



DEPARTMENT OF CULTURAL ANTHROPOLOGY
FACULTY OF CULTURE AND MEDIA
INDONESIAN CULTURAL ARTS INSTITUTE (ISBI) BANDUNG

PROCEEDING

THE 1ST INTERNATIONAL CONFERENCE
ON SOCIAL SCIENCE AND HUMANITIES
BASED ON LOCAL WISDOM

**SOCIAL CHANGES,
CULTURAL RESILIENCE,
AND CREATIVE INDUSTRIES
IN THE POST COVID-19
PANDEMIC OF INDONESIA**



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FOREWORD

The Covid-19 pandemic has had far-reaching consequences beyond the spread of the disease itself and efforts to quarantine it, including political, cultural, and social implications. Changes in people's behaviour occur along with the spread of the virus. These changes arise in the most socio-cultural structure of society and the community members. The spread of the Covid-19 outbreak has demanded people to quickly make adjustments in various fields. The pattern of adapting to new habits in society is one way to deal with this Covid-19 pandemic. Bourdieu's concept of habitus explains the internalisation of the structure of the social world as a result of the interaction of society in a certain space and time. In the context of the Covid-19 pandemic, the adaptation of new habits such as washing hands, maintaining distance and wearing masks are massively practiced among society.

However, for certain groups of people this new habit have not fully accepted and implemented. Social and cultural backgrounds are among the problems. On the one hand, there are several groups who have their own local traditions and habits in dealing with this Covid-19 pandemic situation. For example, in some traditional Islamic boarding schools there are several ways and practices based on their religious belief in reducing and overcoming the spread of this virus. The similar practices also can be found in some traditional community groups. The exploration of traditional values and local norms of some communities in dealing with this disease outbreak needs attention, even though in some cases it is against existing health regulations, but it is also believed to be quite effective in reducing the spread of the Covid-19 outbreak.

Traditional artists are much sufferer in this situation. Their limited access to technology and internet network even makes the situation among them worst. They mostly live in remote areas where such advanced technology cannot be afforded. Therefore, there are some adaptation strategies needed.

Moreover, the biggest impact of the Covid-19 pandemic to communities is in the economic sector. Restrictions on the space for people to move have caused economic activity to be disrupted. This brings to an increase of unemployed due to the fact that many companies are bankrupt. However, some sectors of the online-based economy are growing fast and still survive amidst restrictions imposed by the government. The online-based creative industry is an alternative solution for the community to survive in this Covid-19 pandemic situation.

The rapid social change in society with new habits in everyday life and behaviour and the community's strategy in responding to the situation during this pandemic has become an interesting topic to discuss among scholars on social issues. One of the concerns is the traditions of the community in dealing with situations of disease outbreaks and how the local people survive in this pandemic situation, including among traditional performing artists.

This proceeding is an outcome from the 1st International webinar of Social Sciences and Humanities based on Local Wisdom, with the theme "Social Changes, Cultural Resilience, and

Creative Industries in the Post Covid-19 Pandemic of Indonesia”, as part of our yearly event, Festival Budaya Nusantara IV, held on 27-28 October 2021.

This proceeding contains 32 articles with various topics ranging from performing arts, visual arts, education, design, film, rituals, and so on which are mostly related to covid-19 issues. Among 32 articles, 10 of them are written by our students from Department of Cultural Anthropology at ISBI Bandung. This is something new when S1 students are actively involved in this seminar. This is good start to create new habit and academic environment to our students to be actively involved in academic activities such as webinar at international level.

We hope that articles in this proceeding could give significant contributions to different fields, and enhance studies regarding problems during pandemic which are conducted by academics and students from different universities.

Bandung, December 2021

Neneng Yanti K Lahpan

Editor

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THE IMPROVEMENT OF ENDEK WEAVING PATTERN DESIGN WITH DIGITAL APPLICATION AT *PERTENUNAN ASTITI* IN BALI THROUGH A STRUCTURED TRAINING

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Abstract

An improvement and enhancement of Endek weaving pattern design are essential. Particularly with a condition where Endek weaving currently is entering the consumer market. The center weaving place and weavers are expected to produce Endek weaving textiles with creative patterns in a shorter period of time compared to previous one. Therefore, digital apps become a solution for the weavers. In addition to that, training is required in order (1) to teach the digital app to the weavers, pattern makers, and young generations who have a passion for Endek weaving textiles, and (2) to educate the users on how to translate the pattern designs into the calculation of the weft threads –the pattern in Endek is created on the weft threads. This training is divided into two sessions, where the first session is reserved for the public and the second session is reserved for the weavers and pattern makers. At the end of the session, the participants are expected to master designing patterns through the digital application. This training is not only focusing on the weavers but also public or young generations in order to preserve the culture in weaving Endek, especially in the design process.

Keywords: *Endek, digital application, training, patterns design, textile*

Abstrak

Kebutuhan akan perkembangan dan inovasi motif tekstil tradisional *Endek* sangat diperlukan saat ini, terlebih dengan kondisi tekstil tradisional telah memasuki pasar konsumtif. Pertenunan dan penenun dituntut untuk menghasilkan motif-motif yang kreatif dalam waktu yang lebih cepat dari sebelumnya. Sehubungan dengan tuntutan tersebut, maka diperlukan (1) mengajarkan aplikasi digital kepada penenun, pembuat motif, dan generasi muda yang memiliki keinginan untuk mempelajari pembuatan motif *Endek*, dan (2) mengajarkan penerapan desain yang telah dibuat pada aplikasi ke dalam benang, sehingga peserta pelatihan memahami bagaimana menerjemahkan hitungan benang dari aplikasi kemudian memindahkan desain ke dalam benang dan proses pengikatan. Kegiatan pelatihan dilakukan dalam dua sesi, dimana sesi pertama diperuntukkan untuk kalangan umum dan sesi kedua diperuntukkan untuk kalangan penenun dan pembuat motif. Peserta diharapkan untuk mampu menguasai aplikasi digital yang berbasis mobile dan berbasis web serta mampu menghasilkan desain motif yang variatif dalam waktu yang lebih singkat dari sebelumnya, dimana sebelumnya pembuat motif mendesain motif secara manual. Pelatihan penggunaan aplikasi digital ini menyasar tidak hanya pembuat motif tetapi juga kalangan umum untuk mengundang minat masyarakat umum untuk ikut serta melestarikan budaya dengan turut serta dalam proses desainnya.

Kata kunci: *Endek, aplikasi digital, pelatihan, motif, tekstil*

INTRODUCTION

Traditional textile in each area in Indonesia has unique patterns related with the culture and unique material provided by the nature in specific area. Therefore, traditional textile in Indonesia rich with technique that developed according to the natural resources in each region. The process of the traditional textile creation is not well documented, because it is inherited from the generation to generation verbally. Therefore, digitization of the verbal or oral tradition is important in order to preserve the cultural heritage, as explained in *the guidelines for the preservation of Digital Heritage*, “digital format is text or document, database, photos videos, website, application, and other digital formats” (National Library of Australia, 2003, p.13)

Cultural knowledge is created digitally or converted as a digital format to support preservation of cultural tradition that endangered. Traditional textile weaving process is a manifestation of intangible cultural heritage. Focus of preservation of cultural knowledge and the way the cultural knowledge preserves and passed down from generation to generation, especially in where the tradition is practiced. To support preservation of traditional textiles, Ministry of Education, Culture, Research, and Technology in the year 2017 recognized thirty traditional textiles produces in Indonesia as intangible cultural heritage. Recording of those thirty textiles are less that it expected, as Indonesia consists of thousands of islands with its own culture and textiles. Hence, documented and digitized scarce traditional textiles is urgent to apply. One of traditional textile that produce in Bali is Endek woven textiles. Endek is produced with single ikat technique, where the pattern is created in the warp threads. The warp threads are threaded across the warp threads when weaving the fabric, while warp threads are arranged in a

row (usually longitudinally) and immovable (tied at both ends), into which weft threads are inserted.

Endek woven textile has been registered as a Communal Intellectual Property of Traditional Cultural Expressions with an EBT number 12.2020.00000085. Hence, it can be said that Endek is a cultural heritage of Balinese society that has to preserve and protect. To assist intangible cultural preservation of Endek woven textile, Governor of Bali issued a regulation no. 4 year 2020 that arrange advancement and development of Bali Cultural Heritage. Followed by a Governor’s circular letter no. 4 year 2021, a specific regulation that organize about the use of Endek or other Balinese traditional textiles every Tuesday. This regulation automatically provides a positive impact to Endek’s weavers, demand of the Endek textile is increasing. Within this opportunity, Endek’s weavers are expected to be more creative and innovative in designing Endek’s patterns, also the pace of production is projected to be more advance and faster to follow the demand. In one hand, the process of designing Endek’s textile is limited to manual process that is time consuming, while in the other hand, the weavers are intended to produce the textiles faster.

The Process of creating Endek textile is time consuming, it consists of almost fourteen steps, as follows:

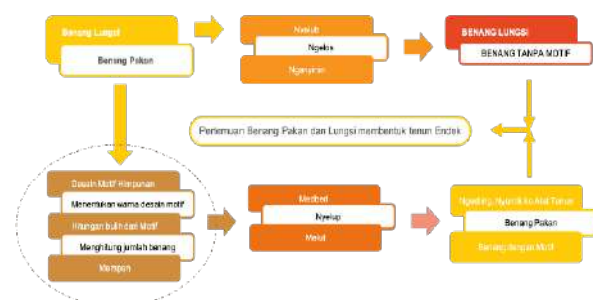


Figure 1. Stages of producing Endek (Source: Pebryani, 2021)

The process of producing Endek (refer to the steps that circled with dotted line) consists of several stages and time consuming. At this stage, weavers pushed to explore creativity in designing the motifs or patterns. Currently, designing Endek's pattern can be done digitally by employing CAD software, such as photoshop, Corel draw, and so on. But the software only assists in designing patterns with no supporting on counting the threads necessity as well as on visualizing overall design. Therefore, there is a need in creating an application that designated for Endek's design. A weaving place that is ready to be our partner in developing an Endek application is Astiti weaving, located in Gelgel village, Klungkung, Bali. This weaving place have been established since 1980s.

Endek is a traditional textile where the patterns is created structurally in the warp threads. The process for creating the patterns consists of respective stages: creating the patterns design, calculating the amount of the threads, transferring the threads into *penampilikan*. The design that has been created is then printed with actual scale, so that transferring the pattern into the threads will be fast and easy, but, this technique has not yet adopted by the weaving center in Bali. The easiness of calculation and simplicity of creating patterns for Endek can be achieved by utilizing digital application. This application provides ease for the Endek's pattern makers in calculation the number of threads while designing the patterns. This application provides a simple user interface, so, for the user who are not familiar with technology capable to master the application within hours.

Currently, the pattern makers in Astiti weaving using patterns that have developed before or patterns design from old customers

or apprenticeship who worked there. Hesitation in exploring new designs happen because the pattern makers are not able to visualize the overall design and calculate the number of threads, as the process of designing is manual, these reasons limited the design exploration. As of these limitations, several order from customer that required specific design and various sizes are not able to produce, so that the weaving center lose their order.

Hesitation on exploring design ideas into a patterns design can be resolved by an invention of a digital application that provides a function of overall design visualization. To familiarize the weavers and pattern makers to the technology, the researcher introduced them with a simple application before using the actual application. The digital application of Endek's pattern design is created with a concept of user friendly and easy user interface. Currently, other Computer Aided Design (CAD) software—corel draw, photoshop, adobe illustrator, and so on—are used by the pattern makers to create patterns, however, that software is not designated for designing Endek's pattern, as this software do not have function to calculate the number of threads need to be used in the weaving process. Aside from that, the CAD software also complicated to use for persons who are not familiar with technology. Therefore, a user-friendly design application specifically for Endek's design is important to create.

The digital application is an apps that can be accessed through PC, laptop, tab, or smartphone. This application created in two different versions with two different program languages. The trainees (pattern makers and weavers) were taught with both versions of digital application. This digital application is an application that can be used with a com-

puter, tab or smartphone. This application is made in two different versions with two different programming languages. The participants will be taught with two versions of digital application: the first version is a mobile-based application—this application must be installed before use, the second application is an application with a web programming language, which can be opened and accessed anywhere while having an internet network. The web-based application does not need installation prior to use. With the concept of a user-friendly application, users will find it easy to learn and adapt to the application. Also, this application can be adjusted to design Endek motifs on mediums of various sizes. So that the weavers or pattern makers or craftsmen do not need to worry if they receive orders with various sizes. This application is also able to help craftsmen determine the number of threads needed and their sizes, making it easier to plan the budget that will be spent on weaving. After producing the desired design, participants will then choose the best design, then the Endek pattern design will be printed in a banner in the size of 100 cm times 92 cm, according to the image shown in the application, but the banner is printed in black and white. The banner is then perforated to make it easier to print later on the thread to be tied.

The purpose of this training activity is to (1) teach digital applications to weavers, pattern makers, and the younger generation who have a desire to learn the making of Endek motifs, and (2) teach the application of designs that have been made to the application into yarn, so that the trainees understand how to translate the yarn count from the application then transfer the design into the yarn and binding process.

METHOD

The method of implementing this training begins with a survey of weavers who are willing to collaborate using technology in the process of designing Endek pattern designs. After understanding the needs and problems of the selected weaving center, the next step is to develop a program that implemented in the weaving center. With the aim of teaching the use of digital applications in Astiti weaving in Gelgel Klungkung village, the method of implementing this application training is divided into two parts with each part carried out for two days.

A. The First Training

The first training targets the younger generation of participants in the weaving environment or around the city of Denpasar. The participants who were invited to the first training were about nine people. Participants in this training on the first day were taught about the theoretical basics of Endek weaving and then taught about calculations for making Endek. After understanding the procedures and basics of Endek weaving theory, participants are taught to use a mobile-based digital application. The initial stage is familiarization with the buttons in the application, after the participants are familiar, then participants are invited to make designs on the application. In the early stages of making the design, many participants asked the trainers, so that currently the trainers involved are not only researchers but also assistants who are students. Participants are given sufficient time to make more than one design. The training on the second day was the stage of printing the selected designs from the first day in the form of a banner. The printed banner is then perforated to make it easy to apply to the thread to facilitate the binding process.

B. The Second Training

The second training targets participants from the Endek’s pattern makers who already have knowledge of Endek weaving. For participants in the second training session, knowledge about Endek’s history and motives was still given, because not all participants understood Endek’s history, because most of them were involved with Endek because they were self-taught. However, what distinguishes it from the first training session is that participants in the second training session are taught two types of applications, namely mobile-based and web-based. Participants in the second session were more focused on understanding the use of technology, where not all participants were familiar or accustomed to using technology.

		Number of designs produced by participants from public (each participant produces a minimum of 2 designs)	0	18
		Number of designs produced by participants from weavers or pattern makers (Each participant produces a minimum of 2 designs)	0	12
2.	Design results with digital applications can be realized in the correct thread count	The number of designs that are printed into a banner with a size that adjusts to the size of the display/frame	0	15

Source : Pebryani, 2021

Table 1. Table of Goals and Targets of Activities

No	Target	Indicator	Base-line	Target
1.	Participants from the general public and weavers or pattern makers are able to master digital applications	The number of participants who attended the training from public	0	9
		The number of participants who attended the training from weavers or pattern makers	0	6
		The time required to produce a design by participants from public	1 - 2 hari	1-2 jam
		The time required to produce a design by participants from weavers or pattern makers	1 - 2 hari	1-2 jam

RESULT AND DISCUSSION

A. Digital Application

Digital applications are applications that can be used with computers, tabs or smartphones. This application is made in two different versions with two different programming languages. The computer-based application uses a processing programming language which can later be used on Windows and iOS-based computers, but the drawback is that this application must be installed before use. The second application is an application with a web programming language, which can be opened and accessed anywhere while having an internet network. The advantages of this web-based application do not need installation.

The purpose of teaching digital applications to weavers is the participants are able to increase creativity in designing Endek patterns without worrying about calculating

the number of threads needed. In addition, by using this application, participants are able to see the final visualization of the motifs made. In short, the time needed to design Endek patterns is faster compare to the manual procedure, also, this application provides space for the pattern makers to be more creative and innovative in design process. The designs made by the weavers are only a quarter of the overall weaving design, because Endek weaving is a repetition of motifs.

Besides being able to make more creative designs, participants can simultaneously understand the calculations needed to make Endek, where the difference in the number of thread counts will affect the final result of weaving. The calculation on the Endek weaving is quite complicated, because the motifs on the Endek weaving are made on thread before it becomes cloth. The motifs produced in the design are then enlarged several times depending on the axles used, where the smaller the axles used, the more threads needed and the smaller the motifs will be more precise. If the motif made is a little large, it is only necessary to use a larger axle, where the number of threads required is less. It is this calculation that is not mastered by weavers or pattern makers. Hence, this application is simplifying the design process and at the same time learning to understand the calculation of the number of threads.

The benefits of this training are expected to be able to provide knowledge to participants in designing motifs for Endek weaving. In addition to knowledge, this application is able to reduce the worries of Endek's pattern makers for expression, because this

application can help pattern makers to simultaneously calculate thread requirements and show pattern makers the final result when it becomes cloth. The knowledge possessed by pattern makers will benefit their weaving business to increase creativity in their motif designs.

In addition, the training participants for making Endek weaving motifs are not only those who have a weaving business, but also the younger generation who have an interest in making Endek weaving. The participants from the younger generation are able to revive or continue the culture of making Endek weaving pattern designs owned by the island of Bali, which does not rule out the possibility that these young people will have a desire to be serious about weaving. The existence of this application is able to attract the interest of the younger generation towards cultural heritage, because it utilizes the technology in it.

B. The Training

The results of the first and second training sessions have different results. In the first training, participants are required to produce a design from the application and also the design results are printed to be then punched and applied to the thread. This was done because the background of the participants was from the general public and students. The age of the participants in the first session were quite young and familiar with technology, so the presentation of material on applications was shorter and continued with the printing process and the application of motif designs to yarn.



Figure 2. The First Training
(Source: Pebryani, 2021)

Participants in the second training are required to produce variations of motif designs using computer-based and web-based applications. Participants in this training are not familiar with technology, so the training process

in the second session is more focused on participants' understanding of the use of digital technology: computer-based and web-based applications.



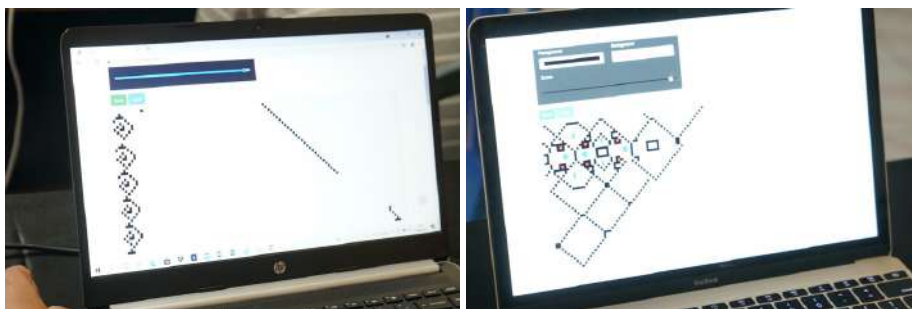


Figure 3. The Second Training
(Source: Pebryani, 2021)

CONCLUSION

The training activities carried out on As-titi's weaving in Gelgel Klungkung village were teaching activities about digital technology to make Endek patterns. So far, the design of the Endek pattern is done manually or with the help of general software such as Corel-Draw or Photoshop, but this process is less specific in making the design because it does not help the designer to determine the number of threads needed, and does not show how the Endek motif design looks like in the end.

Participants who took part in this training activity were divided into two sessions, the difference between the first and second sessions was the background of the participants and the final results of the training. For the first session, participants came from the general public, students, and students, or the younger generation who are around weaving. With different backgrounds, the training procedures are packaged in different ways, for the first session, participants are required to produce a design with an application, then print it in a size of 100 cm x 92 cm, then perforate the motif, and then print it into thread to facilitate the process binding. For the second session, participants came from circles related to weaving. Almost all participants in the second session were less familiar with technology so that the two-day training activities focused on the use of application technology. The appli-

cation taught in this training has two versions, mobile-based which requires an installation process and web-based without an installation process.

Overall participants said that this application is a new thing, because it is rare to find applications related to the manufacture of Endek weaving. Participants with backgrounds who are not very familiar with technology take longer to master this application, but for participants who are familiar with technology it takes less time to master the application. At the end of the activity, participants were given a questionnaire to fill out so that the training implementers could get input and suggestions from the participants.

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