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The Transfer of Knowledge and Design to Create Added Value of Products from Reed

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Abstract

This research studied the process of the transfer of knowledge; factors and conditions of the reed mat weaver industry and researched the design to create added value of products from Reeds in order to develop the economy of the community of Bangsakao, Laemsing, Chanthaburi. The study was conducted using the theory of transfer of knowledge and the concept of participatory design. Participation and data collection was obtained from focus groups of 25 people. The research found that the transfer of knowledge process is managed by many methods such as the knowledge transfer in the family, the knowledge transfer in the community, the knowledge transfer by developing the curriculum between the local community and school, the knowledge transfer by exchanging the knowledge between designers and local technicians. Then together the transfer of knowledge and promotion through online channels, which expanded the method of the transfer of knowledge. From the design to the creation of the added value of products, the community studied customers' demands, developed the products according to their demands, and developed the quality of the products to reach the standards. The focus group between locals and other participants, caused the exchange of knowledge in terms of concept to modernize the products that meet the current demands and the participants designed the craftsmanship pieces to preserve and inherit the mat pattern of The Queen Rambhai Barni, called "Craftsmanship on Mat" in 21 pieces. The study concluded by finding that the participating craftsmanship development process became the prototype to develop Chanthaboon Reed Mat in other communities.

Introduction

Thailand's development in the past four decades, under the capitalist economy, accelerated the industrial assembly with the trade liberalization that caused high trade competition. The economic and social system in Thailand has changed from the economic system led by the agricultural sector to the manufacturing sector, thus creating income and employment for the trade and service industry. Even though it continues to create high economic growth quantitively, it also has a lack of quality as well as being unbalanced and unsustainable development (Office of the National Economics and

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Social Development Council, No.13, 2021). Minor strategy No. 2.5, promotes learning to create circular economy knowledge in the community and promotes creating the prototype community with a circular economy that responds to the way of life and local wisdom. The prototype community is promoted for other communities to study from as well as to enhance the quality of life and to create a sustainable networks between communities. The strategy promotes local cultures with unique inherit local materials in their surroundings to create benefit for the community. The focus is on the knowledge and the experience of the community and the ability to transfer knowledge from their past; called Popular Wisdom or Local Wisdom. Currently, Thailand's government policy is to promote local development in order for the local community to be self-reliant. This is achieved by involving locals in their own job creation that can create income by using popular wisdom and local resources to create added value for local handicrafts. Popular wisdom or local wisdom is an important concept in Thai society that values family and community. Each local community according to their way of life and local surroundings has their own culture that is inherit sustainable. Local wisdom, the transferring of past knowledge, is involved with creatively developing local handicrafts that have been created for daily appliances and reflects the Thainess that shows the civilization of Thai society. The preservation and development of the handicrafts is based on changes in the way of life from the economic condition and the social condition; from the production for the usage in the household to the production for trading. This can be observed in the community of Bangsakao, Laemsing, Chanthaburi where the majority of the population's main job is working in shrimp farming or fishery and planting reeds and weaving reed mats as a side job, The weaving of reed mats has continued from generation to generation. The community is located around Chanthaboon River, called "Chanthaboon Reed Mat".

Handicraft production has evolved over time, driven by changes in its objectives and the use of technology. Modern producers rely more on industrial materials rather than natural ones, which were used in the past. For instance, pre-made Reed thread for mat weaving is now produced with sizing, length, and quality that meet the standards of large-scale farming. Chemicals such as fertilizers and insecticides are used in its production, unlike in the past when natural conditions sufficed. As a result, a raw material produced for trading is now sufficient to sustain livelihoods, eliminating the need for agriculture or handicraft production from natural materials. This shift has wider implications for traditional forms of production and livelihoods. (Poonphon, D. et al., 2005).

Wuttichai Withatanang (2016) said that the necessity that changed the form of handicraft is the economic condition. For example, some of the craftsmanship and handicraft changed to become souvenirs, artifacts, or home decorations. They were created by the producers that developed them for other benefits, so the handicrafts have changed their role (Reference Leesuwan, V.).

The government promotes the campaign "One Tambon, One Product" which is a project according to an expedited policy for the community to use local wisdom to develop their products. With the support from the government in terms of modernizing knowledge and management skills to connect the community's product to the market both in the country and internationally (Department of Agriculture Extension. 2019).

The Ministry of Industry (Thailand) has the policy to promote Thai handicraft development, for the progress of the Thai handicraft in the future. With the guideline to support, develop and solve the problems of handicraft trading objectively in order to create jobs, added value, and distribute income to the population in the countryside; increase income from the foreign currency, and support the Thai craftsmanship.

Issara Chupakdee (2021), owner of the "Korkok" brand said that nowadays the Reed Mat productions in Chanthaburi are located in four Subdistricts, around the riverside areas where a lot of reeds are planted because of the quality condition of the soil condition such as sandy clay, brackish water that is suited well for reed planting. The subdistricts are named: Tha Chalaeb Subdistrict in Mueang District, Koh Kwang Subdistrict, Nong Bua Subdistrict, and Bangsakao Subdistrict in Laemsing District. The Bangsakao Subdistrict, Laemsing District, in Chanthaburi was the origin of the Reed Mat production and took the development of the Reed Mat production from The Suan Ban Kaew Palace to develop the products of the community.

(Kanchan, Interview, December 18, 2021). Interview., a member of the Bangsakao Reed Mat producer group stated that in 1972, there were separate production groups such as the planting group, the reed thread producer group, the weaver group, and the sewing

group. The former started by created to be bags, glass mats, and folding mats by using patterns from The Suan Ban Kaew Palace, adapted according to the customer demand. Then expanded the production in 1978-1981 due to increase interest from customers. The reed mat was developed to be the mat sewn with a lining sponge in 1983 and was produced for international trade such as in Japan. The market for handicraft products like the reed mat inside the country is in Bangkok and other major cities because the products can be both for self-use and souvenirs. And the international market is throughout Asia and America, with product offerings such as jewelry boxes and souvenirs, in mainly black and red colors. (The development of the uniqueness and local wisdom in Chanthaburi. 2001: 113-115)

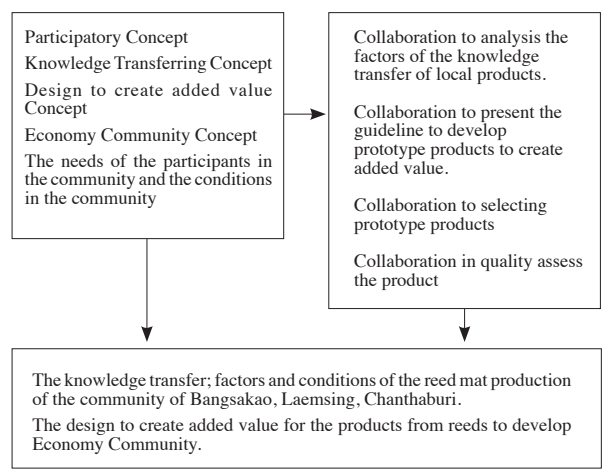
It shows that participants understand the importance of the development of Chanthaboon Reed Mat production that transfers craftsmanship skills from the older generations to younger generations. But after the changes in the economy and society system, the locals in subdistricts such as The Chalaeb Subdistrict in Mueang District and Koh Kwang Subdistrict, Nong Bua Subdistrict, Bangsakao Subdistrict in Laemsing District, and Bangsakao Subdistrict, Laemsing District, Chanthaburi are working less in the reed mat production and focused on working in shrimp farming especially in 1995-2014 because of the ability to obtain higher income. Some locals are working in the shrimp sorting department even though it creates an unstable income but without any investment and it creates income faster than the reed mat production which is a local handicraft product. One day, local handicrafts like The Chanthaboon Reed Mat production will be neglected and will disappear. Nowadays, even though there is still many reed mat farming but has been reduced from before. Also the locals are mostly working in industrial factories. The potential analysis of communities in subdistricts found that locals have household debt which is a big problem that has been accumulating for some time, even though the government promoted policies to solve problems but it's not enough to solve all the problems. Also, the employment that the most of population is involved with has low income that does not offer enough for the cost of living and is unpredictable income that depends on a market mechanism. (Community Development Department. 2010)

With these problems, the researcher is interested in researching the reed mat production situation, the transfer of knowledge of the community; conditions of the occupation, and the guideline to promote designs to create added value of products from reeds. The research is conducted as a method to develop the economic system of the community of Chanthaburi, to create the guideline to promote the community to be sustainable and self-reliant and to create a guideline to conserve, inherit, and develop the reed mat production.

Objective

1. To study the transfer of knowledge; factors and conditions of the reed mat production in the community of Bangsakao, Laemsing, Chanthaburi.
2. To study the design to create added value for products from reeds, to develop the economic system of the community.

Conceptual Framework



Research Methodology

1. Population and Samples

To collect and analyze data, the transfer of knowledge, and design to create added value for products from reed, the researcher studied the group sample population by choosing experienced people, that experienced in the handicraft knowledge transfer and the design to create added value to the product of the community of Bangsakao, Laemsing, Chanthaburi for more than 10 years. By interviewing the sample population both official and unofficial. A total of 25 people such as 5 chiefs of the handicraft center of the community, 5 academicians, 3 teachers that teach in the school with a curriculum of the local handicraft from Reed, 4 community leaders, 4 government representatives

and private company representatives, and 3 business owners that are representatives of the consumer. Research was conducted by in-depth interviews and focus groups to collaboratively create the guidelines to transfer the knowledge and develop the design to create added value for the products of the community, with the time frame of 12 months to collect the data.

2. Research Instrument Analysis

The research methodology of the transfer of knowledge and design to create added value for products from reeds of the community of Bangsakao, Laemsing, Chanthaburi was conducted by collection and analyze data with the Addie Model (Thongpanit, P., 2019). To study the transfer of knowledge and design to create added value for products from reed, the researcher created the research instrument to analyze data by studying papers on the theory and prior research that was related. In addition field visits were taken to study and observe the transfer of knowledge and design to create added value for products from reed along with unofficially interviews with the chief of the handicraft center of the community, community leaders, locals, and government representatives and private company representatives that participate in the promoting of the development of handicraft products of the community. The interviews were used as the guideline for future interview topics and to create the topics for the focus group.,

3. Design the focus group for the collection of data

From the unofficial interviews and focus groups.. Collaboratively develop the design of the prototype product and quality assess the products with the focus group, to create the division of tasks for participants of design to create the innovative guideline to transfer the knowledge of handicraft products in the community and draft the prototype of the product from reed.

4. Create a meeting between participants for the development of the guideline to transfer the knowledge in the community and present the prototype product to discuss the strength, the weakness, and the guideline to develop the quality of the innovation by holding 6 meetings.

5. The implementation of the innovation to transfer the knowledge to the community and the use of guidelines of the design to create added value for products:

- Collect data with the innovation to transfer the knowledge to the community. Create the prototype product in the community which is the Brocade mat pattern, following the collaboratively selected pattern from the experiment for the new way of dying according to the setting of the products and mixing the colors based on the customer demands.

- Test marketing by offering to the shop owners and exhibiting.

Collect the qualitative data and Participatory Action Research.

6. Evaluation of the data analysis

Through the fieldwork to collect data and Participatory Action Research, the researcher spent 12 months collecting the data and analyzing the data in the field by observing the conditions and the demands. Collected data about the transfer of the knowledge in the community and design to create added value of products from reed. The focus groups were held 6 times with participants about the process to transfer the knowledge in the community and for the design to create added value of products from reed by using the potential of the community such as community leaders, community members, local technicians, consumers, and designers with the following concepts:

1) The knowledge transferring theory
2) The participatory concept
3) The networking concept
4) The design to create added value to the products in the community concept
5) The economy community concept
6) The social impact concept
7) Analysis of data

Then the analysis of the data from the focus group, concludes the results of the experimental to create guidelines for the transfer of knowledge and design to create added value of products from reed to develop the economy of the community and collaboratively design the prototype products for the community to create added value to the products, evaluate the procedure as a method to create the guideline for further development.

Results

The results from the research of the transfer of knowledge by studying factors and conditions of the reed mat production in the community of Bangsakao, Laemsing, Chanthaburi found that the condition that influences the continuation of The Chanthaboon Reed Mat is the participation of the community such as locals, community leader, the chief of government officials and the business outside, all working together with their

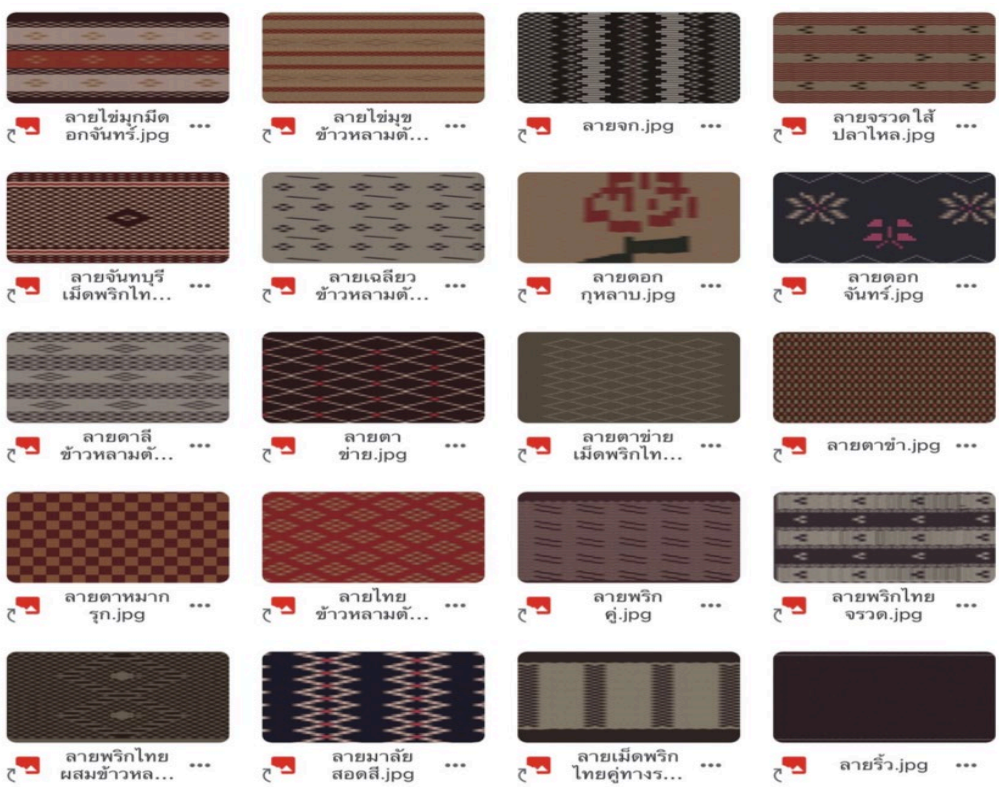
specialty and by volunteering. Through the division of tasks, collaboratively managing the funding, control of the quality of the local material, and developing skillset by promoting technical learning that entwines modernized technology with the local know-how and develops the equipment to facilitate the production process. The data collection was separated into 3 forms:

1. The knowledge transfer in the household, transferring the skillset from the elderly in the community by exchanging skillset between each community through unofficial contacts.

2. The knowledge transfer through the curriculum of the local handicraft to develop the mat weaving skills for the youth collaborate with other curriculums such as Mathematics, Arts, and Social Studies.

3. The knowledge transfer that was created from the focus group, created the experimental to transfer the knowledge in terms of quality, history of the Brocade mat production that was designed by The Queen Rambhai Barni or called Somdej Pattern through short video clips and promotes the knowledge transferring from weavers, designers, the handicraft center, and the community learning center by posting online, through creating the QR Code placed under the handicraft on mat pieces or placed on the tag label. The QR code promotes the reed mat for people who are interested in the product and for the next generations to understand the production of the craftsmanship, history, and the guideline to conserve and develop the craftsmanship in the community.

The results, from the interviews and the participatory focus group, found that nowadays the community has studied the demand of the customers and the design to create added value and created a guideline to develop the quality of the products in terms of collaboration between locals to create products with high standards. Knowledge was exchanged in the terms of creative design of the products that were modernized between the handicraft center in the community and the younger designers with the ability to respond to current demand. Also, the focus group achieved collaborative design and experimented to change the handicraft product in the community by developing the design into the art pieces called “Handicrafts on Mat”.



Picture 1: The Sample of QR Code Label

Theyconsidered the harmony related to the settings, to conserve the historical value by transferring the knowledge through the craftsmanship pieces, with the result of the Brocade mat pattern that was created by The Queen Rambhai Barni and was recorded at The Suan Ban Kaew Palace, Rambhai Barni Rajabhat University. By replicating the pattern with a computer program they were able to obtain sample patterns that related to the settings and then participants selected 21 patterns to develop by rotating, changing sizes, and dying colors. The aim is to exhibit the Craftmanship on Mat products. This process was arranged by the focus group of participants such as locals, community leaders, academicians, designers, and the hotel owner that will exhibit the Craftsmanship on Mat pieces in the hotel rooms and the other areas in the hotel. From the focus group meetings, local producers suggested changing colors and sizes to follow the hotel settings. They also collaborated on setting the proper price and discussed the drafting design before the final products and replication of the Brocade pattern for the local technicians to produce for the "Craftsmanship on Mat" pieces.

Picture 2: The Brocade Mat pattern

Development

The transfer of knowledge and design to create added value of products from reed is to study factors and conditions of the reed mat weaver industry and to study the design to create added value of products from reed to develop the economy of the community of Bangsakao, Laemsing, Chanthaburi, by the following stages:

1. Field studies were conducted three times, as the primary study for the factors and conditions of the Reed Mat production industry. By studying papers, surroundings, and community management; the local handicraft learning center. At this stage, the researcher understood the primary conditions and demands in the Reed Mat production industry, meeting with a community leader, locals in the Reed Mat production, and networking in the community.

2. Analysis of factors and conditions of the Reed Mat production from the unofficial interview. At this stage, the researcher primarily analyzed defragmenting according to the priority of the data to raise topics for the interviews and focus groups.

3. Conducted field studies two times, networking with the participants from the primary studies; created the meetings and collaborate the networking between participants such as locals, community leaders, the chief of handicraft center, designers, academicians, the government representatives, the business outside the community, and the consumers; owner of the business that were interested in the handicraft products from the community.

4. Conducted field studies two times, to unofficially interviews for the focus group. At this stage, the researcher understood the demands and conditions of each participant for defragmenting the demands and collaboratively create a guideline to solve the problems by the focus group.

5. Conducted field studies three times, to create the focus group meetings. At this stage was to create meetings between participants to discuss the transfer of the knowledge and design to create added value for the products from the community. Collect methods and processes from previous, present the demands, create the guideline to collaboratively network the participants, and divide the tasks to develop the knowledge transfer process, and create the draft of product prototypes. At this stage, the researcher held 5 focus groups; with the 4th and 5th being online meetings based on the Covid-19 epidemic situation.

6. Created the guideline to transfer the knowledge and present the prototype to create added value to the products. At this stage, the researcher created the QR Code that collects the knowledge transfer in the community. Collaborated to select the prototype product to prepare for the exhibition and sales of community products with processes.

6.1 Created drafts of the mat with patterns and colors according to the agreement of participants on paper by the designer student.

6.2 Collaboration to select drafts of the mat with patterns, colors, and sizes from the advice of the business owner or the consumer.

6.3 Produced the selected pattern by the local technicians, sizes, and experimented with the dying colors

according to the settings and divided tasks according to the skills of each technician.

6.4 Collaboration to check the quality of the prototype product before framing and preparing for the exhibition.

Discussion

The Chanthaboon Reed Mat production is an occupation that is the way of living for the Chanthaburi population throughout their history until today, creating products that show the local craftsmanship that has been transferred through generations. The community of Bangsakao Subdistrict in Laemsing District is one of the communities in Chanthaburi that conserve the local wisdom in The Chanthaboon Reed Mat until today, also creating the balance between the conservative and the development of the products from Reeds. The key factor is the collaborative working between the participants and collaboration to manage the cultural resources of the community such as human resources, material resources, and equipment resources.

Another key factor is the knowledge transferring process that reached continuously to the local wisdom and The Chanthaburi Reed Mat production that continues passing from generation to generation with the understanding of the local wisdom in craftmanship skills. The use of the local wisdom was to create added value to the products from the reeds of the community with the consideration of the balance between conservation and development of the local wisdom. According to the theory of Thip Srisakulchairak (2016) stating:

"If the knowledge transfer would be successful to conserve, not just to create the locals to understand the history of the community's ancestor but together with economic that has influences to the participants."

The processes of the knowledge transfer about the occupation and the local wisdom of the Reed Mat production and the design of the Chanthaboon Reed products of the community of Bangsakao are in many forms such as the knowledge transfer in the household, the knowledge transfer between the communities, the knowledge transfer by creating curriculum about local wisdom in the school, and the knowledge transfer through being on online. These processes needed participation to create interaction both at the household level and community level to appreciate the craftsmanship skills in Chanthaboon Reed Mat production and to influence the terms of the creative economy. Chukiat Leesuwan (1992:62) explained about the knowledge transfer of the occupation in the community such as

"The resources and the way of living in local are key influences to the learning choices, also the success of the ancestor will support to transfer the knowledge for the household or the limitation of the communication is another reason. The key groups that support the knowledge transfer are the household, neighborhood, local technician, and temple. This process of knowledge transfer is developed step by step and continues to suit the social situation."

The process of the knowledge transfer about the occupation and the local wisdom of the Reed Mat production of the community of Bangsakao has the objective of the participatory study of the knowledge transfer in the community and collaborative present the guideline to transfer the knowledge such as from the participant's focus group to raise the topics that will transfer the knowledge. The participants have studied the process to transfer knowledge in both official and unofficial ways of the community. Collaborated to analyze the problems of transferring knowledge and found that even though the knowledge transfer is continuing but some processes of knowledge transfer such as the knowledge transfer in the household, the knowledge transfer in the community, local wisdom curriculum in school still lack influences for the children and teenagers to understand the importance of the craftsmanship skills and the Chanthaboon Reed Mat production. The expansion of the occupations in Chanthaburi, offering more choices of the occupation that influences the children and teenagers to be less interested in the Reed Mat production.

The process of knowledge transfer that exchanges knowledge between communities creates learning and creates the understanding of the importance of local wisdom in the Chanthaboon Reed Mat production but still lacks the continues and lack of communication channel that is successful. (Shupakdi, Interview, November 14, 2021) said that,

"The knowledge transfer between the communities in Chanthaburi for the Chanthaboon Reed mat production is important because each community receives a chance to exchange techniques from the planting techniques to the weaving techniques and the new line of products. With the support of the Commercial Officer, the Ministry of Commerce allocated the budget to provide the training but the lack of continuing caused the development to be deemed not as successful as it should be."

In terms of the product design found that the community of Bangsakao is attempting to continue to develop the products from reeds. Nowadays, the products from reeds in the community are developed according to the demand of the market. The product has better sales, creating a better economic community. However, the production process still lacks the design process that creates added value to the product strategically i.e. the product that is produced still lacks the relation to its historically, aesthetically, and utility according to the taste of the consumer, and lacks branding that reaches the standard system. According to (Prapot, Interview, December 25, 2021).

"The development of handicraft products in the community of Bangsakao is developing according to the demand of the customer, but the problem is, that teenagers are not interested to create the design in the terms of history and conserve to the products to create added value for products. Some of the younger designers that are interested in developing a design that modernizes the product of the community, but the community still produces the same form of products or the product that made to order by the customer."

Conclusion

The result of the study of the knowledge transfer by studying the factors and conditions of the Reed Mat production of the community of Bangsakao, Laemsing, Chanthaburi, the participant suggested the transfer of knowledge and design to create added value of products from Reed such as

The transfer of the knowledge

- Set up the issue of collaborative knowledge transferring for the children and teenagers by prioritizing the Chanthaboon Reed Mat in the terms of historical value and socializing value.
- Set up the issue of the process to transfer the knowledge about the handicraft learning center of the community.
- Present the processes of the production in the terms of conservation and the development of the product from Reeds systematically.
- Present the knowledge through online technology that is accessible.

The design to create added value

- Upgrade the value of the product from the normal product to handicraft products.
- Develop the product for utility according to the customer demand.
- Upgrade the standard of the product by strategically creating the branding.

Concluded into 2 issues such as

1. The transfer of knowledge for the community handicraft has three ways that has been stated above but impossible to create the development in terms of awareness and inheritance. Because of the occupational condition that expanding, the knowledge transferred in the community isn't successful. From the participatory focus group, the participant reached the conclusion that the knowledge transferring should be in a new way that responds to the social, by transferring every aspect of the knowledge such as history, cultural background, the knowledge in the Handicraft Learning Center of the community, the production process in terms of conservation and the development of the product from reeds through the online technology that is accessible; in the form of Videoclip, QR Code, and the channel of the community to raise the awareness of children, teenagers, and people that interesting.
2. In terms of the design to create added value to the product from reeds, from the issue in the focus group reached the conclusion that participants will collaborate to design the prototype product of the handicraft that uses the Brocade pattern from the design of The Queen Rambhai Barni to develop to be art pieces that experimented designing and dying the reed thread according to the settings; surroundings and conditions of the settings. From the draft and participatory selection, the draft to be produced to be art pieces called "The Craftmanship on Mat", 20 pieces. Promoting the knowledge through the QR Code placed under each piece to transfer the knowledge.

Suggestions

From this study, researchers have suggested that craftsmanship in every part of Thailand will continue with the connections and network management system of the community. There should also have a cycle system of knowledge transferring through generations. By promoting the artistic local craftsmanship through the online platforms for the easy access of the younger people and to promote the craftsmanship of the local in terms of historical value and artistic value to the public, due to the pride of the locals that is unique and continues over time. So, communities should be supported in the terms of modern product design, supported to have the transfer of knowledge activities in the terms of technique from both government and private business as well as support the community to be sustainable and self-reliant,

and to be the prototype to develop the country in the future.

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