped figure of stones. Additionally, a number of visual elements such as shape, form and line are optimally employed to promote visual impact to the designs. A combination of shape, form and line portrays strength and stability and, at the same time, makes the prototypes look exquisitely elegant as if the graceful dancing movements of Nora performance that are both strong and delicate. Likewise, the composition techniques such as balance and rhythm are also employed in such a way that creates a balanced composition. When the prototypes have balanced composition, they appear to be aesthetically pleasing and beautiful. Regarding the use of colors, Prototype 1 employs 70% of warm colors and 30% of cool colors in order to portray the earth tone colors of split-gill mushrooms in nature. This palette evokes a sense of stability and brings calm energy. On the other hand, Prototype 2 mixes 30% of warm toned colors with 70% of cool toned colors to illustrate vibrant colors of flowers and leaves. Prototypes 3-4 adopt harmonious color combinations between black and grey to create eye-pleasing, modern and contemporary design. However, Prototype 5 uses contrast colors, black and red, to create a classic and modern style, bringing visual interest to the design. Unsurprisingly, these Prototypes are distinctive from the other types of beadwork in the community and surrounding areas. This result is supported by comments from the expert in jewelry design highlighting that the prototypes 1 to 5 are outstandingly beautiful, eye-catching, modern, and unique. They are not only beautiful but also functional. More importantly, these new designs add more value to Nora beads. When the beadwork is developed for better quality, they will stand more chances in the competitive market.



## CONCLUSION

In conclusion, the results from this study suggest the successful integration of modern jewelry designs and traditional wisdom of Nora dance. The new designs of Nora beaded jewelry can positively add value to Nora beads. By drawing on the design concepts that emphasize cultural and community identity, the prototypes of Nora beaded jewelry are not only unique and aesthetically beautiful, but they also maintain local culture of Nora dance in the community. However, due to the protective measures of the COVID-19 pandemic during the time the research was undertaken, carrying out a knowledge transfer training in the final stage was not always possible. Future research could address this issue by providing training, workshops or knowledge sharing programs to the community. This kind of research would be of value because it could provide comprehensive insight into how the new designs could be transferred and used by members in the community. Examining the effectiveness of the workshop program would be useful for providing effective training in the future. Notwithstanding the lack of knowledge transfer training in this research, the results show that the members in the bead weaving group in Tha Kham Community have some basic knowledge and skills about 3D beading techniques. Therefore, they have potential to learn and develop Nora beads products using more advanced and innovative techniques, which can create extra income for their family.

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