Creating infographic of Local knowledge Transmission on Lanna Belief on Rice Culture

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Abstract—The aims of this research were; 1) To study the history and the community context on the knowledge of Lanna rice culture in social Lanna tradition, and 2) an approach on Transmission and maintaining the local knowledge and experiences of Lanna rice culture. The informants included: 1) native people, 2) experts rice field, 3) experts and scholars on Lanna traditional art history and culture, 4) a networking group of Lanna rice culture. Data were collected from documents, observations, interviews, and group discussions. The findings revealed that: 1) Rice cultivation of the Lanna culture has the ritual process throughout the cycle, from planting, harvesting, and after harvesting, 2) The rice cultivation has a Lanna belief in sacred things that must be respected. Moreover, have a relationship with Buddhism, 3). Rice cultivation of Lanna culture is a community, social dimension that people in the community context do together, for example 'owl-mull-kiey-khaw. To make it happen in Lanna Culture in what is known as the Lanna region of northern Thailand, comprising the provinces of Chiangmai, Chiangrai, Lampoon, Lampang, Nan, Phrae, Mae Hongson, and Phayao. Finding a method for building an understanding of beliefs related to rice cultivation and Lanna belief rituals from planting to harvest and to achieve knowledge transfer as an infographic; 1.) Transferring with culture, 2) Transferring by values and beliefs, 3) Transferring with communication skills. Create a new infographic design layout and Knowledge gathering other attractive; 1.) Creating shapes, tools, architecture, rituals, and people connected to the Lanna rice culture and emphasizing the identity of Lanna culture, 2.) Creating an applied infographic from the process of creating an animation with pre-production, production, and post-production, 3.) Evaluate the understanding of belief in the Lanna rice culture with a pre-test, post-test. The relay infographic guided the research on the subject of faith in the rice culture of Lanna; 1). Local experts should provide the Transmission for accurate knowledge, 2). Learners must be motivated to learn, be interested. Local people must be aware of the importance of values, 3.) The transmission process must have a system to share ideas, 4. The content for the transfer is based on a narrative or a rewrite of the story. It should be interesting to the viewer. The outcomes of knowledge transferring: Local peoples must give research, conservation, and development of Lanna beliefs Lanna rice culture knowledge are essential. As a result, an infographic requires an understanding of how to convey analysis of how an infographic is appropriate. Suitable for people who need to have fun equipment, not too short or too long, not boring. The subject of Transmission on Lanna Belief on Rice Culture using infographic media is highly satisfying.

Index Terms—Infographic, Lanna Belief, Rice Culture Lanna
I. INTRODUCTION

The Lanna Kingdom is a location in the northern part of Thailand. The culture of a people is fascinating. Lanna culture has many unique characteristics such as food, tradition, dress, language, music, tattoo, and living. The word "Lanna" means Millions of rice fields or many rice fields. Lanna came together with Lanchang that means the land of millions of elephants. Lanna Belief is understanding and recognition respect confidence in something without reason or evidence to Prove.

Lanna's Belief happens to Lanna People, done has a Positive Effect on Life. Lanna people believe that their ancestors' spirits live on after death and can communicate through a sensitive medium. Every year, Lanna people perform rituals to respect their ancestors, which is a belief that has been practice for a long time. The rituals help keep the relationship the bonds between family members strong. Rituals transmitted Lanna's culture to be an agricultural society when the uncertainty happened in nature.

The Belief into a symbolic form, beliefs, and traditions creates the Belief that the balancing of nature depends on gender equilibrium—one Belief about rice the most exciting and closely connected with the Lanna people. In Lanna, there is usually growing sticky rice because it is the main dish in the north. For example, before planting rice, the local famous sticky rice in Chaing Mai is Sanpathong Rice. The sticky rice from the north has an excellent quality. It will have a soft texture with pure white color and taste delicious when it's already cooked. Lanna society is a traditional agricultural society that has accumulated knowledge and understanding of soil, water, and rice management in harmony since ancient times. That results in sustainability in the production system [1]. To pay respect to god for a reason, anticipate giving the excellent production. In a year, farmers will grow sticky rice in two rounds, Na-pi and Na-prang. Each cycle of cultivation lasts about 130 days or about four months. There are rituals and beliefs ceremony of fertility for Lanna's rice. For example, pray for Rainfalls - Korfon, HagNa, Boo-cha Maephosop to show respect to nature and angels. [2][3] The Hag-Na ceremony Starts from pre-growing to after harvest. The agricultural ceremony occurs in a different timeline. Agricultural rituals related to rice are therefore crucial to the way of life of the Lanna people. Agricultural ceremonies are cultural heritage. [4] The reason for the ritual is because the rice planting of the Lanna people depends on nature. Most of it is about the weather conditions that are beyond our control. [5] Rice cultivation: Local farming and harvesting with ritual beliefs began to appear less and less because rice is grown to get more production and use technology to replace it. [6] Traditional farming and harvesting with the relationship among the people in the community have become less popular. [1] Therefore, to maintain the old farming story in its original form, the presentation of the Lanna belief in rice culture was chosen by using infographics media to convey knowledge, likely a quality medium. Infographics are the science and art of communicating. It is about bringing complex information to make it easy to understand. Infographics mean bringing information or knowledge to be summarized as information in the form of graphics designed as still images or moving images. It is easy to understand in a quick and clear time, able to convey to the audience the meaning of all the data. [14] An infographic can be designed as a static image to collect and summarize all knowledge information in pictures and graphics on a single page. Therefore, it makes it easier to read and can study complex information faster. [10] Beliefs are subject; culture can be abstract. Infographic media helps to transform conceptual content into more concrete. [19] Many people in their presentations use infographics. To make information easy to store, easy to find, and easy to use, the
introduction of infographic media for presentations Local knowledge Transmission on Lanna Belief on Rice Culture also applies to culture, others in the future

II. RESEARCH OBJECTIVES
The objectives of this research article were 1) To study the history and the community context on the knowledge of Lanna rice culture in social Lanna tradition, and 2) Approaches to transferring local knowledge and experience on the Lanna rice culture by using infographic techniques

III. LITERATURE REVIEW
A. Lanna rice culture
In Thai society, which is an agricultural society, Rice cultivation is an essential factor for families and communities. Part of the wisdom is reflected in agricultural rituals. When modern rice culture replaced it, the local rice cultivation culture was discontinued. What happened was that the family’s underlying mental system was lost in the transition. Lanna beliefs about rice cultivation in general, rice rituals have four main goals.

1.) It appeals to a ghost or a mystical power to help the rice plant grow. There is a large amount of output on demand.
2.) It is a request for permission from a ghost or deity present in nature to use it.
3.) It is a request for forgiveness against nature or the supernatural when it has transgressed.
4.) Predicting future results.

Rituals in Lanna Rice Culture
A) Rituals before planting
The purpose of the sacrifice to inform, beg, beg, ask for permission, or risk greetings, such as a ceremony to pay respect to ancestors and village spirits before farming. For example, before the water is brought in in the northern region, there is a water ghost worship called Lhang Pee Khun nam. Ceremony to pray for rain Talk about sex is mixed in because sex is a symbol of fertility. It to pray for rain made during the 6-8 months before planting.

Bun Bang Fai was held in the sixth-seventh lunar month (around May or June-July). The ceremony is associated with traditional beliefs in supernatural powers that help support the rice production for the coming planting season. It is also the essential symbol of friendship and unity used to fight against dry weather and request rain.

B). Rituals during cultivation
- Hag-Na ceremony Starts from pre-growing to after harvest
- Talaew: Lanna people believe that “Talaew” will protect the evil or fierce animals which come to destroy the harvest products. Lanna’s belief is the desire for abundance and well-being. Rice is the main agricultural plant, and rice farmer is the principal occupation of the Lanna people. Also, Lanna people have many beliefs concern with the field of rice. Talaew represents the hawk eyes that will always watch and capture all bad things
- Maephosop: Is the angel who protects and makes the fertile rice fields. Moreover, Kuen-Thaow-thang-see: Great four gods that are four Gods who are chief of all gods. In every ceremony will worship these four gods.

C). Rituals when getting the product. Thank you for taking care of the farmer until getting a great product.
-Hab Kaow Keun Long: the ceremony after the harvesting that will pray respect, thanksgiving, and invite the Phosop angels to protect the rice barn. [15] Keeping the produce in the barn to select the seeds for planting in the next round of planting

-Tan kaow Mai: The belief that the Buddha statue can also feel cold as a human. The farmers will gather firewood to make the weather warm. Furthermore, pay respect by offering the cooked rice from the new harvesting. [6]

B. Infographic meaning

Infographic is a combination of the two terms, information, and graphics. Infographics are challenging to understand or information in large amounts of text or knowledge to summarize information in graphic lines. Symbols, graphs, charts, diagrams, maps, Etc. Can design either still images or moving images. It is easy to understand in time, quickly and clearly and tells a story on its own. There are essential elements that are interesting topics, images, and sounds, which must convey to the audience the meaning of all information without the need for a presenter. Let us expand again infographic design can make effective communication, remember for a longer time [14] [16] [21] [22] Infographics play a significant role in presentations is that 1) Today, we live in an era where there is so much information that we do not have enough time to view and read all the information. Infographics make it easy for us to know a large amount of information. Furthermore, faster 2) Infographics are the science and art of communication. It brings complex information to make it easier to understand by using beautiful images. 3) A good infographic should have three characteristics: simple, attractive, and beautiful. 4) Human learning can be divided into four forms, namely Visual, Auditory, Kinesthetic, and Read/write, which 65 percent of people are good at learning by seeing 5) The average person, 80% of the brain's perception, is about perception and processing it visually. 6) People process pictures 60,000 times faster than reading text. 7) An infographic must take into account three things: 1) content, 2) storytelling, and 3) design [19].

Infographics design principles are divided into two parts: 1.) The information to be presented. Must have meaning enjoyable the story is revealed to be true. be accurate 2.) Design The design must have a form, pattern, structure, function, and beauty. by design to be easy to understand easy to use [9][19]

Current media infographics There are all three formats.

1 Static Infographic, pictures such as brochures, posters, picture books, magazine or newspaper articles. 2 Interactive Infographics suitable for presenting information with large volumes and complex can additional Change the content or update the information. To be current, 3 Motion Graphic is the creation of graphics to have movement in many dimensions, unlike Animation in that there are no characters as the narrator or dialogue. Nevertheless, it will create motion for the graphics, although this type of infographic is the most effective. It can attract viewers to feel more involved than static images. Moreover, the cost of creating a piece will increase. [11]

A static infographic is like collecting and summarizing all knowledge information in images and graphics on a single page. Therefore, it makes it easier to read and can study complex information faster, but if the interpretation is misunderstood, it may lead to a misunderstanding of the lesson. [10] Infographics are a technique for constructing large amounts of literal information and communicating visually. The infographic helps to attract attention and is easy to understand. However, with the technique of presenting infographics [12], Animated infographics Create engaging presentations, how-to, examples, guides, infographics, which should tell a story Build understanding between the messenger and the receiver correctly. Development of teaching materials, infographics such as still images and animations. To be used as a teaching medium.
Therefore, it has the potential to be applied in teaching and learning management to create understanding. Without spending much time, it makes it easier to remember what is presented or a concept than just communicating with text or words, with the efficiency of communication contained in the infographic. [23] Therefore, teaching media should be developed to support the teaching and learning process by integrating knowledge and skills in creating and developing static infographic teaching materials as a guideline for improving the learning quality of learners to a higher level [20].

IV. RESEARCH METHODS

A. Research Design

This research is mixed (qualitative research and quantitative research) using the method of study. Collect data from primary and secondary documents, related research textbooks, and in-depth interviews from several groups of knowledgeable groups providing information to obtain information. There are many perspectives the methodology divides into two parts: design analysis and experiment. The quantitative data collected from the 70 critical viewing perceptions were analyzed using descriptive statistics. Researchers developed an infographic model in the graphic design and animation process to identify a) the quality of infographics in three areas: objectivity, design, content, usability, and (b) research culture to be used as a database for research. The implementation process consisted of 1) Study documents from primary sources, i.e., books on Lanna, research books, articles, and other related documents. 2) A spatial study to understand the local rice farmers, Lanna history experts, and stakeholders. About the operational objectives and goals. 3) Synthesize information. 4) Data use in graphic design. 5) Implement to make infographics. 6) Processing information at every stage of collection, analysis, and presentation that summarizes the findings.

![Fig.1 A Diagram of Research Conceptual Framework](image)

B. Research Process

Research process of this research has developed into steps consisted of to analyze concept, created research tools, conduct the experiment, and to assess experimental results. Steps were shown in Fig. 2.
V. RESEARCH RESULTS

A. Results Belief on Rice Culture Analysis

Results of the study can be presented as knowledge about Lanna rice culture in the Lanna rice cultivation society, rice ceremonies are usually performed with four main goals.

1. It is an appeal to a ghost or a mystical power to help the rice plant flourish. A large number of products are available on demand.

2. It is a request for permission from a ghost or deity present in nature to use it.

3. It is a request for forgiveness against nature or something supernatural when it has transgressed.

4. It is a prediction of future output.

For the belief in rice cultivation a.) ritual before planting b.) Rituals during cultivation c.) Rituals when getting produce the community dimension is essential, helping to drive the Lanna community mainly to do farming and animal husbandry. Lanna people have agricultural ceremonies that are a group practice. Occupational beliefs allow the community to live together happily. [8]

B. Results of Infographic

The study of making infographics uses an animation production process [18] with three steps: Pre-Production, Production, and Post-Production. This corresponds to the research of Barida suitable with the creation of media using 3P principles, which consist of Creating Applied Infographics from the Creation Process With the pre-production, production, and post-production steps consist of 3 steps as follows: [13]

1. Pre-Production from data collection and analysis obtained from collecting photographs, observing books, documents, tools, architecture, rituals, and people connected to the Lanna rice culture who have provided information Related to research, the next step is to bring the knowledge gained into the design process. Creating the shapes and graphics of the Lanna culture's identity is
the way to form gates, sketches of characters, and de-fictional scenes on paper. After that, design the Story Board, compile the information, and make the plot concise and easy to understand by defining the media presentation as an infographic featuring the Lanna news. for use in the next step

![Fig.4 Sketching images for use in graphics](image1)

2. Production of hands-on operations with computer programs. Using a computer program, create images to be used in media using primarily Adobe Illustrator, Adobe After Effect, and Adobe Animation. Arrange the composition of the picture and set the movement. Using Adobe After Effect software, recording and testing audio narrations used in media for Lanna music and audio narration. with Sound Recorder 2.3 software.

![Fig.5 Infographic created from computer software I.](image2)

3. Post-Production Once the infographic has been edited and edited the media again and asked for advice from 3 infographic media experts and revised from the expert advice and then edited and added all the details of the work again. The results of the quality assessment of Lanna rice culture infographics with animated images shown in fig.7

![Fig.6 Infographic created from computer II](image3)
VI. DISCUSSIONS

The main objective of this study is to provide information for transferring local knowledge of Lanna culture that has to design by the method identifying the story of the farming of the Lanna people. Discovered an excellent 7-step approach and process for designing infographics. 1.) Gathering data & Reading everything, the data obtained from the data source may be redundant and categorized. To be easy to digest, easy to use, and skim the information to get an overview, use data management skills and choose important presentations to complete all issues. 2.) Finding the narrative very complex narratives makes infographics less enjoyable, which may use different or modern graphics. That can draw attention to the subject. 3.) Identifying problems of what is presented once it has been determined to be validated. There may be information that does not support the topic or issue to be delivered. Therefore, it is best to draw an accurate conclusion. Otherwise, it will become inaccurate in the content presenting accurate and valuable information that is not always easy to design to reach your audience. A good infographic design requires a clear view and appreciation of the details of the data. 4.) Creating a hierarchy of information to be understood from beginning to end in a time-based manner or before-after or divided into a top-bottom order.

5.) Choosing a format infographic & Determining a visual approach Choosing an infographic format and assigning images to the topic Choose a simple pattern such as graphs, diagrams. Or the easy-to-understand text is structured in the design to be artistic and draw lines to compare the data. For example, it doesn't show the numbers but changes the numbers to images. Or create a symbol that matches the topic. 6.) Choosing between two alternates still images and movies Animated infographics will be more interesting still image info, but there may be more steps in the production process. 7.) Comparative research should be done on developing infographics to create awareness and recognition for other forms of audiences, such as simulations, educational games, and refinement and testing.

VII. RECOMMENDATIONS

1). Local experts should provide content transfers for accurate knowledge.

2). Learners or audiences must be motivated to learn and have an interest in local agriculture.

3.) Local people must realize the importance of local rice cultivation values.

4.) The transferring process requires a system to share ideas for farmers, media makers, and audiences.

5). Content is based on storytelling or rewriting a story that interesting to the audience. Results of Local knowledge Transmission Villagers must develop from Lanna's beliefs or knowledge of Lanna rice.

6.) Choosing the right media for what to bring will make your communication more effective.
CONCLUSION

In conclusion, the findings from the analysis of both quantitative and qualitative showed. The creation of an infographic on Lanna rice culture uses three steps of the media production process: pre-production, production, and Post-Production. Infographic media production the media's quality is seen in 3 areas: design, content, and utilization. The infographic is concise. Understanding and up-to-date, including clear illustrations and audio narrations the satisfaction assessment results were moderate. The composition of the story has been compiled from the belief in the culture of Lanna rice well. Guidelines for graphic works from what is familiar to everyday life will be easy to understand. Reduced to more minor detail Guidelines on the use of color to represent nature, agriculture to the fields and natural atmosphere maybe green. Yellow rice Content guidelines use space from storage. The story is presented, to the point, unique to the culture and area, with simple methods, steps, and sequences. Infographics are learning materials that create learning satisfaction through effective communication. with clarity and understanding to achieve the objectives Learn wanted by infographic help. Satisfying at the highest level, become more interested in learning to remember the stories watch well.

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