

Defamiliarization of video clips and aesthetic value in the “Lathi” song from weird genius

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ABSTRACT: Video clips, as a medium of communication, have begun to use narrative and experimental cinema styles in conveying their messages and meanings. However, the video clip entitled “Lathi” from Weird Genius has problems when it is interpreted by the audience. There are those who consider it as creative or novel through its aesthetic value and those who criticize it as something that is misleading. The purpose of this study was to understand how visual defamiliarization changes the aesthetic value in terms of expression and position related to the experience of the aesthetic subject in interpreting Lathi’s video clips. The study was conducted using Peirce’s trichotomy semiotic research method with interpretive descriptive techniques through stages of understanding: representamen, objects (icon, symbol, index), and interpretants. The main purpose of this research is to increase the understanding of the audience in interpreting, understanding, and appreciating the work of video clips.

Keywords: defamiliarization, visuals, aesthetic values, video clips

1 INTRODUCTION

Video clips are mediums of expression to deliver messages and the meaning of a song so that the audience can better understand it. One of these cultural products has its own narrative structure and character, both related to the lyrics, visuals, aesthetics, meanings, symbols, movements, sounds, and visual language styles that are displayed. From each structure, it can be explored or exploited for the sake of conveying the meaning of song lyrics through visual construction.

This research revealed what was constructed in a part of the “Lathi” video clip from Weird Genius, an Indonesian EDM and synth-pop music group pioneered by 2 YouTubers and a DJ (Eka Gustiwana, Reza Arap, and Gerald Liu) featuring a rapper from Surabaya, Sara Fajira, as vocalist. Lathi’s song was chosen because of its viral phenomenon since it was uploaded on YouTube in March 26, 2020. In just three months, this song reached more than 50 million viewers and is still increasing up to the moment of this research. Surprisingly, its popularity is not only in Indonesia, but also worldwide which is indicated by various Lathi Challenge made by influencers and also the song reviews made by YouTubers. As a result, this music group can prove its existence with their poster establishment in Times Square, New York.

There must be ways for how this Indonesian music group gained their notoriety. The song and video clip “Lathi” (meaning “tongue” and symbolically “utterance” in Javanese) has the theme about a toxic relationship. The theme is quite popular and one of the phenomena that currently exists in social relationships. Yet, what makes it interesting was the visual narrative construction which was packaged with a new form so that it becomes something unfamiliar/unusual, but very aesthetic, making the purpose of this work to be more “visible” to public which was achieved. This is called the defamiliarization technique (Fiske 2007).

The concept of defamiliarization has been applied in various disciplines, including in domestic technology which presents “novelty” in designing residence and furniture (Bell et al. 2005). In several pedagogical studies, defamiliarization in music was also used to provide students with new

insights, knowledge, and writing skills in the teaching process. The defamiliarization approach was carried out in many literary studies such as research on novels and songs by Toni Morrison which were rich in metaphor and symbolism (Vegge 2000). Even the technique of defamiliarization was juxtaposed with software for creating creative writing (Gabriel 2012).

The application of the defamiliarization concept changes the aesthetic value of each audience because the audience has a different worldview depending on the culture they have. In the context of position, aesthetic values that are not tied to other values are classified as independent values. On the contrary, aesthetic values associated with other values are called dependent aesthetic values (Junaedi 2016).

In this research, the authors explored techniques of defamiliarization and aesthetic values contained in the “Lathi” video clip. It was interesting to observe it to discover the aesthetical value and the perspective/point of view of the spectators appreciating it. This research can provide an alternative interpretation in watching the video clip of “Lathi”’s song from Weird Genius, along with accusations of some people who think that “Lathi” is closely related to mystical nuances considered as one of the rituals to summon spirits.

2 THEORETICAL BACKGROUND

This research used the qualitative method, a study that uses interpretation through various methods, which aims to obtain a holistic understanding (Mulyana 2006).

In collecting data, the literature study and observation methods were used. Observation was made on the object of research (“Lathi” video clips) taken from YouTube, as well as observations on other media, such as “Lathi” challenges and various “Lathi” video clip reviews. In addition, data collection was also taken through literature study to gain the theories needed.

Data analysis was conducted to examine the defamiliarization techniques and aesthetic value of video clips through the selection of scenes needed in research based on Todorov’s five-step narrative theory: (1) equilibrium which is the beginning of a narrative; (2) disequilibrium is a scene where problems begin to occur; (3) recognition of the disequilibrium is a scene where the protagonist and other characters are aware of the problem; (4) attempt to restore the equilibrium is a scene where the problem is resolved or usually in a video clip depicting emotional support between characters; and (5) new equilibrium, usually at the end of the narrative, the protagonist will build a new equilibrium to make this video clip more interesting (Ward 2019). The scene taken is the fourth scene from the narrative video clip.

To analyze the scene, this study also used Peirce’s trichotomy semiotic research method with interpretive descriptive techniques through stages of understanding; representamen, objects, and interpretants to determine whether the existing aesthetic value is universal/general (independent value) or other factors that determine, for example “world view”, or the aesthetic subject’s view of life (spectators and creators) about the phenomena around, or it can also be cultural values that are the pride of the nation (Junaedi 2016).

3 RESULT AND DISCUSSION



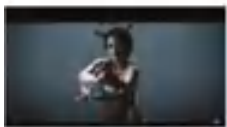
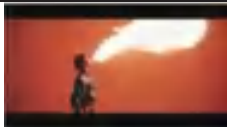


Based on the observations of the video clip, the scene was taken using the defamiliarization technique. The refrain scene uses the Javanese language and some Javanese cultural rites. The use of Javanese language lyrics “*Kowe ra iso mlayu saka error Ajining diri ana ing lathi*” means “You cannot run away from mistakes because your pride lies in your tongue/utterance”. Analyzing the microstructure, the discourse element of “Lathi” is an expression which means “one’s self-esteem is determined by his words”. This is an ancient Javanese language expression.

The use of Javanese lyrics is a referential function associated with names or objects and ideas that are represented in the world around them, that is, speech or in one of the proverbs is “untrustworthy

words”, which means that humans are very easy to lie or make promises. Effectively, the lyrics link who can have “rights” to say “what”, which is very closely related to power and social status.

Analysis related to the technique of defamiliarization was also conducted through visuals that multiply the perspectives of meaning in the “Lathi” video clip. The following is the analysis of the visual text of “Lathi”’s video clip.

Table 1. Visual Text Analysis Table: Visual, Index, Icon, and Symbol

No	Visual	Index and Icon	Symbol
1	<p><i>Kowe ra iso mlayu saka kesalahan.</i> <i>Ajining diri ana ing lathi 1</i></p> 	<p><i>Index: Black smoke billowing around a woman’s body</i> <i>Icon: A woman in anger</i></p>	<i>Displeasure</i>
2		<p><i>Index: Scattered dry leaves and gray background</i> <i>Icon: Three modern dancers dancing fast, full of energy</i></p>	<i>Confusion</i>
3		<p><i>Index: Scattered dry leaves and gray background</i> <i>Icon: A traditional dancer dancing fast, energetic, and full of strength</i></p>	<i>Resistance</i>
4		<p><i>Index: Scattered dry leaves and gray background</i> <i>Icon: A lumping horse artist spitting fire from his mouth</i></p>	<i>Anger</i>
5		<p><i>Index: White background with silhouette of a mastermind and Rahwana skin pup</i> <i>Icon: A puppeteer playing the character of Ravana puppet</i></p>	<i>Antagonists</i>
6		<p><i>Index: Scattered dry leaves and gray background Context: outdoor</i> <i>Icon: A lumping horse artist playing his whip</i></p>	<i>Violence</i>

The results of the visual text analysis on this representamen showed a paradox through denial or resistance, to the powerlessness of women who try to maintain their existence to become authentic human beings. The object presented was a technique of defamiliarization, namely, the power of women who are transformed into a new force that is not necessary or ordinary automation that is understood by the general public. Paradoxically in humans, in female souls, there is also a male soul and vice versa. In the visuals, it can be seen how Javanese female dancers who are supposed to dance smoothly and gently turn into fast, energetic, and full of strength. Then it is depicted by a lumping horse male artist with magical powers, namely the symbol of the fire, that represents the

anger and whip as the strength, and the character of the Ravana shadow puppet as an antagonistic symbol.

The concept in the lyrics “your self-esteem lies in your mouth/utterance” is inseparable from the self-concept as an awareness that is continuously involved in reality. In fact, the self is constructed by someone else or the other, both in person, culture, experience, religion, and others. Hence, to be true or authentic you need to have a moment of vision. In the video clip, “Lathi” shows the “existential anxiety” of a woman who strives to become an authentic human being.

Changes in visual defamiliarization formed aesthetic values associated with the expression and position of the audience. The aesthetic value position in the clip is an aesthetic-dependent value, an association with Javanese cultural values. While the expression of aesthetic value uses chaos, providing surprises both in lyrics and visuals, as a form of creativity, as well as the musical disharmony in the major-minor and *pelog* barrel as a form of aesthetic values resulting from cultural blending.

4 CONCLUSION

It is concluded that defamiliarization techniques were used in forming aesthetic values. The aesthetic value will certainly be interpreted differently by the audience because each audience has a different worldview. The concept of defamiliarization as a strategy and form of cultural dialogue is an effort to establish relationality in modern-western and eastern-traditional thinking.

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Expression and message style in Indonesian television advertising during the month of Ramadhan in the time of the COVID-19 pandemic period

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ABSTRACT: Advertising on television in the 2020 Ramadan in Indonesia developed in various styles and became a specific phenomenon. Several issues arise including in the way ideas and messages were conveyed in the work of television advertisements, especially in the month of Ramadan during the COVID-19 pandemic. Further efforts are needed to be able to understand, interpret, and appreciate the text of television advertisements. The purpose of this study was to understand the way form and style of television advertising is revealed and where ideas and messages from creators were conveyed. The study was conducted using the Barthes semiotic research method and interpretative descriptive techniques based on the stages of understanding, denotation, connotation, myth, and ideology. The main objective of this research was to support the increasingly active and productive role of television viewers to understand, interpret, and appreciate television commercials through academic studies.

Keywords: TV ads, ideas, messages, Ramadan, pandemic covid-19

1 INTRODUCTION

Advertisement is one of the cultural products that reflects the lives of its people into an inevitable part of human life. Advertising as a messenger informs us about something and asks us to buy it, the information it conveys (often) is incorrect, or even if it is true the content is a persuasion to buy products that we do not need.

Television as a medium for delivering messages has its own character. Many things can be exploited using this form of media, ranging from conversation, movement, and sounds. Television with a variety of advantages eventually became a favorite medium to deliver advertisements.

This paper tried to explore what is presented in advertising through a case study on television advertisements that aired during Ramadan 2020 which coincidentally happened during the COVID-19 pandemic. It was designed to understand the kind of messages that would be conveyed besides the normative product messages that would be linked to the cultural background of making television commercials. This is because the presence of advertisements is strongly influenced by the social and cultural life of its people.

2 METHOD

Advertising is a form of paid communication that uses mass media and interactive media to reach a broad audience to connect clear sponsors with buyers (target audience) and provide information about products, whether in the form of goods, services, or ideas (Moriarty et al. 2018).

Television is one of the advertising media that is still the backbone of advertisers because almost every household in Indonesia has a television. Advertising on television media has various advantages compared to other media. Lee and Johnson (2011) said that television media has

several advantages: television allows for product or service demonstration, it is easy to adapt, is cost-efficient, and attracts the attention of viewers.

Advertising on television media is a film work which is a series of images projected on the screen with the appropriate speed aimed at creating the illusion of continuous motion (Danesi 2010). Film as a medium aims to convey cultural events/practices and social phenomena to a wide audience with mass communication through the mass media system. In the context of film as a medium of communication, and creators act as senders of messages or ideas, ad viewers as readers of ideas, and the ads themselves as the media through which the ideas are conveyed.

Film as an object/artifact consists of the physical structure and its constituent elements. The structure of the film consists of shots, scenes, and sequences. The constituent elements consist of narrative elements (story and plot, characterization, main elements, space, time, and story information) and cinematic elements (*mise-en-scene*, cinematography, editing, and sound) (Pratista 2008).

Semiotics generally talks about signs. Signs are described as anything that produces meaning. They can represent/reflect things that are in/about the world, more specifically in the social world. Signs not only convey meaning but also produce meaning; even one sign can have multiple meanings.

Ferdinand de Saussure, a linguist (Fiske 2007) said that a sign is a physical object with meaning, or, to use the term, a sign consisting of a marker. Markers are images of signs as we perceive them, such as writings on paper or sounds in the air. A sign is a mental concept that is referred to by it. This mental concept is broadly the same in all members of the same culture who use the same language. In line with that, Williamson (2007) said that a sign is something (a thought) that can be an object, word, or picture that has a certain meaning for a person or group of people. A sign is not just a thing and not just a meaning but both at once.

Many definitions of the meaning offered by linguists and philosophers, but for the study of television advertising the author refers to the method that was stated by Barthes (Fiske 2007), which divides meaning into two domains: denotation, which is something (words) which does not contain additional meanings or feelings, and connotation, which is something (words) that contains additional meanings, certain feelings, or certain taste values besides general basic meanings. This will illustrate how an advertisement is denoted and then get its meaning after interacting with the audience. And then it continues to the concept of myth as a way of thinking, conceptualizing, and understanding about culture, and the concept of ideology as a false beliefs.

3 RESULT AND DISCUSSION


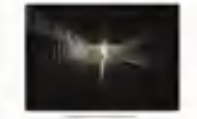




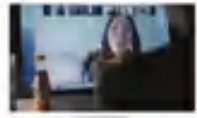

Based on observations of television advertisements during Ramadan 2020, there were 20 television commercials that had a high broadcast frequency and can be grouped into 2 categories: products and services. Product categories consisted of brands: Khong Guan, Teh Botol Sosro, Mc. Donald, Enervon C, Nutricake, Top Coffee, Ciptadent Herbal, Milo, Pocky, Esemag, Dancow, Indofood Bumbu Racik, HerbaKof, Kraft Cheddar, Brightgas Pertamina, Indomie, and Bejo Jahe Merah. The service category consisted of brands: Roma Festive, Shopee, and Blibli.

In general, the messages conveyed in these advertisements were: (a) benefits and product positioning; and/or (b) how the product relates to the current conditions of Ramadan and the COVID-19 pandemic. From the available data, the Teh Botol Sosro product (Ramadan 2020 edition, 60 sec, Flock Creative Network) was interesting to be used as a sample for further research because it had a way of conveying messages (styling) that was relatively different from other products advertised on television during Ramadan 2020.




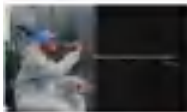

What follows is the analysis of Teh Botol Sosro ad text on narrative and cinematic elements as a sign and sign system.

The results of the analysis are that many of the cinematics' style uses subjective camera angles in an effort to bring the audience closer to the subject or object in the ad. Narrative construction emphasizes semiotic, semantic, and cinematic elements. These elements are used to build the empathy and sympathy of the audience.

Table 1. Text analysis: visual and semantic films

No	Visual Narration	Verbal Narration	Cinematic Elements
1		<i>Ramadhan kali ini terasa sedikit berbeda</i>	The camera angle is subjective, its angle is low. The object of the bridge is silhouetted against the background of the mosque from the green. Ramadan is a special month for Muslims to get closer to the almighty. The visuals displayed are a limitation, distance, and silence.
2			Subjective camera angles; a straight angle was used on the camera and it uses symmetric compositions. The object of focus is someone praying inside the mosque. Closed, trapped, and alienation of someone who worships in the mosque.
3		<i>Hari demi hari ada yang setia berdiri demi semua kebutuhan terpenuhi</i>	Subjective camera angles; a straight angle is used on the camera and it uses a symmetrical composition with neutral screen direction. The object of focus is a security person standing under the bridge. Interpreted as protection and hope.
4			Subjective camera angles; a straight angle is used on the camera and it uses a symmetrical composition with neutral screen direction. The object of focus is a policeman standing on the side of the road. Interpreted as charm, protection, and hope.
5		<i>Ada yang turun kejalan, sukarela menambah beban demi kurangi beban sekitar</i>	Subjective camera angles; a straight angle is used on the camera and it uses a symmetrical composition with neutral screen direction. The object of focus is a nurse walking on the side of the road. Interpreted as caring and togetherness.
6			Subjective camera angles; a straight angle is used on the camera and it uses a symmetrical composition with contrasting screen direction. The object of focus is someone ordering MC D. Interpreted as caring and togetherness
7		<i>Saat jumpa bukan menjadi pilihan</i>	Subjective camera angles; a high camera angle is used, and using over-shoulder with neutral screen direction. The object of focus is a person having an online interaction. Interpreted as search and happiness
8		<i>Ada yang ikhlas menyambung ikatan</i>	Subjective camera angle; a high camera angle is used, the object of focus is two children interacting, but separated by a windowpane between them. Interpreted as breaking the line, subordinate

(Continued)

9		<i>Mereka terus berdiri digaris depan</i>	Subjective camera angles; high camera angle is used. The object of focus is a military patient who is being taken care by a nurse. Interpreted as concern, togetherness, and hope.
10		<i>Memberi harapan untuk bersama mencapai kemenangan</i>	Subjective camera angle; high camera angle is used. The object of focus is a nurse examining a patient. Interpreted as responsibility and sincerity.
11		<i>Karena mereka tahu</i>	Subjective camera angle; low camera angle is used with neutral screen direction. The object of focus is two nurses delivering a message. Interpreted as courage, humanity, and struggle.
12		<i>Memberikan kebahagiaan adalah kebahagiaan</i>	Subjective camera angle; straight camera angle. The object of focus is someone drinking TehBotol. Interpreted as equality and equal rights.
13			Subjective camera angle; high camera angle. The object focuses on a family eating together. Interpreted as sharing and togetherness.

Visual analysis of the first myth: Eid is a sacred thing and important in achieving happiness for every Muslim. The word “happiness” is a modern myth that must be achieved after a full month of fasting. However, during this COVID-19 pandemic, the meaning of happiness has changed. Second, Teh Botol Sosro product tried to instill an ideology of false consciousness through poetic narratives to build the connotation of “happiness” through its product as a metaphorical truth.

4 CONCLUSION

It could be concluded that there is a mythical battle about “happiness” between cultural systems (thinking) with materials or products (having) through social systems (doing) that cause ideological problems. Ideological problems and representations in the Teh Botol Sosro advertisement (Ramadan 2020 edition) form ideological awareness and representation.

The ideological status is related to awareness, beliefs, and concepts of the value system. Ideology has a fundamental connotation, so that the advertisement is a false awareness and there is an effort of idealization in cultural systems toward individuals and society. This is “emotional hypnotism”, meaning that individuals and the community will always need or require these products to achieve happiness.

The representation contains the purpose of describing the reality as it is in the form of facts and current conditions. In the meanwhile, the imitation of reality is related to Teh Botol Sosro products about false consciousness and questions the reality of happiness itself.

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Motion graphics as first aid information medium for early childhood diseases

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ABSTRACT: Parents are the first doctors for their children, so it is essential that they know about children's health in general. In this regard, there is much information available on the internet displayed in the forms of text, audio, video, and other media such as animation. This study aimed to optimize motion graphics, a form of video, as a first-aid informational tool for dealing with a variety of illnesses that children might develop. The methods used in this study were observation, literature review, interviews, questionnaires, and matrix analysis. These motion graphics contain information about various types of children's illnesses including how to provide the optimal first aid which will be disseminated through social media so parents can more easily learn about it through their gadgets.

Keywords: animation, childhood, diseases, first aid, motion graphics, social media

1 INTRODUCTION

Along with current conditions, parents typically tend to have dual roles, especially those living in big cities: acting as parents who take care of their children and workers who support the family. At home, parents play a role as the first doctor for their children. Therefore, it is crucial for parents to have basic technical knowledge and understanding of children's health, especially about illnesses that are often faced by children at a young age, such as fever, cough, flu, vomiting, asthma, diarrhea, etc. Without this knowledge, parents will most likely panic when their children suffer from one of these illnesses.

In this era of internet access, it is very easy to get information about anything, including health. Some of them are presented with text, others are presented through audio and video. As Edgar Dale said in the Cone of Experience in Sari (2019), if the information is presented in a visual form, then the possibility of remembering will be greater than that which is only presented in the form of text. Mayer and Moreno in Sukiyasa and Sukoco (2013) said that animation can improve memory absorption if used consistently by the cognitive principles of multimedia learning. Multimedia and technology can be sources that help teachers to facilitate student learning, and motion graphics animation is one such form (Amali et al. 2020). In this context, motion graphics can be a medium for conveying information about various types of illnesses and first aid that can be done by parents at home.

2 RESEARCH METHODS

This study was developed through literature review on instructional media, interviews with medical experts and motion graphic designers, observations at home and hospitals, and observations on interactions with motion graphics that contain educational context.

2.1 Literature review

According to Nazir in Miranti et al. (2017), a literature study is not done just to look for secondary data to support the research, but also to understand how far the relevant knowledge we have goes and conclude what further is needed. In a multimedia context, Lancien in Surasmi (2016) said that multimedia in this era refers to the incorporation and integration of media, such as text, animation, graphics, sound, and video into a computer system. The illustrations used in multimedia can communicate messages in a better way.

In a similar opinion, Whardani argues that motion graphics are graphs that use video or animation to create the illusion of movement or transformation. Motion graphics can help simplify messages from content carried out by databases by using interesting ways to present information (Miranti et al. 2017). For this reason, according to Miarso, it is important to create well-designed and attractive visual media to stimulate internal dialogue in students, in other words, communication between students and the media or between students and message sources. For example, the instructor is said to be successful if there is an improvement in the student (Agustina 2015).

One of the most popular and easy-to-understand media across generations is animation because it is one of the most interesting forms of illustrative representation that illustrates the movement of an object. Animation in the learning process can help raise the effectiveness and efficiency of the learning process and boost study results. Besides that, it can also raise a student's desire and motivation to keep up with the learning process (Sukiyasa & Sukoco 2013).

In the context of the learning process, Dale said that when someone studies, the results obtained by firsthand experience are concrete. They are as real as things that happened in someone's environment, replicas of something, and verbal symbols (abstract). Getting up to the top of the cone, the media of message delivery is becoming more abstract. The learning process and teaching interaction doesn't need first-hand experience anymore; they can start from the type of experience that is most appropriate with the student's skills and depends on the learning situation (Sari 2019).

2.2 Interview and observation

Interviews were performed with medical experts and motion graphic designers. It aimed to get insights and explanations from the experts. According to the experts' interviews, parents need to learn about first aid information for young children because they are their children's first guardians. Experts have explained the kind of illnesses that are more likely to happen to children and how to give them first aid for each illness. The next step was observations done in the hospital to get information about the effective steps to treat those diseases.

2.3 Matrix analysis

Matrix analysis was made to measure and find the best elements from comparing several references, because according to Rohidi 2011 in Miranti et al. 2017, matrix analysis is the best tool for managing information or analyzing objects. Matrix analysis is a column and row which is shown in two different dimensions, a concept or data reference to identify the data's similarities and differences in that research (Miranti et al. 2017). In this study, two motion graphics videos were compared in terms of duration, final resolution, color nuances, movement patterns, voice-over, information displayed, and effects used. Then, the right elements were taken to be displayed for the target audience who are young parents that are active in social media. These elements were then used as the main reference in making motion graphics, with the theme of first aid for children.

3 RESULT AND DISCUSSION

Visual media can help us in the learning process. One such medium is motion graphics that can be used to present information in an interesting way for a short time. According to observations and

interviews, motion graphics with simple and informative concepts are suitable for young parents to obtain information and knowledge about children's health, as well as how to do the proper first aid effectively.

The illustration reference that will be used is a simple line art illustration style with shades of peach and yellow, adjusted to the colors of femininity. Flower-themed graphics will also be used in this video to raise the female-oriented character. The character used in this motion graphic is a young woman, to represent young parents. This character will present information in an interesting way in a short time.

3.1 *The message*

The message expected to convey in this work is information about the types of diseases that are often hit children and how to do the right first aid. The main goal is to keep the child safe with the right help.

3.2 *Creative concept*

Based on the data that has been obtained, the main viewers of this motion graphic are women, so the creative concept exhibits femininity, calmness, and intelligence, to convey the impression of a flexible, gentle, and intelligent woman.

3.3 *Visual concept*

The visual concept that was used in this motion graphic will be divided into soft nuances of typography, with a yellow and peach color palette. Graphic elements such as red and yellow flowers, and character designs that feature figures, that have been described in creative concepts, also used.

3.4 *Media concept*

These motion graphic viewers are parents who have toddlers. According to the data already obtained, parents often use the internet as a source of information. Therefore, the media that were used to spread the motion design was a platform on the internet that is often seen by these parents, especially Instagram and YouTube.

3.5 *Final art work (artwork)*

The main typography used for the title has a dynamic character and is shaped like handwriting, to strengthen the impression of womanhood, and to be more familiar to first-time viewers.



Figure 1. Typography in title design.

The color spectrum used is warm shades, such as yellow, peach, pink, and red brick. These colors are also implemented in the colors of the figure which represent a graceful and intelligent woman. This color depicts the warmth of parents who care for and love their children.

As a result, portrayals of the figure explaining various children's illnesses and how they are treated are displayed as simply as possible so that information is focused and reaches the audience quickly. The duration used is also quite proportional, between 30–60 minutes, depending on the medium.



Figure 2. Color implementation in the design.

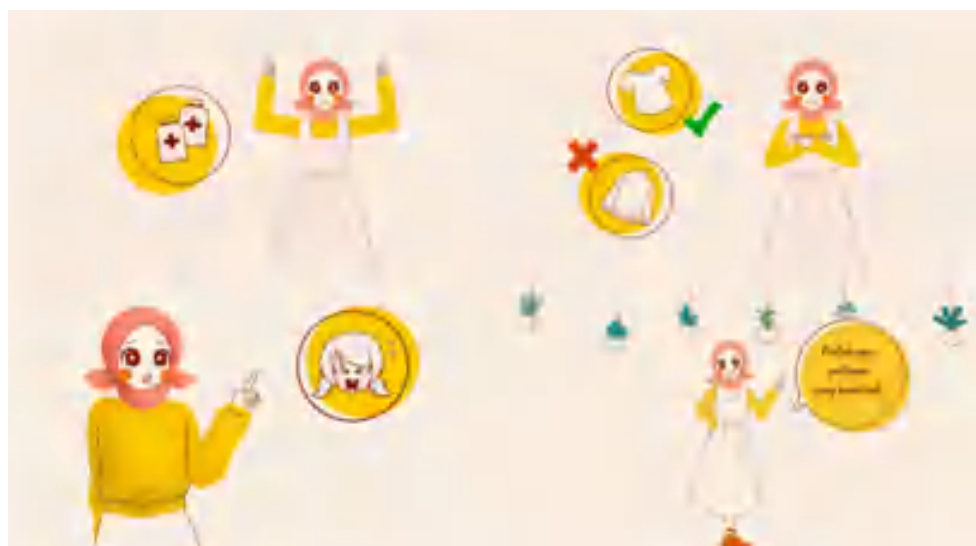


Figure 3. Motion graphic scene.

4 CONCLUSION

Based on observations, suggestions, and input after the post-test to the audience, it is concluded that motion graphics videos can be used to relay information on first aid for young children's diseases effectively. However, there was a suggestion of adding some more descriptive illustrations to make the information clearer and easier to understand quickly. Other functions of this motion graphic are

also expected to help parents have a better understanding of various types of children's illnesses and make them more able to inform others about the knowledge of these illnesses.

ACKNOWLEDGEMENTS

We would like to thank all those who were involved in supporting this research: resource personnel, collaborators, audiences, reviewers, mentors, and several others who cannot be mentioned. This research still has the potential to be developed in different contexts, and for a wider audience. Hopefully, this research can be useful for many people.

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Exploring Sumba woven textile motifs through a digital technique using the Escher method

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ABSTRACT: East Sumba traditional woven textiles are East Indonesian textile artifacts. They have considerable visual potential because of their ornaments and motif patterns. This article explores the transformation of the East Sumba motif pattern through digital art techniques. Using digital experimentation with the Escher-types repeats method, innovative and varied new patterns were produced to meet the fashion industry's needs. As a result, four new digital patterns were created. The most effective Escher techniques for exploring non-geometric forms are translation, reflection, and glide reflection. The further development of the East Sumba–Escher digital motif will enhance the various artwork on surface pattern textiles and fashion designs.

Keywords: digital art, Escher, exploration, motif, Sumba

1 THEORETICAL BACKGROUND

1.1 Introduction

Sumba woven motif patterns are inspired by the Sumba community and its environment, which are then distilled into decorative ornaments. Stilation is a changing the shape of an object in nature into an artistic form or a particular style (Nizam 2019). The characteristics of Sumba weaving motif patterns are geometric and non-geometric shapes. The ornaments on the East Sumba Ikat woven fabric are dynamic with their inspiration coming from natural, non-geometric decoration in the form of humans, flora, and fauna. According to Kartiwa (2007), Sumba ornaments are inspired by nature, and are usually in the form of animals such as horses and chickens.

The horse ornament symbolizes courage, unity, authority, and the nature of a noble. The horse's motif on Sumba's ikat weaving is often depicted by the horse's character swinging its legs back and forth, where this pose symbolizes the courage and nature of a warrior (Kartiwa 2007). The ornamental chicken variety is used in Sumba ikat because these animals are often used in ritual ceremonies to tell fortune. Therefore, chicken represents leadership and unity. Chicken motifs are usually in the form of male roosters with the comb's characteristic that symbolizes virility (Kartiwa 2007). From that explanation, we can see the enormous potential of Sumba woven ornaments from their decorative shapes and the value of meaning that lies within them.



Figure 1. East Sumba Ikat woven textile.

However, despite its great potential, many designers and researchers utilize the Sumba woven textile to develop and use its decorative shapes as the inspiration for products, especially for the surface motif patterns in digital techniques.

Some research that leads us to the utilization of East Sumba woven textiles was conducted by Ningsih (2019) that wrote about the utilization of the textiles through fashion for urban people. Ningsih (2019) used natural woven textiles. The innovation appeared on the function and form of its original woven textile, the result of which was a collection of fashion wear. On the other hand, Indonesian surface pattern designer Fika Julia, with her brand *byfikajulia* in 2016, produced textile printing inspired by motif patterns from East Sumba woven textiles. The textiles were then applied to ready-to-wear fashion. She used a digital technique to compose the shapes of Sumba motifs, with some simple repeat patterns. The motifs that Julia produced has a more modern-pop look because she was targeting young people. Based on Julia's motif pattern observation, it was discovered that she was using simple, seamless, repeat patterns, such as half-drop and brick repeat patterns (Kight 2011). However, to make motifs, there are many ways to create innovation. Therefore, digital techniques for developing patterns utilizing Sumba ornaments still need to be developed to produce a greater variety of forms.

1.2 Initial conceptual framework

Chun (2011) said that digital technology development is rapidly exercising influence across all fields, including contemporary art. He applied new concepts, values, tools, and methods. Based on the authors' observation, research of traditional motif pattern development using advanced techniques is limited. In fact, some of artists are still using conventional repeat pattern techniques, such as square repeat or half-way repeat (half-drop and brick repeat pattern) (Kight 2011), which therefore brings out the usual pattern composition. There is a potential repeat pattern technique, the Escher Repeat Type, which could be applied to any non-geometric form to make an innovative composition. The Escher Repeat Type is usually used for artwork, considering its original form was from M.C. Escher's graphic art masterpiece, but the principle of making the composition could be applied to digital surface pattern design as well.

M.C. Escher was a graphic designer who used mathematics in the making of his works. The tessellation technique that Escher introduced, or commonly called the Escher technique, was inspired by the beautiful and intricate arrangement of tiles in architecture in Alhambra, Spain. However, the elements forming its patterns were only limited to geometric shapes, so Escher tried to make tessellation using living objects such as birds, fish, and horses. One of Escher's works that used tessellation techniques is "The Horseman" with its constituent element being a man who is riding a horse (Taschen 2009).



Figure 2. "The Horseman", Escher's masterpiece.

Between the Sumba motif and Escher artwork, similarities were found in their characteristics. Both process non-geometric shapes and have mathematical elements, so there is good potential

that can be developed by combining them. The form of non-geometry in the variety of Sumba ikat weaving is another potential source of inspiration for developing motif patterns using the Escher technique. Therefore, it is possible to create an innovative motif form, inspired by the variety of ornamental Sumba woven textiles, using the Escher-Repeat technique with digital work, to be applied to fashion products. This digital method was included in the characteristic of digital art, *perfectly duplicability* (Chun 2011), in which all substances abstracted into “bits” in the digital world, making it possible to create a perfect and infinite duplication of the original product/artwork.

2 METHOD

2.1 *Quantitative method*

The method used in this study was a mixed-method, namely qualitative and quantitative. The quantitative method was used because in processing motifs using Escher techniques, some calculations were needed since Escher techniques are mathematics. Literature study was done to collect information on the Escher-Repeat types from various sources including books and journals.

2.2 *Qualitative method*

The qualitative method was used because this research focused on exploring the techniques used. In terms of finding out the motif patterns' characteristics, the observations on the Sumba woven textile and Escher's artwork and techniques were done. The visual observation was done by seeing each motif's details and comparing the design elements of both objects. To make the new form of motifs, some digital explorations were undertaken to find the innovative structure. The digital experimentation method, applying the Escher technique using the graphic software design, consists of four methods: translation, reflection, rotation, and glide reflection, inspired by Sumba ikat weaving patterns such as chickens, horses, deer, and dragons. This visual exploration aimed to find new advanced form of motif pattern. There were three steps of exploration: (1) Initial exploration: specify the shapes from East Sumba ornaments. In this step, the chicken and horse forms were chosen since they are common, and the Escher-Repeat technique was mastered.

(2) Advanced experiment: applying East Sumba ornament with Escher-Repeat by producing modules.










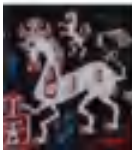


(3) Arranging the modules into seamless repeating composition.

3 RESULTS

3.1 *Initial and advanced exploration results*

Initial exploration was carried out to understand the Escher technique. The experiments applied were translation, reflection, rotation, and glide reflection. The four methods used objects found in the ornamental variety of Sumba ornament shapes. The result of the process was the motif modules. In advanced exploration, colors and more detailed elements were added into the motif modules. The use of virtual texture elements (invented texture) was done by making a square geometrical arrangement in the coloring process and providing details that aimed to imitate the actual texture inspiration (real texture) on Sumba woven textiles because of the intersection points of warp and weft. By using contrasting colors, it became more dynamic and brought up the harmony and balance patterns. The best results were presented on the table below. The translation and glide-reflection method are the most optimal form and produce the best visual from this experiment. The advanced exploration was aimed to create the tessellation formed composition from the motif modules, then it automatically seamlessly repeats.

Table 1. Results of initial and advanced exploration.

Visual inspiration	Initial exploration module	Advanced exploration
		 Translation Method
		 Glide-Reflection Method
		 Translation Method
		 Glide-Reflection Method

3.2 Digital seamless Escher-repeat of sumba woven textile

The next step after the tessellation module formed was making a seamless composition. It was automatically formed after the module from the initial exploration finished. The seamless repetition was made in the $15 \times 15\text{-cm}^2$ size. As seen below, the composition is seamless, dynamic, and still has the characteristics of Sumba ornaments.

4 DISCUSSION

Based on experiments, the digital approach using Escher type should begin with (1) determine the basic geometry shape, (2) develop basic geometry shape into the typical form of visual reference

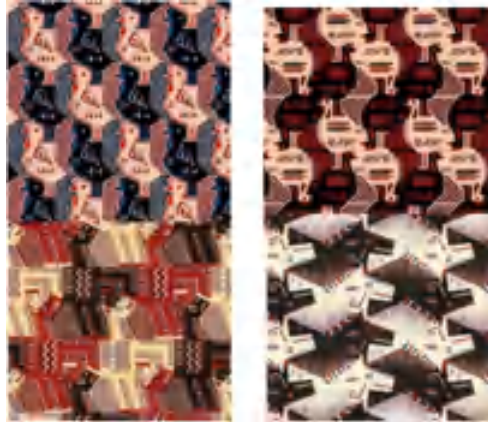


Figure 3. Results of seamless Escher-Repeat of Sumba woven textile.

silhouette (in this case, horse and chicken forms of Sumba ornament) considering the Escher principles become one module, then (3) seamlessly repeat the motif module, and (4) complete the step with color rendering and detail and finally the arrangement of motifs in accordance with the method in the Escher technique applied.

The innovations that emerged from these experiments are: (1) the new composition form of Sumba ornaments, from the one flat single pattern to a seamless repeat pattern by using the Escher-Repeat method. But still have traditional Sumba characteristic forms: the horse and chicken shapes; and (2) the digital techniques, and the results of this research are more complex than the last existing modern product. The complexity can be seen in the interlace pattern structure and the details inspired by the Sumba motif elements such as lines and dots.

5 CONCLUSIONS

This research aims to produce more innovative motif pattern forms by utilizing the typical East Sumba woven textile ornaments through digital techniques. The innovation of the motif pattern was made with the Escher-Repeat method, using four principles: translation, reflection, glide-reflection, and rotation. The best visual form of this research was formed by the translation and glide-reflection method. There is an aesthetic value addition on the visual of the East Sumba motif pattern—previously in the form of fabric sheets that were mainly made with a woven technique—becoming digital and seamless forms that are more dynamic and can be applied to fashion contemporary industries. This digital approach is the beginning of the textile and fashion revolution. Using the digital method to develop some traditional visual forms could lead us to further research on information technology utilization in motif pattern making for contemporary fashion design.

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Issue of wayfinding concept in museum interiors

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ABSTRACT: The main purpose of museum management is to build knowledge and recreational facilities. Wayfinding has an important role in ensuring museum visitors get the most out of the purpose of visiting the museum. The presence of well-designed wayfinding encourages exploration, facilitates accessibility, and increases visitor interest in museums. This paper discusses to which extent interior wayfinding in museums is applied. The research derived from literature reviews in the form of books and journals, taken from academic research in the similar field related to the role and type of wayfinding in museums. The results achieved from this study were that museums have specific types of road search that are tailored to the information to be conveyed. The existence of wayfinding also provides another option for finding various ways.

Keywords: museum interior, wayfinding, flexibility, literature reviews

1 INTRODUCTION

Wayfinding is a means to provide information related to directions, special signs for certain locations. It is also an important factor to influence the people ability to find a way. Through experience with space, people acquire and encode environmental cues as spatial knowledge in cognitive maps that can be taken to improve road search performance (Lin et al. 2019). Road finding as a design problem outlines the logic of the design approach and illustrates that wayfinding design is fundamentally congruent with universal design (Romedi 1996). These design features include spatial planning, architectural features related to circulation, and graphic display including audible and touch (Romedi 1996).

The application of wayfinding in public spaces has been done, but only as information without a conceptual basis. Graphic marking or information systems are often presented to show space or direction and are generally in the form of written signs. The museum as a facility for obtaining information through collectibles or other objects should apply the concept of a good and clear interior wayfinding to facilitate visitors in exploring exhibitions displayed, achieving access to exit the museum, or reaching other areas easily and efficiently.

This research tried to find out the provisions about wayfinding in the museum and what the museum requires for its environmental development. It collected information about the museum, wayfinding in the museum, and how wayfinding influences the flexibility in public space especially museums.

The definition of a museum has evolved, in line with the development of society. Exhibition organizers and designers began to formulate how visitors to the exhibition could become the main characters in their experiences and see it from their perspective (Erlhoff & Marshall 2007). Understanding a successful museum in the 21st century is supporting visitors to their interests, needs, learning methods to participate in educating the public, socializing, and public meetings. Museums are no longer just institutions that preserve heritage (Crimm et al. 2009).

A museum is a place that stores history. Museum understanding of history is divided into four concepts of thinking: the concept of chronological thinking, periodization, diachronic, and synchronous. The concept of chronological thinking is the appreciation of visitors in the museum

that consists of contemplation, understanding, discovery, and interaction. Visitors are invited to be more active and can be directly involved in an exhibition. One of the concepts put forward by Simon (2010) is participatory museums, a two-way interpersonal communication model that can be achieved through educational programs, participatory, living interpretations, and interactive exhibitions through various media such as audiovisual, touch screen, and multimedia.

Wayfinding is a system that provides predictable locations by various types of information and hierarchical instructions that enhance understanding and navigation in an environment. Multi-story rooms that are not connected are often faced with the complex problem of providing a readable, economical, and easy-to-treat sign at every possible decision point in the search for this road (Gibson 2009). The function of the wayfinding is to give instructions to visitors who find it difficult to interpret the floor plan, the solution is to install navigation (number, sign, code) near the exhibition or at points of interest (Roussou & Katifori 2018).

In the thesis “Effects of Design Features on Visitors’ Behavior in a Museum Setting”, it was stated that museums can play more than protectors of collections and accumulators of educational material, but also as providers of entertainment experience services. To offer the best possible service, wise decisions need to be made by considering how the arts and their environment interact with customers through the big picture formed by signage, the range of art exhibited, the time of the exhibition, and the placement of objects in space (Chang 2008).

Next, is the question on how the museum’s interior environment, the quality of interior circulation design, and visitor satisfaction are interrelated in the context of the interior environment and museum space design. Whether the quality of interior circulation design and interior space design are direct determinants of visitor satisfaction or is there another significant relationship between the interior environment and interior elements such as lighting design, furniture, and material arrangement (Elottol & Bahauddin 2011).

2 METHOD

This study used qualitative research methods through systematic, careful data collection, using comparisons and critical thinking. This method collects, analyzes, and interprets shared data. In interpreting data, qualitative researchers theoretically create new concepts and interpretations. Qualitative research methods do not only use or test past theories but also builds new theories (Berg & Lune 2011; Groat & Wang 2013; Lune & Berg 2016; Neuman & Neuman 2006).

Literature reviews is a method of selecting documents available on topics that contain information, ideas, data, and evidence written from a particular perspective to meet certain objectives or express certain views about the nature of the topic and how the research will be investigated, and effective evaluation of documents related to the proposed research. The purpose of the literature review is to show the subject area and understand the problem; to justify research topics, designs, and methodologies (Hart 2018; Rowley & Slack 2004).







The data used in this study were obtained from other research conducted by previous researchers, taken from books and primary or original scientific reports contained in articles (printed or non-printed) regarding wayfinding and its placement in the interior, especially of a museum. Source selection was based on (1) provenance (evidence), the aspects of the author’s credentials and evidence support, (2) objectivity, whether the perspective idea from the author has many uses or is it detrimental; (3) persuasiveness, whether the author is a person who can be trusted; and (4) value, whether the author’s argument has contributed to other significant research.

One of the main sources was a journal written by Heru Budi (2018), titled “Wayfinding Sign in the Permanent Exhibition Room at the National Museum of Indonesia”. It was chosen for several considerations: its relevance with this study and the journal’s reputation for content validity. Other main sources used were journals and books from D. Gibson (2009) and Lin et al. (2019). The data was analyzed through annotated bibliography and then concluded.

3 RESULTS AND DISCUSSION

3.1 Types of wayfinding in museums

Table 1. Types of wayfinding.

No	Type	Example	Description
1	Orientation Sign	 <p>Figure 1. Floor plan sign <i>Sentralen</i>. (Source: www.metricdesign.no)</p>	Orientation sign is a panel of signs that contains clear information about the position of a person in an environment, such as maps, architectural references from a building, and the plan of the circulation of lanes in and out. Road search is characterized by knowledge of the route obtained through procedural rules.
2	Information Sign	 <p>Figure 2. Historical timeline. Museum Gedung Sate, Bandung. (Source: https://museumgedungsate.org/galeri Museum)</p>	Informational sign refers to the specifics and details of information, with the sign form being adjusted to the information that is to be conveyed.
3	Directional Sign	 <p>Figure 3. Floor direction. Science Museum of Minnesota. (Source: http://www.nicolesuek.com/museum-signage)</p>	Directional sign shows the direction or location of the destination to be directed by visitors. This sign is an explicit navigation tool. It is expected to make visitors more efficient and comfortable in an environment.
4	Identificational Sign	 <p>Figure 4. Auditorium. The Design Museum, London. (Source: https://cobal.co.uk/projects/the-design-museum/)</p>	Identificational sign gives the identity of an object or place according to its type and function.
5	Statutory Sign	 <p>Figure 5. Statutory fire signage. Wollongong. (Source: https://visualenergysigns.com)</p>	Statutory (regulatory) sign is in the form of regulations, general restrictions, or permits for a particular activity. Its main function is to maintain one's safety from danger and informs what to do and not to do.
6	Ornamental Sign	 <p>Figure 6. Gedung Sate Museum signage. (Source: google image)</p>	Ornamental sign serves as a decorative element that aims to beautify, enhance, or beautify an overall appearance of an environment or as a complement to the elements of a sign (Kusuma 2018).

3.2 Wayfinding function

The function of wayfinding in buildings is to provide ease of circulation. The difficulty of finding a road is more difficult for people with physical impairments, particularly for people with sensory impairments. These difficulties can become architectural barriers that are psychological in terms of reducing accessibility as much as physical barriers (Romedi 1996). Wayfinding is associated with building security as a marker for emergency evacuation routes. Wayfinding design is intended to give users an easy understanding of space and time efficiency for museum staff so that the staff does not need to provide information to visitors.

Interior signage is displayed in color, size codes, and typographic style as information on objects and circulation. With many codes affecting interior signage, visual information content used on signage instead of words, must still be effective and easy to understand (Nabila & Sarihati 2016).

There are many forms of information that can be used by designers to help build users understanding in navigating efficiently through the built space. Two types of information were assessed, the form of floor plans and signboards. They were found to interact in ways, sometimes, unexpected. The usefulness and types of signage varies greatly, although sometimes the difference is only a little in the complexity of a floor plan. Various aspects of wayfinding performances are affected differently depending on the combination of available architectural cues (O'Neill 1991).

The ease obtained in understanding space by wayfinding/signage includes aspects such as look and feel physically the use of signs in its colors or shapes, and the information to be conveyed. Wayfinding involves complex cognitive processes which include goal setting, perception, acquisition, judgment, and movement (Lin et al. 2019).

Wayfinding is an important factor to influence people's ability to find a way. The presence of signage in the form of a floor position in the room will make it easy for visitors to determine their location and provide clear instructions about circulation within. A person acquires and encodes environmental cues as spatial knowledge in cognitive maps that can be taken to improve the performance of ease of circulation and road search (Lin et al. 2019).

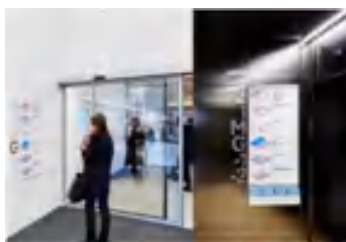


Figure 7. Floor position signage. The Design Museum, London. (Source: <https://cobal.co.uk/projects/the-design-museum/>).

Wayfinding or topographic orientation is the ability to determine location, find a place in building facilities. The application of wayfinding can be in the form of very detailed details to form a pattern that can direct the flow of circulation of an environment (Kusuma 2018).

Built environment features are related to deliberate human circulation and their ability to mentally place themselves in an environment (Romedi 1996). These design features include spatial planning, architectural features related to circulation, and graphic display including audible support and touch (Romedi 1996).

In conditions of high density, wayfinding arrangements can help someone to find another way when there is a crowd on a route to be headed. The wayfinding also provides options for someone to look for other destinations that could be more interesting, to carry out a different direction search strategy, and choose different initial route options. As an anticipation, while we did not find the effect of density at the strategic or tactical level, participants in conditions of high density are more likely to move along environmental boundaries to avoid crowds (Li et al. 2019).

4 CONCLUSION

The concept of wayfinding in museums is based on its function as a means of education and recreation. Museums have a type of wayfinding that is more widely used, which is the informational sign. An informational sign consists of more to the specifics and details of information. The form of this sign is adjusted to the information to be conveyed.

The influence of wayfinding on the ease of upholding is to know one's position in a room and give clear instructions about circulation within. For example, it gives people another option to look for other goals that can be achieved when faced with the situation of a crowd. It becomes a special marker for some facilities that are specific to some extent such as destined to people with disabilities that affect the additional spatial planning.

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The influence of digital technology on the cultural evolution of a city's monumental icons

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ABSTRACT: Sculptures serve as a symbolic reflection of a spirit that contains philosophical, historical, and aesthetic elements. Digital technology makes it easy to replicate and reduplicate, as well as speed up, the process of working on the pre-production process and the production of three-dimensionally built objects. A society's misinterpretation turned the monumentally built objects in Bandung into a decorating tool for the city, yet visually borrowing form from cultural objects with philosophical value. The method used in this study was ethnography-descriptive observations on three-dimensional spatial objects to explore relationships between the physical form of the objects with cultural philosophical beliefs of today's society. There has been a decrease in philosophical significance because of cultural objects' replication through the use of digital technology.

Keywords: digital technology, spatial objects, cultural symbol

1 INTRODUCTION

Bandung is a historic city, the center of West Java's cultural development, where various historical events became iconic symbols. Heritage buildings have become symbols of modern cultural acculturation based on historical narratives currently used as symbols of civilization. In Bandung, there are objects built with a spatial approach such as statues, monuments, buildings, and symbols. The current municipality uses duplicated cultural objects in form of figures, typography, and cultural symbols in public areas in Bandung. Bandung's green open space was revitalized into a friendly open park with a community's physical activity and became a comfortable place to interact.

Bandung City Square was revitalized into a playground for children and families with synthetic grass flooring. Spatial typography serves as identity in an open space such as a city park or identification of a location. The Siliwangi Tiger statues, facing the four wind directions, became decorators at several crossroads in Bandung. The Kujang (traditional weapon) symbol was built as part of border signs on street gates as well as an iconic element of the philosophical character of West Java society. Kujang monuments in several places stand as a reminder of the Sundanese people's ancestors related to the Padjadjaran Kingdom. All objects are imitations or artificial replications of their original form functioning as aesthetic elements of the city.

The development of digital technology, especially three-dimensional printing presses, revolutionized the industry's design and manufacturing. The creation of a prototype in three-dimensional design takes a short time, as the capabilities of the three-dimensional print machine are advanced. Solid materials of both color and type can be cheap and easy to make into a prototype according to the design on a digital computer (White Clouds 2019).

The development of production techniques and tools based on digital technology can answer design needs including laser cutting tools for large scale objects, where shapes can be printed on metal at the desired scale. Materials are increasingly flexible so that they can be easily transformed

into any statues or monumental objects. It gives ease of replicating objects into mimesis on spatial objects in public spaces. The artificial nature found in spatial objects in public spaces create a new interpretation by the city community. The purpose of this research is to explore the shift of symbolic significance of spatial built visualization using digital technology.

Research on public spaces and the growing monumental build-up and its challenges to public art is a comparison of the changing society in living the art of public spaces (Remesar 2005). Public pedagogy is part of the process of a learning society in public spaces through public art (Schuermans et al. 2012). Monuments function as witnesses to cultural identity (Johnson 2002). The statue as an urban monument is the basis of its regional culture (Jixin 2019).

In other research, it is stated that the current spatial build in public spaces has a relationship with the lifestyle of urban society, namely as a tool of individual and communal expression as a universal part (Nursaiman 2012). The research only discusses spatial stimulate functions that are more associated with people's emotional approaches, especially on lifestyles in public spaces. Other research on spatial builds and public spaces were also discussed in Aulia (2014) that viewed the space of the interior and some technical standards that should be considered in its design.

Another related research with a different study object is the research on monumental spacial builds in tourist areas in Yogyakarta. Many typographies are applied in public spaces as identity as well as branding but less emotive from psychosocial aspect, especially typographic approached with the value of a region (Noordyanto 2017). The study emphasizes the branding elements that can affect perception in public spaces. In other research it was also discussed that the use of public spaces as gathering places for communities at the thematic park in Bandung (Ilmiajayanti 2015).

This research discovers a spatial build development in the monumental ornaments of the city that are used as a form of decorative elements, a marker of cultural identity, which uses digital technology. It is also determined to deepen the influence of these objects on the direction of a symbolic meaning desired by the proponents on the development of an urban society.

2 METHOD

In this research, Barthes' semiological theory was applied to reveal the meaning of the artificial monumental symbolic object. Ethnographic studies were used as a benchmark for text narrative analysis contained in an object. Advanced analysis was done by linking text with a micro understanding of the community related to symbols contained in each object of inclusion (Piliang 2003). It implies that the meaning begins with an understanding of the denotative conception continued by knowing its connotative meaning.

The research was done in the qualitative descriptive method with semiological disclosure of meaning through the analysis of content on awakened objects. It found meaningful relationships based on narrative structures that have been built up through generations with current artificial replication. Textual analysis of the development of digitalization through technology relates to contemporary styles that are imitations of cultural philosophical traditions. The data was collected through an object's deep understanding and community interpretation based on the character of the traditional icons.

3 RESULT AND DISCUSSION

The city square, once a place used as a dialogue space between the city's stakeholders and citizens, now is the center of crowd and celebration. It is the trigger for changes in function and historical significance of the place. The change in the layout of the square is a sign of the development of social civilization in the city of Bandung (Figure 1).

The Bandung City Square had changed into a modern space. Digital technology plays a role in its design. Its conception today is more open and heterogeneous. Restoration was carried out by the government, functionally and structurally, by designing the square for the people (Figure 2).



Figure 1. Journey of Bandung City Hall Square. (Source: Ichan 2015; Humas Bandung.go.id).



Figure 2. Bandung City Hall nowadays. (Source: Tribun Jabar.com).



Figure 3. Monument of Siliwangi Tiger. (Source: Bandung Public Art Archive 1990; TribunJabar 2018).

The current square is a playground for families and children, citizens, and tourists. The sacred value of the square faded into a playground. The text of the square that presents is a form of denotation of expression. Digital technology is very instrumental in the formation of green synthetic grass patterns that attract visitors to take selfies and become a scattering point in cyberspace.

People know the narrative about the Sundanese royal lineage Padjadjaran whose king was named Prabu Siliwangi. In addition to its pedigree, people also know about the mythical story related to the Tiger of Siliwangi. This cultural narrative remains preserved as a symbol of the spirit of patriotism. Both the tiger and king names are used as the name and symbol of the West Java military unit (Figure 3).

Maung Siliwangi (Siliwangi Tiger) figures are the result of technological advances in digital and resin printing methods, making it easy to replicate and duplicate the object. There are statues of four identical tigers pointing to four opposite directions inside a classic art deco gazebo monument. Tiger characters were duplicated. Even though they look identical, meaningfully there was a shift into an ornamental figure that serves only as an empty monument. This means that despite borrowing the symbol of the Siliwangi Tiger, it fails to foster a cultural philosophical awareness to the public (Figure 4).

Kujang is a traditional weapon typical of West Java that is a symbol of the war readiness of Padjadjaran soldiers. Kujang is also a symbol of the agrarian Sundanese community. It is currently being used as a marker pole on the entrance at some point in the city. Artificially this Kujang character is made to point upward, standing upright like a fire, with a golden color so that it looks contrasting from a distance.

Laser cutting technology that can cut metal or steel on a large scale has a role in duplication of the Kujang monument. The symbol of Kujang has become a space element as the street decorator as well as the street marker. Its meaning slowly shifting into a border sign on the entrance of the



Figure 4. Kujang monument, Google street view 2019.



Figure 5. Typography spacial as public park identity. (Source: Pemprov Jabar 2017).

street. Philosophical objects that changed its function obscure the meaning of the symbols. This caused society to interpretate the sign as only a passive peg or pillar.

Spatial typography is widely used as an identity marker for a location. However, there are two strong perceptions of typography: the context of the typeface and the message in which the text was formed and presented (Romano 2012). Typography is one of the relative visual elements, analogized as a dish that has different flavors according to the taste and type of food (Saltz 2013) (Figure 5).

With the conception of similar-looking letter symbols that are the result of digital technology that makes it easy in the pre-production and production process, making the same typeface and character of letters do not represent the characteristics of the location it is written for. The typeface used is an international style with sans serif type so that it looks modern to refract society from the meaning of the name and location that it shows.

A monument is “a building derived from human creation as a form of reflection of the past or something that can be remembered by future generations” (Riegl 1903, in Panico 2016). The symbol of the building generally has abstract values and meanings that are traditionally believed and used as the spirit and motivation of society. This research shows the value of a philosophical substance that shifts. It is the results of imitations of cultural symbols used as decorators or amplifiers of the city’s aesthetic elements through replication using advancement of digital technology. There is a decline in the philosophical meaning of the cultural spirit today’s society.

The micro-aspect of Bandung’s society toward the text in the form of artificialization of monumental spatial symbols states a form of government stimulus to beautify and make an impression of the city’s tingle. Aspects of the city’s aesthetic reinforcement are the main factors of the denotative forces that are formed. The use of symbols in city halls, intersected with macro text narratives in the form of symbolic narratives of cultural philosophy, is revered into the middle ground as an entrance to the symbolic capital of the people. Societies, with cultural changes that occur, make connotative significance meaningless. The interpretation of existing objects become denotative in a pragmatic way. The concept comes as digital technology develops. It also facilitates and accelerates the formation of identical imitations of the same nature. The concept obscures the meaning of macro symbolic connotations into a temporary denotative structure because it is easily obsolete or damaged due to weather or time.

The micro text meaning of the Bandung people began to reduce over time in the social and cultural capital of the Sundanese people. The change of symbolic meaning relates to the change in the social, economic, political, and cultural capital of Bandung people. Although it does not change the conception of the macro narrative toward the object's ideal meaning, the construction's formation in public spaces through imitative artificial shorting results in a change in the social interpretation of the city community.

4 CONCLUSION

Built spatial monuments, that stand firmly in the middle of the city, prioritize the underlying meaning related to philosophical, ideological, historical, and aesthetic values in society. Today's advances in digital technology have transformed the work generally done through an artist's craftsmanship approach into a digitally conceptualized approach through urban governance planning. Technology becomes an imitation machine that can produce symbolic objects of the city more perfectly and precisely as decorative elements, capable of replacing the emptiness of space in the city. However, without care, it can gradually erode the cultural, historical, and philosophical significance of a city symbolic spaces into just artificially plastic construction.

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Visualization of princess characters in the Wayang comics of Teguh Santosa for digital graphics development

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ABSTRACT: Women's issues are frequently brought up within cultural studies and academic discourses in correlation with the patriarchal culture which is still embedded in traditional Javanese views. Issues that are rarely studied are women's portrayal in Indonesian comics, especially the *wayang* genre that refers to Javanese culture. *Wayang* art is significant to Javanese culture, along with its patriarchal ideology. By assumption, that ideology is also reflected in the *wayang* comics. Using descriptive qualitative analysis, preceded by aesthetical morphology, this paper discussed the way a *wayang* comic artist visualized princess characters. Teguh Santosa was chosen due to his reputation as an Indonesian comic maestro, along with his sensual visualization of women. Finally, the kind of sociocultural context with which Teguh perceived women, and the visual translation method he invented, was explored. This will complete understanding on Javanese *wayang* adaptations into comics and the possibility of it being realized in digital media.

Keywords: Teguh Santosa, *Wayang* comics, men, Javanese culture, visualization

1 INTRODUCTION

1.1 *Women issues in Javanese culture*

Most of Indonesian's cultural traditions have patriarchal tendencies, including Javanese culture. Javanese culture frequently puts women as secondary, unequal to men, although women are still regarded as having honorable values, such as fidelity, obedience, patience, and self-restraint. Those virtues are not only imposed on women of nobility, but also on peasants (Ariani 2016). A noble woman always try to bring happiness in her domestic life; there's a sort of self-identification, even a fusion, with her husband, where his happiness is also the wife's happiness. This assumption was so strong that all Javanese women try hard to make their husbands happy in many ways.

According to Franz Magnis-Suseno, Javanese women are women that follow Javanese traditions and culture in their daily lives. Their lives are much influenced by the culture that is inherent in their lives, especially the *wayang* culture with its various figures as a model. According to Javanese traditions, an ideal wife must have an attitude like the *wayang* characters of Kunti and Sinta who are devoted to their husbands, accept conditions as they are, and are willing to take part in unpleasant conditions, while remaining patient, loyal, modest, obedient, and skilled (Ariani 2016). *Wayang* art as an important part of Javanese culture certainly brings values and traits that are widely embraced and affect the lives of Javanese people, especially the lives of its women.

1.2 *Wayang comics and Teguh Santosa*

Wayang genre comics were born during the Indonesian Old Order period as an affirmation of national identity—as part of the regime's nationalist political campaign at that time, which

was threatened by various Western cultural influences considered as Neo-colonialism and Neo-imperialism. In the process, *wayang* comics became characteristic of Indonesian comics and were highly promoted for their contribution in introducing traditional culture to young urban people (Gunawan 2018). The notable *wayang* comic artists were John Lo, Ardisoma, and R.A. Kosasih. R.A. Kosasih is legendary and is referred to in many *wayang* comics afterward.

After R.A. Kosasih, there was Teguh Santosa who was the second person to successfully adapt the Mahabharata story into comic form completely and also had a significant impact in introducing *wayang* stories to younger generations. Teguh was born and raised in Malang, in the family of a *ketoprak* (Javanese traditional theater) director. So, he understood very well the nuances of Javanese customs in the *wayang* that also applied in *ketoprak*. From the early 1980s until the late 1990s, he created a lot of *wayang* comics, starting with bonus series on *Ananda* children's magazines, colored comic series published by Misurind and finally several comic strips in local newspapers (Koesoemadinata 2018).

Lately, Teguh's works have been reprinted by Galang Press publisher in Yogyakarta, including the *Mahabharata* and *Bharatayudha* series compilation from *Ananda* magazine (1983–1984) in 2015, and even made into an English version. In 2015, his biography was published in the form of an anthology written by several academics and comic practitioners, entitled *Maestro of Darkness: Teguh Santosa, 1942–2000* published by Media Nusa Creative in Malang, which published its second printing in 2016. Various scholarly publications discussed his works from the perspective of humanism and pluralism, specific to the comic *Sandhora* by Aditya Nirwana and later developed into the book *Menimbang Sandhora* (Nirwana & Ginting 2017; Nirwana 2018). Others specifically discussed his *wayang* comic, comparing his visual style with the latest *wayang* comic. Some discussed how Teguh adapted the Surakarta *wayang kulit* image as a reference (Koesoemadinata & Aditya 2016; Koesoemadinata 2018). A Facebook group called *Pustaka Teguh Santosa* was created, dedicated to appreciate him and as a gathering place for his fans. All of these proved that Teguh has a significant role in the development of Indonesian comics.

Before the *wayang* genre, Teguh worked on a lot of comics. One distinctive feature of his comics, besides the dominance of his black blockings, is the graceful, sensual, and “submissive” portrayal of beautiful women. This can be seen from his legendary comic *Sandhora*, where the female protagonist was displayed in sensual poses. In general, all women in his comics were portrayed as beautiful and ideal stereotypes. The female figure was drawn with circular and pointed eyebrows, curved eyelashes, and a slightly square jaw. They are seen with closed eyelids, giving the impression of being “submissive” and sensual, referring to the female models of the 1960s or 1970s. This was not surprising because Teguh himself was said to be a fan of James Bond films that were a trend the time (Valiandra 2016).

The questions are as follows. How did Teguh Santosa describe the image of women in *wayang* genre comics? How did the portrayal of these female figures represent elements of Javanese culture? How did he translate and integrate these elements with his own distinctive visual style? What are the opportunities to be developed in digital media? The assumption is that Teguh comics certainly reflects a bit of Javanese culture, but how and to what extent?

2 METHODS

This paper is a study of art and culture, in the scope of visual arts, based on qualitative-descriptive research that contains interpretations. The object of research was visual artifacts and design works, namely *wayang* comics created by Teguh, specifically on the visual portrayals of female characters in general, which include several figures, such as Drupadi, Sumbadra, Srikandi, Banowati, and Arimbi. The discussion was not specifically on the visualization of one character by character, because the portrayal is relatively similar for all, except for the Arimbi figure. The adaptation and visual portrayal of female *wayang* characters in the Teguh puppet comic are the focus of the discussion, compared to the image of Javanese shadow puppets and the *wayang wong* costume assumed to be the main reference. The element analyzed was the visual style in the comic, which

included the portrayal of anatomy and appearance, posture and gestures, hair, clothing, accessories, and others, as well as the position in the scene.

The main data samples as observed artifacts were: (1) *Mahabharata* # 1–10 *wayang* comic series, published by Misurind (Midas Surya Grafindo) (1986–1988); and (2) *Mahabharata* comic series bonuses *Ananda* children’s weekly magazine no.17–52 & no. 06–47 (1983–1984), Kartini Magazine Publisher. Secondary data samples were graphic images of Surakarta *wayang* kulit from various printed sources such as the works of Hardjowirogo (1949) and Sudjarwo et al. (2010). The Surakarta *wayang* image was chosen as a comparison due to the information in the comic; Teguh mentioned *Sedjarah Wajang Purwa* by Hardjowirogo (1949) as the primary source together with comic works by R.A. Kosasih. Clearly, Teguh refers to the “iconography” of the *wayang* character in the book, which contains graphic images of the Surakarta *wayang* style.

The analysis method used was a modified version of Aesthetic Morphology and Art Criticism from Edmund Burke Feldman in Koesoemadinata & Aditya (2016). The stages were: visual description, formal analysis, interpretation and evaluation. The visual description stage, combined with formal analysis, will describe in detail the elements of appearance and portrayal of selected objects. Visual analysis (a combination of stages 1 and 2) of the characters was specifically carried out on: (1) biological anatomy, in part or in whole, including appearance, gesture and body language; and (2) clothing including accessories and other attributes. This stage was an analysis of the internal aspects (intra-aesthetic), the studied visual artifact object, which is considered as ‘text’. Next, was the interpretation stage, where the previous stage was compared to external aspects (extra-aesthetic) such as graphic images of the same *wayang* character. It was linked to sociocultural contexts such as Javanese *wayang* traditional narratives, Javanese traditional views, women’s discourses, and influences of popular culture that are contemporary with Teguh. The evaluation stage tried to comprehend the context and reasons behind the visual adaptation carried out by Teguh. Here the studied object was appreciated further.

3 THE PRINCESS CHARACTERS VISUALIZATION ANALYSIS AND DISCUSSIONS

The female characters’ portrayal in *wayang* comics (also called *putri*/princess) was the same as his other comics. The female figure is drawn with circular and pointed eyebrows, curved eyelashes, and slightly square jaw, smooth arm with curling fingers, often seen lowering the head with eyelids closed, giving rise to a “submissive” and sensual impression. Almost all female characters have this similarity whether it’s Drupadi, Sumbadra, or others. Without captions, it would be difficult for readers to distinguish one female character from another (Figure 1).



Figure 1. (From left to right) Lowering head position of princess characters in Javanese *wayang* images; Teguh’s typical female visualization which also the same; various images of princess characters of Surakarta *wayang* style. Beside the head and shoulder positions, also worn costumes, all share the same facial visual pattern. (Sources: Hardjowirogo 1949; Sudjarwo et al. 2010; personal documentation).

This is in accordance with the visual aspect of the *wayang* puppet which indeed always repeats the same pattern, the same types of visual elements, with the same combination. The appearance

of a princess figure imaged with the aim of accommodating the beautiful impression of a beautiful person. In Javanese shadow puppet art, the face of a princess is composed of anatomical elements such as *jaitan* eyes, a sharp nose, a *salitan* mouth, which are also equally used in the *wayang* facial imagery of *satria* characters, connoted to a handsome face. In general, the female figures (princesses) are each distinguished only from the worn objects, including head jewelry (crown, etc.) and hairdos (bun rivet, unraveled), then also clothing and other accessories.

Putri figures with idealized traits such as Sumbadra, Drupadi, Kunti, and so on usually have their heads lowered. This reflects submissive, patient, calm, and refined nature, which is usually found in the *wayang* class called *putri luruh*. Some female figures are portrayed as brave, agile, even temperamental, cunning and stubborn, like Srikandi and Banowati, called *putri lanyap*. In the puppet form, their heads are depicted more raised, but still portrayed as beautiful, seen from the same eye, nose, and mouth type (Figure 2).



Figure 2. (from left to right) Graphic image of Arimbi puppet; depiction of Arimbi in Teguh's comic; a comic panel sequence which displays an interaction scene between a princess and a *satria* character. There seems to be a hierarchy between the two. (Sources: Sudjarwo et al. 2010; personal documentation).

An exception is found in the ogress princess' characters called *raseksi*, who has visual pattern different from human females. The body is slightly larger, with *peten* eyes, *bentul* nose, grinning mouth with fangs, and with the *kithingan* hand grip. *Raseksi* figures are often portrayed with such characteristics like bravery, straightforwardness, aggressive, even shameless, deceptive, and sexually proactive, is the opposition of the *Putri luruh*. Teguh visualized the *raseksi*'s anatomy as neither ideal nor sensual as human princesses. The eyes are rounder with very small pupils, a round face with a larger, plumper stature in comparison to human princesses, also the fangs in her mouth. This can be seen in the portrayal of Arimbi, the ogress mother of Gatotkaca.

Another improvisation made by Teguh besides the shift from symbolic *wayang* imagery to comic visual images (that tend to be naturalistic), was his characteristic of female's sensual impressions. This sensual portrayal is certainly difficult for us to consider as a direct inspiration from the *wayang* imageries which completely deviates from the real human form, but this is very clear when looking at Teguh's track record in his comic art career. Women's sensuality was clearly inspired by trending Western popular culture at the time (1970s), like his favorite James Bond films. The portrayals of the *putri* figures are hardly distinguished from each other (except for Arimbi). Facial portrayal with eyes closed or staring down, poses and postures that are bowed and "submissive" at the same time sensual, show the patriarchal ideology, placing women as such. This is indeed relevant to the *wayang* art's narrative itself, which contains patriarchal Javanese culture.

An interesting point that can be drawn from the analysis above is how Teguh has adapted the gestures of the female characters in the *wayang* scene into modern drawing styles according to his comic visual style. This becomes a system; a method of translating the gestures of female characters from traditional visual languages, which can be applied to modern media. These gestures can be used as the main gesture to represent women's gestures on social media or virtual character designs that represent *wayang* values based on the translation method used by Teguh.

According to the methods that Teguh developed, the development of female gestures visualization as graphic digital content are as follows: (a) face tilting and body gestures, face tilting and body gestures can emphasize the dignity of visualized females, whether she's a noble or commoner

status, warrior or princess attitude, seductive or submissive character, and also active and passive interaction; and (b) camera angle and visual composition, how the creator positioned the character in a relationship with others may emphasize the social relationship in the narrative (whole story) or in *moment opname* (still frame visualization).

4 CONCLUSIONS

This paper discussed the matter briefly and only on surface. It only discussed a small part of the entire study and research on the works of Teguh Santosa, especially *wayang* comics, which is still ongoing. This study has no intention to disrespect and reduce the appreciation for the late Teguh Santosa as one of the Indonesian comics maestros. It's just showing and trying to understand that he was referring to the tradition as it is, with the intention of preserving culture. The traditional Javanese patriarchal culture inherent in the *wayang* story's narrative is reflected in the princess figures' portrayal in particular, seen from their position, posture, and gesture.

The courtesy of ideal women according to Javanese culture was strongly reflected and visualized within each scene of Teguh Santosa's *wayang* comic, and more. In addition to a more realistic approach, he also gave a sensual touch to the female characters that are unlikely to be found in the original Javanese *wayang* image, as a hallmark of his comic style. This showed a comic artist who lived at that time, with the spirit of the time and the cultural background of his family. Teguh was raised in a family of traditional Javanese *ketoprak* artists in the city of Malang, who also consumed modern (Western) popular culture that was trending. As a result, these different values were mixed in his works and became a unique artistic signature. However, beyond that, Teguh gave us a 'prototype' of visual translation method or system to adopt traditional Javanese *wayang* imageries into a modern visual representation that can be implemented in the digital media, yet still conveys the values of local wisdom.

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Disrupted but interactive: How online learning works in the age of a pandemic

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ABSTRACT: As universities shift from face-to-face learning to distance learning, the student learning experience has dramatically changed. The classes have moved to online mode, which means that there are changes in terms of how the classes are conducted. Changes also take place in terms of how the interaction happens between the facilitators and the students as well as between the students. This study aims to investigate how different learning factors may contribute to student satisfaction. In total, there are 100 respondents that comprise both undergraduate and Master's students. The findings suggest that only interactivity and course suitability were found to have a positive influence on student satisfaction. These imply that an educational institution needs to design their online class delivery in such a way so that the interaction will be similar to the interaction in offline classes. Moreover, making sure that the courses are suitable to be delivered in an online mode is crucial as well.

Keywords: online learning, learner characteristics, learning satisfaction

1 INTRODUCTION

Since the beginning of the COVID-19 outbreak, universities around the world began shifting educational activities from physical classrooms to virtual ones. For example, the Chinese Ministry of Education launched the “*Disrupted Classes, Undisrupted Learning*” initiative, providing flexible online learning to over 270 million students from their homes (Huang et al. 2020).

The flexible learning approach provides learners with choices about where, when, and how learning occurs, by using a range of technologies to support the teaching and learning process (Lee & McLoughlin 2010). Flexible learning encompasses multi-dimensional aspects, including infrastructure, learning tools, learning resources, teaching and learning methods, services for teachers and students, and cooperation between government, enterprises, and schools (Huang et al. 2020). The unplanned and rapid move to online learning might result in a poor learning experience since students, lecturers, and university staff generally had not been prepared through simulations or practices beforehand.

To the best of the authors' knowledge, there is still very limited research on the student learning experience during the COVID-19 pandemic in Indonesia. The university students in Indonesia underwent a unique experience of having the first three to four weeks of the semester in physical classrooms and suddenly shifted to virtual classrooms for the rest of the semester. This research aims to understand the students' experience during the period and how it affected learning satisfaction. More importantly, as physical distancing measures would continue for months to come, it is very important for educational institution administrators to understand the crucial determinants that would enhance student learning satisfaction during this pandemic.

2 LITERATURE REVIEW

2.1 *Learner characteristics*

Learner characteristics comprise various components, including attitudes toward computers. Attitudes toward computers include students' feelings, opinions, and perceptions toward general computer use, computer-aided instruction, computer programming and technical concepts, social issues related to computer use, and computer history (Aziz & Hasan 2012).

Aziz & Hasan (2012) emphasized the role of the user's attitudes and anxiety affect the knowledge of computers among individuals. Computer anxiety has been widely investigated in the literature. Previous studies have noted that personal characteristics of computer users (age, gender, education, etc.) can be the antecedents of computer anxiety. Somebody with computer anxiety may experience negative feelings such as fear of the unknown, frustration, embarrassment, failure, and disappointment and as a result, he or she may avoid using computers (Olatoye 2009). Therefore, it can be hypothesized that:

H1: The more positive a learner's characteristics are, the higher his or her learning satisfaction.

2.2 *Instructor characteristics*

Previtali & Scarozza (2019) revealed that the teaching style creates a stimulating effect on students' recognition of e-learning. In the context of online learning, there is an ever-pressing need for educators to use the tools of technology to achieve teaching goals, such as implementing the right methods, doing lesson planning and assessments, among other things (van Rensburg 2018). Instructor characteristics were also linked to class size as well as workload, as bigger class sizes and more workload could lead to less positive evaluation of the instructors (Özgüngör 2013).

Instructors in online learning can engage with the students through providing timely and useful responses or feedback to their assignments and projects (Martin et al. 2020). Therefore, it can be hypothesized that:

H2: Instructor characteristics have a positive and significant influence on online learning satisfaction.

2.3 *Course suitability*

Some courses may be suitable to be delivered online; however, some courses which require hands-on practices may suffer from the lack of interaction. The shift in learning mode has required all courses to be delivered in an online manner, regardless of their suitability. It was found that for online courses, subjects that are assessed by project-based assignments and involve high-level knowledge activities may increase learning effectiveness (Zheng et al. 2020).

Stier & Schneider (2009) argued that study programs do not have to choose between online and offline learning; rather, the choice should be made based on analysis of the suitability of the courses to be delivered. Courses with assignments and more theoretical components can be suitable for online learning delivery. On the other hand, courses with heavy experiential components are least suited for online delivery (Willett et al. 2019). Hence, it can be hypothesized that:

H3: Course suitability has a significant and positive influence on learning satisfaction.

2.4 *Interactivity*

University learning tends to be collaborative in nature, as students have the opportunity to discuss with others as opposed to pursuing their own learning goals (Koschmann et al. 1996; Yang et al. 2016 in Lin et al. 2018).

Interactivity is considered to be the key to effective learning (Blasco-Arcas et al. 2013). Interactivity can be divided into two types: interactivity with the other students and interactivity with

the facilitators (Blasco-Arcas et al. 2013). The interaction with fellow students is usually in the form of group discussion, and class participation; these types of activities can improve active and high-order learning (Crouch & Mazur 2001). Active learning that involves collaboration with other students has been noted to improve students' learning experience (Blasco-Arcas et al. 2013) and possibly student satisfaction. This is due to the possibilities that interaction may enable the students to think critically and look for alternative answers, leading to deeper knowledge processing activity (Blasco-Arcas et al. 2013). Hence, it can be hypothesized that:

H4: The higher the level of interactivity during online learning, the higher the learning satisfaction.

2.5 *Technological factors*

Instructional support that students receive can mostly come from the course instructor and the institutions, but technology can be used to provide support to individual students and instructional contexts (Chen et al. 2010). The tools that are available online to the facilitators and learners can influence the online learning process (Deshwal et al. 2017). A previous study on the experience of online learning through massive open online courses (MOOCs) reported that internet access quality played an important factor in MOOC users' decision to continue participating in online courses. (Nurhudatiana et al. 2019). Therefore, it can be hypothesized that:

H5: Availability of the technological facilities will have a positive influence on learning satisfaction

2.6 *Supporting factors*

Online learning enables the learners to process learning materials based on their individual preferences at any time and from any place; they may select and examine material from a large pool of information (Artino & Stephens 2009; Narciss et al. 2007). Universities generally provide additional services such as a hotline or email address that students can contact should they encounter any problem during the online learning situation. Pieces of advice, counseling, and other facilities are also provided to improve the students' learning experience. A face-to-face consultation that complements online consultation facilities can also enable students to solve problems that may arise during online learning. Therefore, it can be hypothesized that:

H6: The availability of supporting factors has a positive and significant influence on learning satisfaction.

3 METHOD

This research utilizes the quantitative method with survey as the data collection method. The survey was distributed to undergraduate and Master's degree students who learn using an online learning method. There are seven variables investigated in this research: learner characteristics, instructor characteristics, course suitability, interactivity, technological factors, supporting factors, and learning satisfaction.

The data analysis was conducted using PLS SEM software. Construct reliability and validity as well as discriminant validity, were checked based on the Cronbach's Alpha's values, Average Variance Extracted, Composite Reliability, and Fornell-Lackner criterion. All the indicators were found to be valid and reliable.

4 RESULTS AND DISCUSSIONS

In total, 118 respondents participated in this study, with 100 usable responses which were further analyzed using PLS SEM software. Out of those 100 respondents, 31 were females (31%), 65

Table 1. Path analysis results.

Dimension	Original sample	Sample mean	Standard deviation	t-statistic	p-value
Learner characteristics	0.070	0.100	0.084	0.834	0.405
Instructor characteristics	-0.018	-0.019	0.075	0.238	0.812
Course suitability	0.412	0.408	0.068	6.072	0.000*
Interactivity	0.288	0.281	0.100	2.871	0.004*
Technological factors	0.082	0.076	0.076	1.084	0.279
Supporting factors	0.124	0.120	0.091	1.358	0.279

*significance at p-value 0.05.

males (61%), and 4 preferred not to tell their gender. A majority of them are undergraduate students with 6% being Master's degree students. The respondents come from different majors, including Business Management, Hotel Management, Computer Science, Information System, and Accounting and Finance.

The path analysis results are given in Table 1. The adjusted R square of the model is 0.575. The findings have shown that only course suitability and interactivity have a positive influence on student satisfaction. This is aligned with the studies conducted by Blasco-Arcas et al. (2013) and Chan et al. (2005). For example, interactivity may vary depending on the class dynamics as well as class size. Instructors who are livelier and better at engaging the students may foster better interaction that leads to higher student satisfaction. The nature of the courses may also vary, which means that experiential and non-experiential courses may not fare similarly. The courses with more theoretical elements can be delivered smoothly with fewer adjustments to the existing offline classes. However, courses with more experiential components may need more adjustments to improve student satisfaction during online learning.

5 CONCLUSIONS AND FUTURE WORK

The findings have shown that it is important to keep the interactivity in an online learning context as it makes the students more satisfied with their learning process. It is understandable that the respondents in this study may feel that their interactivity was reduced significantly as the institution pivoted to fully online learning mode. This implies that the facilitators would need to encourage interaction between students; either through online discussion, gamification of learning, or other activities that may foster discussion between the students.

To ensure that everyone feels comfortable to participate and contribute to the discussion, an instructor may set some rules that would encourage them to contribute to the class discussion. Interactivity also involves interaction with peers; thus, in the online setting, the students may be divided into several small groups to ease up the discussion process. In addition to that, educational institutions may need to carefully consider the courses that can be delivered online and the ones that are less likely to be delivered online. The consideration may be based on the type of the course (more practical or theoretical), the possibility of using additional means such as software, etc. This research has some room for improvement. For example, mixing both undergraduate and Master degree's students may lead to slight variance in findings, as there are differences in terms of the learning experience and maturity level of these respondents.

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Pop-up book design of the West Sumatra endemic primates

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ABSTRACT: In 2020, the primate population in West Sumatra, Indonesia was very scarce due to a lack of knowledge and community awareness which resulted in wild forest burning, poaching, and the wildlife trade, especially in Bukittinggi, Agam Regency. Based on the author's data from the method of observation, interviews, questionnaires, and literature studies, knowledge about endemic Sumatran primates is still lacking, especially for children ages 7–12 years. The way to raise awareness for this endangered population is in the form of a pop-up book with the theme of introducing and protecting endemic primates in West Sumatra, Indonesia. The pop-up storybook's design style can attract the interest of elementary school children ages 7–12 because of its three-dimensional illustrations that can be touched and folded, creating great enthusiasm. It is hoped that this book design will provide readers with a pleasant reading experience.

Keywords: endemic primates, pop-up book, design, West Sumatra, Indonesia

1 INTRODUCTION

Rare primate populations in Bukittinggi, Agam Regency, West Sumatra, especially in the wild, are increasingly shrinking. Six endemic Sumatra primates are *Siamang Hitam*, *Simpai*, *Kukang Sumatra*, *Owa Ungko*, *Lutung Kelabu*, and *Sumatran Orangutan*. These primates are almost extinct due to a lack of knowledge and community awareness from an early age. According to West Java Profauna Coordinator (PFI), Nadya Andriani, many Indonesian people do not know the role primates play in the preservation of human life, such as playing a role in the spreading of seeds in the forest (Muhartati 2017). Many government regulations were made to protect wild animals and especially for Indonesian primates, however these regulations do not guarantee the preservation of primates. Wild animals, especially primates, are considered to be very disturbing to crop yields. When entering agricultural land, these primates will take or eat part of the cultivated plant and then leave (Wallace & Hill 2012). Due to the scarcity of primate food in nature, agricultural plants are considered more nutritious and cause primates to attack crops on agricultural land. These animals often interfere with the crop, which is why primates are called plant pests by the public (Utami 2016). According to the head of the Bukittinggi Natural Resource Conservation Center resort, the scarcity of primates in the Agam Regency is due to their habitat being disturbed by humans. This is a result of hunting wild animals, and their number of births is small because they are monogamous animals, which means they mate for life (Ciko 2020). Endemic Sumatran primates in Bukittinggi, Agam Regency, West Sumatra face extinction due to the illegal burning of forests, poaching of wild animals, and wildlife trade. This occurs because of the public's lack of awareness and knowledge about the rare species of primates that live in their environment (Aida 2020).

In Bukittinggi, Agam Regency, West Sumatra, children (boys and girls) aged 7–12 years need education about endemic Sumatran primates, which are almost extinct. Therefore, it is imperative that an awareness of these primates and their impending extinction be taught from childhood so that we can expect the next generation to protect the forest ecosystem. Therefore, the authors are interested in designing an informational medium about rare primates in West Sumatra, Indonesia, especially in Bukittinggi, Agam Regency, where they are almost extinct.

This medium will be in the design of pop-up books that aim to provide education and awareness to children about rare primates in Bukit Tinggi, West Sumatra. The selection of books as a medium offers something concrete that children can touch. Also, books are healthier for children to use as compared to gadgets (Wulandari & Arumsari 2017). With the form of three-dimensional illustrations that can be touched and folded, children are more enthusiastic and have a pleasant reading experience. The pop-up book can arouse the interest of infants or children, increasing understanding of the story and increasing learning (Wen et al. 2015).

2 METHOD

The qualitative method was used in this study to analyze the data documentation, determine the types of respondents, display data for each variable, and test hypotheses to answer the problem formulation. The analysis is using SWOT analysis to used for this research to evaluate the strengths, weaknesses, opportunities, and threats involved in an organization, plan, project, person, or business activity (Gurel 2017).

2.1 *Data collection methods*

Data collection techniques were achieved through observation, interviews, and literature studies. Observations were carried out by gathering information about rare primates at the Natural Resource Conservation Center and Kinantan Buktitinggi Wildlife Park. In addition, direct observations were the best way to discover the right way to get the information about these endangered primates to the public. Interviews were conducted with experts on Bukittinggi primates, and the experts interviewed were considered part of the book design process. A literature study was completed by collecting data from various literature sources and a variety of media, such as books, articles, and the internet.

3 RESULT AND DISCUSSION

3.1 *Message concept*

The message in the pop-up book design is “protect primates”! It will strengthen children’s understanding of rare primates whose population is diminishing and teach them the essential roles these primates play such as spreading seeds in the forest. The design contains messages and information delivered to children aged 7–12 years who are currently in elementary school. The pop-up book design expects to change children’s views toward endemic Sumatran primates, which are rare, and invite them to love the forest as a place to live for endangered animals.

3.2 *Creative concept*

The storybook will be made in a pop-up style, using a cartoon illustration style, fonts that are simple and easy to read for children aged 7–12 years, and also use bright and natural colors. The pop-up book medium can attract children because it has a movable or three-dimensional element, thus providing a more interesting visualization of the story.

3.3 *Visual concept*

Visual concepts are created based on references, and the analysis results begin from sketching to the digital process.

Color

The colors used are bright, natural, and bold. Color can affect human emotions and describe a person’s mood (Darmaprawira 2002). So, the use of bright colors represents the nature of cheerful

children. Natural colors use green, brown, and yellow, which represent natural colors and represent the forest where primates live in Agam District, used as a setting in for the story. Simultaneously, bold colors use red, which reflects a child's character in a pop-up book story.

Typography

The book's typeface uses Berlin Sans FB. This typeface is bold, so it gives the impression of a massive and concentrated space (Sihombing 2017). Therefore, bold letters are better suited for short words like titles. The book content uses seven Soft Sans serif typefaces. This font is easy to read for children.



Figure 1. Berlin Sans FB Demi (left) and Soft Sans Serif 7 (right). (Source: www.fontoteka.com, www.1001freefonts.com).

Illustration style

The style of the illustrations that will be used is a cartoon style in the type of vector. Cartoon illustrations are suitable for children because cartoon characters have funny shapes that attract more attention from children. This type of vector image is used because the vector has a high resolution, so the lines and colors produced in the vector image will be sharper and can be applied to various media sizes, especially for supporting media.

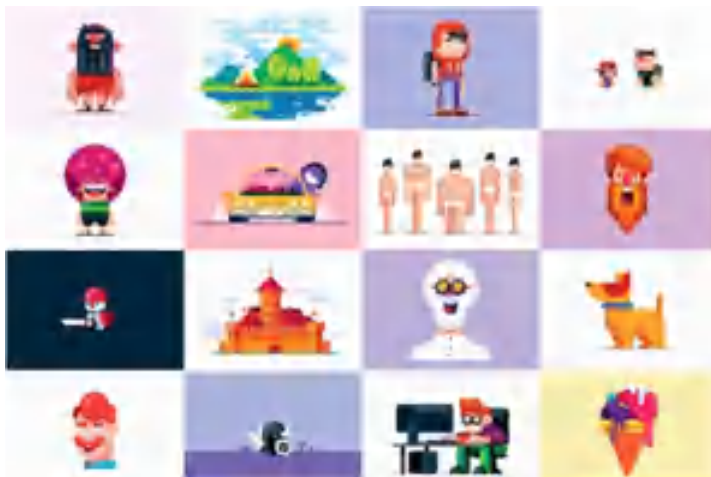


Figure 2. Vector illustration. (Source: www.gumroad.com).

Character style

Character design uses references and analysis of native forms and characters from the environment in Bukit Tinggi, West Sumatra.



Figure 3. Main character in story (left) and endemic Sumatran primates. (Source: Kevyn Kurnia Adha 2020).

3.4 Design result

Character and background design

The first character in the storybook depicts a child who is active, funny, and has a caring nature about the environment wearing typical West Sumatra clothing. The second character reflects a forest ranger in Bukittinggi, Agam Regency, West Sumatra, which saves wildlife protected from genetic damage. Simultaneously, the last primates are the six species of endemic primates of West Sumatra that are protected by the government. For the background, the illustration uses the Gadang Minangkabau house, Ngarai Sianok (Sianok Canyon), and the tropical forest atmosphere in Bukittinggi, Agam Regency, West Sumatra.



Figure 4. Character and background design. (Source: Kevyn Kurnia Adha 2020).

Media design

The book is printed in hardcover with a size of 20 x 20 cm with doff laminate finishing and 230 gr art carton material for the contents page.



Figure 5. Book cover. (Source: Kevyn Kurnia Adha 2020).



Figure 6. Pop-up book design. (Source: Kevyn Kurnia Adha 2020).

4 CONCLUSION

The primate population growth in Agam District, West Sumatra, is decreasing, causing the scarcity of these animals. Therefore, a lot of information about the rare primates in Agam Regency, West Sumatra, is needed. It is hoped that the pop-up book design regarding rare primates in West Sumatra will become one of the media that can increase public awareness of the importance of protecting rare animals so that their sustainability is maintained essentially for kids age 7–12 years. Hopefully, the information and education about the rare primates of West Sumatra can be carried out in further research through other forms of media. It is important to educate about the preservation of rare primates so that young people can be expected to preserve the natural ecosystem.

ACKNOWLEDGMENT

The authors would like to thank Mr. Vera Ciko as the head of the Bukittinggi BKSDA (Natural Resources Conservation Center) resort, and Ms. Rahmi Aida as the Curator of the Kinantan Bukittinggi Wildlife and Cultural Park. Thank you for agreeing to be interviewed so that the authors were able to get the data needed for the design process. It is our hope that this pop-up book can educate the public about the rare endemic primates of Agam Regency, Bukit Tinggi, West Sumatra, Indonesia.

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Digital learning innovation on concept development course. A study in visual communication design program at Universitas Ciputra

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ABSTRACT: Online learning becomes an obligation that must be undertaken by higher education during the Covid-19 pandemic. For this reason, it is necessary to adapt to technology and the learning process so that the quality of education in Indonesia can continue to improve even though delivered online. This study using a case study of online learning in the Concept Development course. This study uses a mixed-methods, by surveying a survey of 49 students of Visual Communication Design Universitas Ciputra deepened with interviews. The results of this study get recommendations for digital learning innovations that are appropriate when viewed from the TPACK framework from the aspects of technology, pedagogy, and content. Analysis of the survey results and interview resulted in several digital learning innovations that will apply in the future, including a personality assessment test, real user experience, and collaborative asynchronous learning.

Keywords: TPACK, Technology, Pedagogy, Content, Innovation, Online Learning

1 BACKGROUND

The application of information and communication technology in the development of today's education is a must, especially during the Covid-19 pandemic. Educational technology becomes very crucial as the only medium that can help the learning process at this time. All levels of education are required to adapt to technology and the learning process. Not only applying technology but also maintaining the quality of learning even though the material is delivered online.

The main problem in the world of education in the globalization era is the low level of quality, innovation, and human resources. According to Forlab Dikti data, the reality of the number of Higher Education Institutions in Indonesia is around 4,695 Universities (1,064 Academies, 278 Polytechnics, 2,534 Colleges, 217 Institutes, 583 Universities, 19 Community Colleges). A large number of tertiary institutions cause the unfocused field of science to be studied, resulting in the low quality of learning, research, and publications produced by educational institutions. To lessen the gap, digital learning innovations will be applied to Concept Development courses to prepare students for social, cultural, workplace, and technological advancements.

2 RESEARCH METHOD

The research method used in this study is a mixed-method, which combines the two approaches in research, namely, qualitative and quantitative (Creswell 2015: 5). The selected mixed method is a sequential explanatory design that is a research model characterized by collecting data and analyzing quantitative data in the first stage and followed by collecting and analyzing qualitative data in the second stage, to strengthen the results of quantitative research conducted in the first stage (Sugiyono 2011: 409).

This strategy is carried out quantitatively by survey methods. The survey was distributed to 49 respondents and analyzed descriptive statistics. According to Sugiyono (2012: 13), descriptive

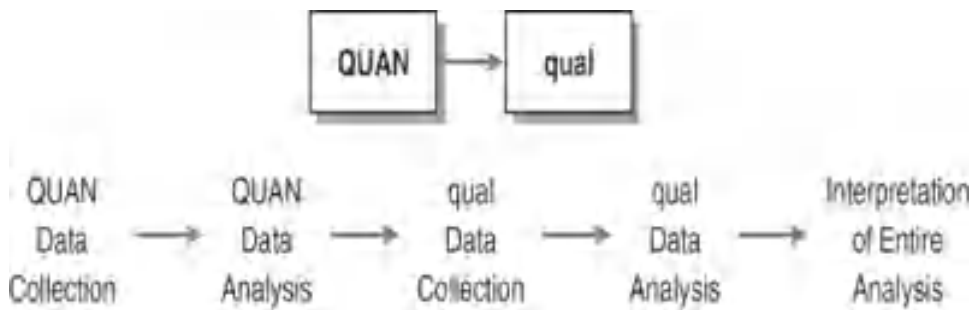


Figure 1. Sequential explanatory design.

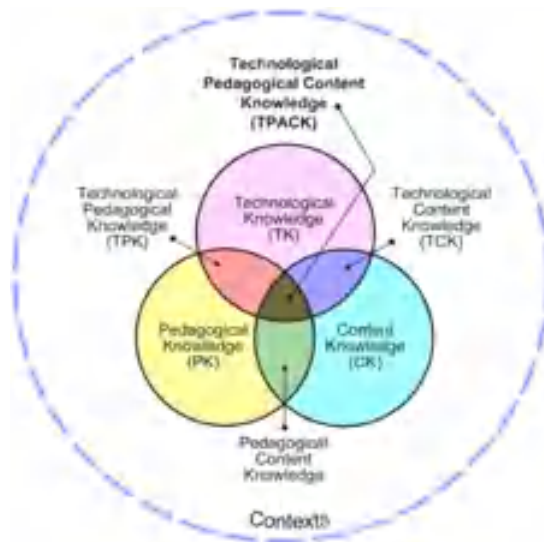


Figure 2. Framework TPACK.

research is research conducted to determine the value of an independent variable, either one variable or more (independent) without making the comparison, or connecting with other variables. In the second phase, the quantitative data obtained deepen through interviews with students associated with the study of literature about the design process and development of online courses. The framework used in this research is the TPACK (Technological Pedagogical Content Knowledge) framework, which considers three main aspects: technological, pedagogical, and content aspects (Kaplon-Schilis & Lyublinskaya 2020: 25–43).

3 DISCUSSION

Concept Development courses aim to provide an understanding of the theory and practice of the process of coordinating and directing design resources to be able to solve problems that occur. After attending this course, students are expected to be able to use design as a management tool to determine and achieve strategic goals. Based on the survey of 49 students the following is a description of the results obtained:

Table 1. Lecturer evaluation by students survey.

	N	Min	Max	Average
Course quality	49	3	5	4,2
Material quality	49	2	5	4,1
Presentation	49	2	5	4,3
Answering question	49	3	5	4,4
Express opinions	49	2	5	3,9
Assignments	49	1	5	4,2

Source: processed secondary data 2020.

From the interview with the students who took the Concept Development course, the following results obtained:

The results of the analysis in the table above produce several insights to apply in the future. The recommendations for digital learning innovation include:

Table 2. Interview.

TPACK	DESCRIPTION
Technology	<ul style="list-style-type: none"> • Adding translation to a presentation • More playful and interactive • Honestly online class is making this course a tough one... • Use slideshow as presentation of material cause people was too lazy to watch material from Youtube (as Youtube is for entertainment, not for study purposes, when we look at Youtube algorithm)
Pedagogy	<ul style="list-style-type: none"> • Tasks that directly work together to help with clients • A bigger group discussion to switch minds and opinions would be great • More personal activities • All that is gained from this learning though it feels fast to understand the steps for this semester but from here, I hope to continue to get learning related to the client so that he can understand when meeting with clients in the future
Content	<ul style="list-style-type: none"> • Know how to create a structural concept • Maybe invite some people to tell their experience that can be related to this class. I think that would be fun and an interesting thing to do • Conducting guidance on getting used to students doing research is good. But I feel it would be better if it was further deepened on how to do research and technical market data analysis. • Explain more about the purpose and giving tips and tricks to help understand the material • Overall I think this class is helping us to know the client's businesses or our businesses way better and improving the skill that we can use in the future! In the end, I really enjoy this class.

3.1 Personality assessment test

The user or client expects the designer to be creative, but often what the designer does not realize is that the client also expects the designer to be confident and able to manage the entrusted project well. Therefore, at the beginning of the lecturing session, students will be given a personality assessment quiz that aims to find out each strength so that they can maximize team performance. Taking the concept of team formation in the startup business, the skills needed in a team are at least three types of people: hacker (developer), hipster (designer), and hustler (communicator) (Medium.com 2018). Through this assessment, students expected to make team formations that can complement each other in impressive ways (Bakan & Bakan 2018: 119–145).

3.2 Real user experience

Students who took the Concept Development course are expected to have holistic abilities in applying design as a real-world problem-solving tool. Therefore, this course presents partners from the industry as real clients with real problems as case studies for students. The purpose of inviting clients is to foster student confidence through the opportunity to make decisions in designing and presenting the idea in front of real clients (Coleman et al. 2016). Thus, students are expected to be able to explain the design concept, why use the design approach, and how the idea can answer the client's needs. This method can also train students' soft skills in managing a design project, such as how they present design concepts and how to answer questions raised by clients. Besides, by introducing students to real clients, they are expected to be able to open opportunities and build their connections to the internship program or even get a job. The learning scheme by involving partners is as follows:



Figure 3. Concept Development course learning activity.

3.3 Collaborative asynchronous learning

This course will apply the learning flexibility with asynchronous learning, collaboration, and multiplatform. Students can still study the subject even though the connection access barriers or conflicting schedules with courses or activities at each campus. The obstacle when carrying out collaborative learning experiences in online learning is when there are limitations to carrying out asynchronous interactions (Hafner & Ellis 2004). For example, students from other universities who take this course and have conflicting class schedules can still learn by watching the learning videos provided by the lecturer. Besides, each week will have periodic assignments that will be



Figure 4. Collaborative asynchronous learning method on Concept Development course.

compiled at a certain as proof of attendance. All material, modules, worksheets used in this course will be uploaded through the Learning Management System (LMS), or other media to facilitate easy access for students. Video material uploaded on YouTube or Instagram, worksheets are shared via email or group chat, presentations through Zoom Meeting media, and so on.

4 CONCLUSION

Based on the results and discussion above, the conclusion is as follows:

1. Digital learning innovations carried out mainly for creative subjects are expected to meet technological, pedagogical, and content aspects such as the TPACK framework to produce ideal online learning innovations.
2. The use of technology and social media can help students feel that courses are more accessible and flexible in using various platforms so that they can be more engaged in online learning
3. Innovations generated in this study, also can be applied to other subjects within the scope of the Visual Communication Design program whose application needs to be adjusted to the learning achievements of each course.

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Online learning and design lectures during the COVID-19 pandemic: A student's experience

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ABSTRACT: The COVID-19 pandemic of 2020 caused changes in learning patterns throughout the world. Higher education was unprepared to provide online lectures to students and different learning platforms only were used sporadically for courses. Negative experiences therefore arose from this new learning process. This study uses a qualitative strategy approach to analyze a survey distributed to 193 students in April 2020. The survey aims to examine the experience of students in attending online lectures. Survey questions that are open-ended questions were analyzed by the affinity diagram technique. Four themes were found to be issues in the negative experiences of online learning, namely the reliability of information technology infrastructure, management of online learning, social presence, and student motivation. The results of these findings are expected to provide input for universities to manage future online learning in higher education.

Keywords: online learning, higher education, learning platforms, negative experiences

1 INTRODUCTION

In the face-to-face method in the physical classroom, the teacher is the center that controls the content and the learning process. Face-to-face learning is limited by space and time and the cost of learning is increasingly expensive. In online learning, students become the center of learning and demand independence, and the flexibility of location and time and unlimited access to knowledge are its strengths (Zhang et al. 2004).

The COVID-19 pandemic of 2020 caused changes in learning patterns throughout the world. Countries enforced rules that demanded that citizens stay at home, therefore teaching and learning activities that were previously carried out face-to-face in classrooms were replaced by using internet media to deliver lessons. Various types of platforms were used so that lectures could run, and these lectures were synchronously and asynchronously. However, in the process of all of this, various negative experiences emerged. A survey conducted by Adnan and Anwar (2020) in Pakistan found that most of the problems were related to limited access to the internet due to technical and financial problems. Students still prefer face-to-face meetings. The same situation occurred in West Bengal, India during the regional lockdown that occurred in the region. Students experienced problems such as depression, anxiety, poor internet connection, and uncomfortable learning environments at home (Kapasias et al. 2020). The qualitative study was carried out by Khalil et al. (2020) who analyzed synchronized online learning from the perspective of medical students. The thematic content analysis found four core themes, namely the educational impact, time management, challenges encountered, and preferences for the future. The challenges and opportunities for higher education in this pandemic were presented by Toquero (2020). This study recommends rearranging curriculum competencies and improving training for lecturers for online learning. This article aims to analyze the experience of higher education students attending online lectures during the COVID-19 pandemic in Indonesia.



Figure 1. Diagram processing software (app.diagram.net).

2 METHODS

This study uses a qualitative strategy approach with data collections through online surveys. The online survey was conducted from April 7–17 2020 to obtain information related to student experiences with online learning. It used Google Forms by distributing the link via WhatsApp to students living in Indonesian cities such as Bandung, Jakarta, Yogyakarta, Surakarta, Pekanbaru, Makassar, and Semarang. In total, 193 students responded.

The survey consisted of 16 questions, some of which were closed, some of which were open-ended. This article focuses on respondents' answers to questions related to negative experiences in online learning during the pandemic. Online learning is focused on design courses which consist of practical and studio courses.

Open-ended questions produce a variety of answers from respondents. To analyze the diversity of answers, the affinity diagram technique was used recognize certain patterns in the answers. To process these answers, a diagram processing software (app.diagram.net) was used by entering each respondent's answer in a box (Figure 1). Boxes containing answers that are similar were grouped into one specific part. And in the end, the main themes of each group that are studied in this article were analyzed.

3 RESULTS AND DISCUSSION

The learning platform most widely used during this pandemic is Google Classroom, a learning management system from Google. Furthermore, the use of instant messaging such as on WhatsApp or LINE dominates the methods of learning through online media. Another popular platform was Zoom, a video-conferencing application that can sync face-to-face remotely. The Learning Management System (LMS) of educational institutions did not seem to be optimized to online learning during the time of the pandemic because of its non-dominant position. It is suspected that the issue of institutional readiness in preparing teaching material makes the choice of institutional LMS not the dominant usage (Figure 2).

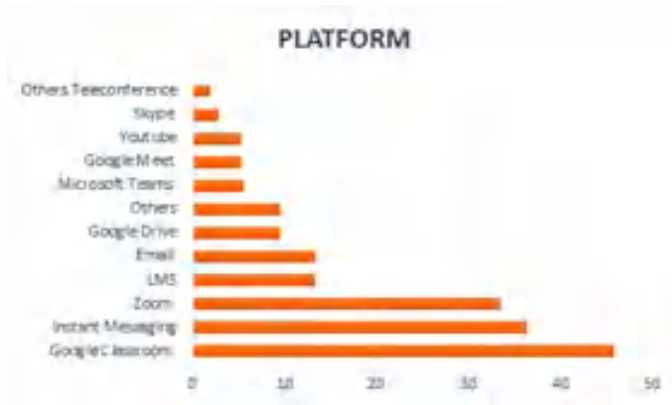


Figure 2. Learning platforms.



Figure 3. Online learning experience.

Google Classroom is asynchronous online learning when teachers and students are in different places at different times. It requires independence from students to understand the system and workflow in learning. In contrast, the Zoom application is an application that can be used for direct or synchronous learning. Teachers and students are present at the same time but in different locations. Assuming a stable internet connection, interactivity between teachers and students can run well. Instant messaging applications were widely used because of their popularity in everyday communication. The use of group features in communication allows one to communicate between people in groups that are created. Instant messaging is an application that has synchronous communication but can sometimes be delayed resulting in asynchronous communication.

On a scale of 1–10 respondents, were asked to rate the online learning they were taking. Score 6 became the most popular choice of respondents, followed by a score of 5. Looking at this data, it is suspected that there were negative experiences experienced by respondents when attending online lectures. (Figure 3).

From the analysis of respondents' negative experiences in online lectures for practical and studio courses, four themes emerged:

- a. the need for information technology infrastructure reliability,
- b. the need for good online learning management,
- c. the need for social presence and interaction, and
- d. the need for student motivation in learning.

3.1 *The need for information technology infrastructure reliability*

The problem that was primarily negative in online learning was that of information technology infrastructure when online lectures take place. This problem includes three groups of problems: internet network problems, internet quota limitations, and device problems used in the online lectures.

According to Bhuasiri et al. (2012), one dimension that influences the acceptance of online learning systems in developing countries is system dimension. System dimensions include infrastructure elements, and the quality of the internet infrastructure and the level of user information technology literacy is fundamental in the online learning process. To measure the level of information and communication technology development in an area, an index of information and communication technology development is used (BPS 2018). The index value is on a scale of 1–10, with the higher the index value indicating the more rapid development of information technology in a region.

Jakarta Province obtained the highest index value of 7.61, which contrasts with Papua province's index of 2.95. This shows that in a region that has a good internet network infrastructure, easier access to the internet network and the population allows for a greater ability of users to master computer technology. The lowest index besides Papua included the provinces of West Kalimantan, Lampung, Aceh, West Nusa Tenggara, North Maluku, West Sulawesi, and East Nusa Tenggara. Inequality in the development of information technology can be an obstacle to the implementation of online learning, especially if it is associated with the aim of increasing access to quality higher education.

3.2 *The need for good online learning management*

The next problem that contributes to the negative experience of respondents in online learning is the problem of managing online learning. This problem is covered in four groups of problems, namely lecture procedures, material understanding, assignments, and assistance processes.

Based on the negative experiences of students in managing online learning, several things can be concluded. Lecture procedures that are not clear and complicate the learning process are related to the application of rules in the online learning system used. Systems and procedures in online learning have not been optimally disseminated to teach participants. Sporadic use of various types of platforms is thought to create a large cognitive burden for teaching participants to understand each system one by one (Sweller et al. 2011).

Related to practical and studio courses contained in the design study program in general, an understanding of materials and tools is a major element in the design curriculum (Buchanan 1995). In distance learning in two different places, initial conditioning becomes a fundamental thing in practical and studio lectures. Both students and lecturers need to have the same material for the optimal learning process. The problems experienced in the survey were related to conditions that do not allow for material presence. The COVID-19 pandemic situation did not allow students and lecturers to get materials easily. In normal situations, learning materials might be presented more optimally for distance learning needs.

3.3 *The need for social presence and interaction*

The next problem that added to the negative experience of respondents in online learning was the absence of social presence and interaction. Although the distance between learners becomes virtually close, physical absence causes invisible nonverbal communication. Richardson and Swan (2003) discuss aspects of social presence in online learning in terms of satisfaction levels. The results of his research resulted in the discovery that there was a good level of satisfaction in students with the application of social presence aspects.

Rourke et al. (1999) focus on aspects of social presence by examining deeper aspects of the affective, interactive, and cohesive aspects of text-based material on computer media. The results of his research found that to create a social presence in computer-based media related affective, interactive, and cohesive aspects are needed. Affective aspects have indicators of emotional expression,

use of humor, and self-disclosure. The interactive aspect has indicators of reconnecting the communication process, reference from other messages, explicit, reference, asking questions, expressing, and appreciating, and expressing signs of agreement. The cohesive aspect has vocative indicators aimed at a particular person, and refers to the group inclusively, making an open greeting. From these studies, it was concluded that social presence in online learning is realized through interaction with peers by including affective aspects in this digital realm.

3.4 *The need for student motivation in learning*

The negative experience of respondents in subsequent online learning is a matter of student motivation. Motivation can be divided into two parts, namely intrinsic motivation originating from within and extrinsic motivation that is triggered from outside the self. In the survey distributed to respondents, there are two groups that arise in motivational issues, namely self-motivation issues and learning environment problems.

On the environmental and personal dimensions in the online learning entities examined by Bhuasiri et al. (2012), there is intrinsic and extrinsic motivation. Intrinsic motivation is a voluntary drive from a person toward activity and aims to satisfy one's psychological needs. Motivation from within a person can be influenced by outside influences such as material use, clarity of instructions, regulations, social pressure, and competition.

According to Kawachi (2003), intrinsic motivation is stronger than extrinsic motivation and is directly related to the quality of deep learning. The formation of motivation is related to educational orientation. Educational orientation is divided into four parts, namely vocational, academic, social, and personal orientation. Vocational orientation is related to skill development while academic orientation is related to achieving intellectual interest. The formation of motivation related to vocational and academic orientation is obtained by bringing out the expressiveness in online teaching. The expression is defined as enthusiasm, friendliness, humor, dynamism, and charisma.

In online learning, students are physically separated from their peers and only meet virtually through the online class provided. The main factor in student failure in distance learning relates to students' feelings of being isolated without the support of their peers. In forming motivations related to this social orientation, online learning must facilitate the building of interaction between students in groups. Developing a sense of community can make learning effective.

4 CONCLUSION

Problems that arise in online learning vary. The government can increase investment in the development of information technology infrastructure so that various regions receive the same facilities as other regions. It is time for universities to focus on developing online learning management that takes into account social aspects and good interaction with learning content. For this reason, it is necessary to further analyze learning content that supports these aspects. Online learning user experience related to motivation deserves attention because of its independence in learning. Factors that can motivate students to learn in a fun way need to be further analyzed.

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Meeting the needs of children in islamic boarding school with monitoring child growth

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ABSTRACT: The parenting of children by their parents is very instrumental in forming the basis of children's education and development. The connection between children, parents, and the boarding school system is also very important in the process of continuing that education. Parental concerns for children have become very common, especially for children who have just graduated from elementary school. The purpose of parenting is to build bonds between children and their parents and guide children to be able to adapt well to their social environment. With everyone so connected to their gadgets to meet their daily needs these days, a digital application is necessary solution to overcome these concerns is monitoring children with the content of an application for their parents.

Keywords: Islamic Boarding School, Children Growth, Parenting, Application, Graphic Design

1 INTRODUCTION

Education plays a critical role in helping to raise children to be quality people who are able to socialize well with their environment. The way parents educate and care for their children is a form of education. Good development and growth of a child are determined by the way parents to raise, care, pay attention, and educate them as they grow up. The boarding school environment must therefore be formed at least in the same way as the family environment so that it can contribute to developing the character of children.

The study of parenting from an Islamic or psychological perspective has been widely discussed, resulting in a variety of parenting styles that do not have targets on how to create children who can become a quality generation. Many studies on how to parent children still do not take into account the current time or religious teachings. The character of a child and his/her concept of self is a reflection on the parenting they received by their parents (Fawaid & Hasanah 2020).

Boarding schools are primarily designed with the vision and mission to educate students, help them develop good morals, and guide them to use their abilities to best serve the community. Boarding school modernization aims to perfect the Islamic boarding school educational system and also establish boarding schools as centers for community development (Hasbullah 1999). Boarding school is an option for parents who are not able to oversee their children's education at home due to lack of time or knowledge.

In previous research (Azizah 2013), many parents sometimes mistakenly interpret the role of Islamic boarding schools as a system that totally takes over the entire education of children, however, students still need the support of their parents back home. Added by Katz (1997), children who get receive and assistance from their parents are able to learn and progress better than children who do not receive it. Many studies have shown that parental support offers infinite benefits to their children.

In psychological research (Devi & Pihasniwati 2017), the adjustment of children in Islamic boarding schools is closely related to the communication that exists between parents and children. Therefore, the better the communication between parents and children, the better the level of self-adjustment, and conversely, the worse the communication between parents and children, the lower the level of self-adjustment in the boarding school. Due to the boarding school system which requires students to live in dormitories, the number of meetings between parents and children is reduced, therefore according to Fatimah (2008) higher quality interaction between them is more important than quantity as quality communication can build a sense of closeness between parents and children.

In other psychological research, Monica (2017) reports that the closeness of parents to children also plays a significant role in a child's self-confidence while away at Islamic boarding school. The closer the parents are to the children, the higher the level of self-confidence in a child. In addition, according to Nurjanah & Heryadi (2020), parental closeness also has a significant effect on children's social intelligence. At the Modern Miftahunnajah Islamic Boarding School, the effective contribution of parent-child closeness contributed 12.1% to children's social intelligence. It can be concluded that the closeness of parents to children also has a significant effect on the development process of children in Islamic boarding schools.

The purpose of this study is to help parents monitor development and meet the needs of their children while they are away at boarding schools. Parental support usually includes moral support for psychological fulfillment which includes affection, modeling, guidance and direction, encouragement, enthusiasm, motivation, and confidence, where the attention of parents is the hope of all children in their growth and development. With the development of technology, one solution to help parents monitor their children is the creation of a digital application.

2 METHOD

The method used in this research is a qualitative approach by collecting data through literature study, interviews, observations, and questionnaires. After data collection, the next method is to analyze data using SWOT for application content design requirements.

2.1 *Method of collecting data*

Through the literature study method, data collection is done by looking for references on how parents care for children so that there is a correlation with the needs of the main subject on this research topic and the perspective and context. The interview is a conversation that aims to explore thoughts, concepts, personal experiences, convictions, and views of sources, or to obtain information from sources about events that cannot be observed directly by the researcher or about events that occurred in the past (Soewardikoen 2013). Interviews conducted are direct and indirect. In addition, this method will be carried out together with the observation method. Observations were made at the Daar El-Qolam Islamic Boarding School. The resource persons to be interviewed were the boarding school and the parents. The questionnaire is a way to obtain data in a relatively short time because at the same time many people can be asked to fill in the written answer choices provided (Soewardikoen 2013). The questionnaire was made as secondary data and distributed to the parents. The results obtained from the SWOT analysis will be designed to suit the needs of children in boarding schools and their parents.

3 RESULT AND DISCUSSION

3.1 *Segmentation, targeting, and positioning*

The customer segmentation of this application is parents aged 30–50 years, both male and female. Social status is emphasized more for middle- to medium- and upper-middle class in big cities in

Indonesia. The target users are parents who use smartphones to meet their daily needs, with a medium lifestyle that prioritizes practicality in carrying out daily activities. As a parent who wants to monitor the development and meet the needs of their children easily, efficiently, and practically, application content will be created that can be used to monitor developments and meet the needs of children in the Daar El-Qolam Islamic Boarding School.

In this application, parents receive various kinds of information about health, education, finance, and children's activities in Islamic boarding schools. However, parents can also purchase items for their children's needs through the app as well as communicate through social media features provided in the application with the school, as a means to convey messages to their children. This application is designed to be modern and dynamic, targeted at the middle- to upper-middle class.

3.2 SWOT analysis

From the SWOT analysis, we obtained the desire of boarding schools, as well as the government, to develop application design content for parents designed to suit the needs of their children in boarding schools.

Table 1. SWOT analysis from the interview and observation method.

	Strength	Weakness
	Accredited Education (A) Have an international program The slogan "Caring for tradition and responding to modernization"	Do not have an application that can be used by parents to monitor children's development
Opportunity The phenomenon of technological development 4.0 as well as government support for the development of Islamic boarding schools	With the development of technology 4.0 and support from the government for the development of Islamic boarding schools, Daar El-Qolam Islamic Boarding Schools better can realize their slogans	The design of this application could be one step for the Daa El-Qolam Islamic Boarding School in responding to the development of technology 4.0
Threat Some Islamic boarding schools have implemented applications for parents	Accreditation (A) and international programs can be one aspect of excellence in competing with other Islamic boarding schools that have applied applications for parents	A good application design in accordance with user needs will make this application more functional for all needs

3.3 Message and communication concept

Based on the data obtained through interviews, questionnaires, and observations that were made to answer the background of parents' concerns about the needs of children in Islamic boarding schools, the concept of this application was born. The concept of the message to be conveyed is the trust of parents about child parenting in Islamic boarding schools. This is one of the important factors that can influence the success of children in boarding school. With this platform, it is expected that parents can increase trust in children and Islamic boarding schools, especially Daar El-Qolam.

The concept of communication that will be made in this design is an application related to the User Interface and User Experience which is one of the fields of Graphic Design. Mobile apps are used as the output of this design because they are in accordance with the target, specifically parents who prioritize ease in their daily activities. To achieve the engagement of design functions and user

needs, in this study the AISAS (Attention, Interest, Search, Action, Share) approach is used as a conceptual strategy to attract the user’s attention to find out more about this application. Besides that, boarding schools will also place ad banners to advertise their boarding school environment.



Figure 1. Strategy to attract the user’s attention: (1) stand banner, (2) poster (both placed at boarding school) and (3) billboard and (4) poster (both placed in public places).

After the users see large-scale advertisements, they will be able to use this application by downloading it at which point they will see promotional media, such as social media, brochures, and x-banners, are placed there by their school. Users can download this application on the Google Playstore or Apple Store, followed by downloading and using this application as a medium to monitor their children’s development so as to meet their needs.



Figure 2. Example of the mobile application, showing strategy for encouraging users to utilize the application.

Furthermore, after users use the design content contained in this application, they will share their experiences on social media sites such as Instagram, WhatsApp, Line, Facebook, and others.

4 CONCLUSIONS

Parents' concerns about wrong parenting, as well as the perception that children who attend a boarding school will be good children, can be seen as a solution to keep monitoring child development from both the point of view of the school and of parents. By utilizing UI/UX technology, it becomes possible for a parent to meet their child's needs while away from home.

The design of this application was carried out during the COVID-19 outbreak, which certainly made obtaining maximum data impossible. However, the design content that exists in the current design can be developed not only for boarding schools, but also for playgroups or daycare.

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Digital technology and cultural evolution



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Investigating the Zen concept in the interior setting to engage customer place attachment: An interior design for a Japanese restaurant in Bandung

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ABSTRACT: This study investigates how a Japanese restaurant incorporates the attributes of Japanese culture and the Zen concept in its interior setting to engage customer place attachment. The research used a qualitative method with a case study at the Shabu Kojo restaurant in Bandung. Qualitative research was performed by conducting interviews and distributing questionnaires to customers. To implement the research, the Zen concept was applied in the form of natural colors, shapes, artificial lighting, and traditional furniture with Kanji letters, as well as comfortable rooms for gathering. The research demonstrated that the principles of the Zen concept, style of Japanese culture, and Japanese philosophy can be used to produce interior design and engage customer attachment. These research findings will be a reference for to enrich further research.

Keywords: interior setting, customer place attachment, Zen concept, Japanese restaurant

1 INTRODUCTION

Most customers visiting ethnic restaurants expect to engage in place attachment and experience the authentic atmosphere of the restaurant's origin. The phenomenon of place attachment is one potentially important characteristic of satisfied and loyal customers (Rojak & Cole 2015). One aspect that supports place attachment is its interior design. As has been stated by Andreani et al. (2013), the unique and ancient interior and exterior design of a restaurant can easily attract consumers. In fact, a restaurant's interior design is one of the essential factors that helps make a restaurant a destination (Rahma et al. 2017). Meanwhile, Levy & Weitz (2001) state that adequate interior design creates a feeling of comfort, pleasure, relaxation, and calm that creates a feeling of satisfaction from the customer. The Shabu Kojo restaurant is a typical Japanese traditional-style restaurant designed to connect it to Japanese culture via its interior design. Some traditional Japanese ambiance applications are used such as in lighting, furniture, and atmosphere.

Based on the observations conducted through customer interviews and questionnaires at the Shabu Kojo restaurant, a restaurant's interior design aspects that best represent Japanese culture and philosophy are its atmosphere, colors, natural materials, lighting and ambiance, furniture, and comfortable private rooms. However, the Shabu Kojo restaurant has not applied all those representations. Therefore, there is a need to create an interior design that will engage customer place attachment. This study investigated the restaurant's visitor experience and comfort perceptions and then demonstrated how to apply the Zen concept in a Japanese restaurant.

The Zen concept as a Japanese cultural principle is well known among Indonesians. The Zen concept is a classic trend that brings a sense of peace and balance. The principle in Zen interior is to balance the arrangement of life and the rooms, life in the room and the room itself are two things that affect each other (Ashralika 2019). Wirayuda (2020) explains that the Zen concept can be applied to in the following ways: (1) color selection; (2) shapes; (3) lighting and ambience;



Figure 1. Color application. (Source: Personal Documentation, 2020).

(4) furniture; and (5) comfortable private rooms. Therefore, there is a need to improve Sabu Kojo restaurant's aesthetics and functionality so as to be strongly identified as a Japanese restaurant.

2 RESEARCH METHODS

The research uses a qualitative method with a case study from the Sabu Kojo restaurant in Bandung. The restaurant was chosen as the research object because it is one of the local Japanese restaurants with a definite connection to Japanese culture.

The research started from data observation and data collection by interviewing 4 customers and distributing 20 questionnaires. The interviews and questionnaires explored how the existing interior represented Japanese culture, as well as questions about the overall interior and expectations of what interior could be. The next step was analyzing what concept was relevant to customer expectation. The final step was to design the interior.

3 RESULTS AND DISCUSSION

3.1 *Theme and concept design*

The Zen concept is a classic trend that can bring a sense of peace and balance. The theme design of this Japanese restaurant was “beauty is the harmony of purpose and style” and the atmosphere created by the interior was comfortable, warm, friendly, and homey.

3.2 *Color application*

Zen is the path to enlightenment and its design theory is based on light. The theory of color psychology mentions that brown is identical to something natural. These colors have the power to create relaxation and calm. The colors expressed by light are the calmest and most harmonious when the colors are natural like sunlight (Ashralika 2019). Darker colors evoke different moods and can be preferred in different dining situations, leading to different colors choices for tableware (Bao et al. 2018). When the color white is used properly, it is an effect that will not disappoint. The use of natural colors is the hallmark of the Zen concept, as seen in Figure 1.

3.3 *Architectural shape*

The application of interior shapes such as rectangles to the design theme brings in the feeling of natural resources which correlates to the principle of Japanese life that it is important to always



Figure 2. Implementation of natural resources. (Source: www.google.com).



Figure 3. Lighting application (Source: www.pinterest.com).

being close to nature (Widjaja 2013) and in harmony with nature (Inayah 2017). The restaurant wall is designed to resemble the shape of a traditional Japanese house to give the impression of being in a Japanese environment (Figure 2), further enhanced with aesthetic elements such as paintings, ornaments, and lanterns that adorn other dining areas. In addition to massive walls, temporary walls are used in the stretch area to maintain privacy between customers. The partition that would use shoji is a panel made of a wooden frame and transparent paper, with the addition of a curtain cloth to better maintain customer privacy.

3.4 Lighting

The implementation of lighting in restaurant can be divided into two categories: natural and artificial (Figure 3). Natural lighting is optimized through relatively large glass windows with Japanese patterned shading. Artificial lighting uses general lighting and accent lighting used in the form of hanging lamps, downlights, and track lamps. Hanging lamps are used in the circulation and dining areas, as general lighting and accent lighting use lanterns installed in each bulkhead between the tatami dining areas. Chandelier lights are used in the buffet area. The lighting is bright to accommodate cooking and eating activities, but the outside dining area is relatively dimmer by only using hidden lights on the floor area for direction, in addition to a hanging lamp that further lights the way.

3.5 Furniture

The furniture concept based on the Zen style is designed with simple characteristics and natural materials. The main furniture application concept is used in the form of a dining table and tatami made of wood and bamboo, serving as a dining area. Other supporting accessories used in restaurants are Japanese decorative accessories, such as typical Japanese paintings and Japanese patterns. According to Rucitra & Permatasari (2017), chair furniture is designed according to function, while still paying attention to elements of Japanese culture such as the shape of the Kanji letters and the application of Kanji in the form of chair furniture designs (Figure 4).



Figure 4. Kanji letters in furniture application (Source: Personal Documentation 2017).



Figure 5. Buffet area visualization. (Source: Personal Documentation 2020).

3.6 Space classification and a comfortable room

Customer expectations of a comfortable room can be designed with two dining areas, namely a public dining area that has a four-seat tatami dining area and a six-seat tatami dining area. The classification of the space is based on the needs and activities that occur in the restaurant during the activity.

Figure 5 showcases the design of the buffet area. The center of visitor activities takes place inside the restaurant so this area is in the middle making easier to access for visitors. The application of wood on the buffet table and natural stone on the walls creates a natural atmosphere that increases the comfort of visitors.

4 CONCLUSION

This study examined the Sabu Kojo restaurant, a Japanese restaurant in Bandung. The restaurant's Japanese design style has a theme of "beauty is the harmony of purpose and style."

The application of the Zen concept is represented by calm and harmonious colors. Architectural shapes such as rectangles are designed for using natural materials such as exposed concrete flooring, tatami, and granite that are applied in paintings, ornaments, and dining area. Natural lighting is applied through large glass windows with Japanese patterned shading, meanwhile artificial lighting is used in the form of hanging lamps, downlights, and track lamps. The furniture concepts applied in the dining table and tatami are made of wood and bamboo in the shape of the Kanji letters. The comfortable room is designed as a public dining area that features a large sitting table in the middle of the room at which one can relax and be comfortable together.

The Zen concept can meet customer place attachment which can enrich the customer experience. This research can be used a reference for other ethnic restaurants.

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Visualization of Indonesian culture as backgrounds in Pocari Sweat Ads “Bintang SMA”

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ABSTRACT: COVID-19 made the advertising business drop forcing shifts in its media strategy toward digital media. One of them is by using animation media, such as the Pocari Sweat animation ad “Bintang SMA”, where the ad also carries some cultural values. This research studies how Indonesian culture is represented in the animated background of the Pocari Sweat animation ad “Bintang SMA”. The data obtained from case studies, documentation, and distributing questionnaires methods were analyzed using the theory of cultural movement and local culture. From this study, it is known that the Indonesian culture is represented in Balinese and Jakarta culture through location, architecture, and property settings. The results of this research can be used as input for those involved in the world of advertising, especially in compiling an animated media advertisement by raising cultural elements as an advertising solution in the middle of the pandemic.

Keywords: advertising, animation, Indonesian culture, Japanese visual style, COVID-19

1 INTRODUCTION

The COVID-19 pandemic has triggered a decline in activity in various fields, including in the world of advertising. As stated by the Association of Indonesian Advertising Companies (P3I), the advertising business has decreased by 35% from March to April in the last two months. This requires creative industry players to innovate in making advertising strategies and adjusting to the current situation. According to Janoe Arijanto, chairman of P3I, the advertising industry is currently trying to encourage “goodvertising”, which is a form of communication that is more empathetic, relevant, and provides solutions to the complexities experienced by the public (Jawa Pos 2020).

This is because the pandemic is expanding and the work from home policy has also increased as has watching television and internet consumption. Therefore, brands are starting to shift their media strategy toward digital by using simple and efficient material without reducing their advertising goals and intentions. One of the efforts that can be made by a brand in advertising with simple and efficient media is using animation media. By switching to using animation media, it can be a substitute for shooting commercials that are done directly at several shooting locations. Therefore, this can be used as an alternative to keep health protocols running during a pandemic and remain productive to increase the creative economy. This is also supported by the results of the questionnaire that showed that 97% of respondents stated that animated ads were effective in delivering product promotions and 97.3% also stated that animated advertisements could be used as an alternative choice for an advertising solution during the COVID-19 pandemic. Therefore, in this study, researchers introduced a case study on the animated advertisement of the Pocari Sweat “Bintang SMA”, where the advertisement carried several cultural values which were met with the right momentum, namely the limited production of advertisements due to the COVID-19 pandemic and taking advantage of the development of the Makoto illustration style trend, who is very popular in the world of animation. So, the creative industry movement is not just a fleeting trend, not just a lifestyle, but a continuous opportunity. This also fits perfectly with the concept of goodvertising that is being developed. In previous research conducted by the Munggaran, entitled “The Meaning

of Cumulonimbus Clouds as Background Art in the Animated Film *The Girl Who Leapt Through Time* by Mamoru Hosoda”, it is known that the background has an important role and it contains a representation of culture (Munggaran 2019).

This paper stated that natural objects, namely clouds in Japanese animation, contain certain meanings in Japanese culture. There it can be seen that the background has a role that is no less important than the presence of characters. However, there has been no further research that discusses the representation of Indonesian culture on an animated background, therefore this study intends to study how Indonesian culture is represented in the animated background of the Pocari Sweat advertisement “Bintang SMA”. So that the results of this study can be used as input for parties involved in the world of advertising, especially in compiling an animated media advertisement by raising cultural elements as an advertising solution amid the COVID-19 pandemic.

2 RESEARCH METHOD

This research is included in the qualitative paradigm. Research was conducted by looking at specific patterns is then developed into more general patterns and aims to generate hypotheses from field research. This is supported by Judistira K. Garna’s statement which states that a qualitative approach is characterized by the aim of the researcher who seeks to understand symptoms in such a way that does not require quantification, or because these symptoms are not possible to measure quickly (Afdjani 2010). The method used is a case study on advertisements that are in accordance with the research objectives, namely the animated ad Pocari Sweat “Bintang SMA”. This is because the ad has succeeded in attracting the attention of the audience. On YouTube, the advertisement has been watched more than 14,714,720 times. Besides that, the Japanese anime-style illustration style wrapped with the diversity of Indonesian culture makes the advertisement have its own charm. Data collection techniques used are field studies to obtain primary data obtained through documentation and collecting animated media advertisements in image format derived from recorded advertisements on YouTube media. As well as distributing questionnaires online, to obtain data on audience perceptions of the animated Pocari Sweat “Bintang SMA” ad. From the distribution of the questionnaire obtained data of 303 respondents, with a dominant age between 15–20 years, who are in junior high and high school. In addition, a literature study was also carried out to obtain secondary data through books, journals, articles, and some literature on internet sites. The data that has been obtained is analyzed using the visual discourse analysis method, a method that has a function to find meaning and discourse in a work based on capital such as visual, verbal, and sound (Kress & Leeuwen 2006). In addition, it is supported by cultural movement theory, which is a theory that explains that a brand is not just designing a logo and developing a narrative but is much more fundamental, namely re-coding it culturally or culturally (Hendroyono 2019).

3 RESULT AND DISCUSSION

The 60-second Pocari Sweat animation ad “Bintang SMA” tells the story of two students: Ayu slive in Bali and Reza lives in Jakarta. Both want to achieve their goals by participating in Bintang SMA. This ad is directed by Shinomiya Yoshitoshi, a Japanese animator who is heavily involved in animation production, especially in the case of illustration and background design. Some of the anime that he has worked on are anime by director Makoto Shinkai, such as “Children Who Chase Lost Voices”, “The Garden of Words”, and “Your Name” (Kusumanto 2019). Therefore, this ad also utilizes the right momentum by carrying the nuances of the Japanese anime style to represent the origin of the Pocari Sweat drink, but still wrapped in the diversity of Indonesian culture as local wisdom where the ad is located. Based on the results of the questionnaire, obtained data showed that the background scenes that stand out in representing Indonesian culture are the statue scene at 74.4%, the Bundaran HI scene at 66.8%, the offering scene at 60.5%, the school gate scene at 58.8%, class atmosphere scenes at 48.8%, kite festival scenes at 33.9%, bus stop

scenes at 19.9%, and Wisma 46 scenes at 7.6%. Therefore, this research will be divided into three parts, First, the school which consists of the school gate scene and classroom atmosphere. Second, Bali, which consists of a statue sculpture scene, a scene of offerings, and a kite festival scene. Third, Jakarta, which consists of the Bundaran HI, bus stop, and Wisma 46 scenes. After that, each of these parts will be analyzed more deeply based on the location, architecture, and supporting properties because based on the results of the questionnaire, 59.8% stated that the architecture of these animated advertisements had a majorly contributed to representing Indonesian culture.

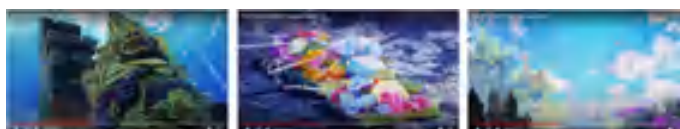
3.1 School



a. Location Settings

The ad begins with a frame that shows the location setting of a school by displaying two different school gates side by side. In image (1), the background is seen in the form of buildings and gates of Bintang Pratama and Ganesha Denpasar High Schools. The gate as the “face” of a building is used as a sign of place identity (Pattymahu 2016), supported by the placement of scenes in the first frame. In one frame, there are two gate facades with two different identities. On the left side, the gate structure is commonly found in schools in Indonesia. On the right side of the frame, local identity is more focused on Balinese culture, which can be seen from the variety of decorations and archways. In picture (2), the building background is visible and there are windows, curtains, and poster frames. This shows that the background of this frame is in the form of classrooms of Bintang Pratama High School and Denpasar Ganesha High School. This frame shows that at the beginning of the ad the chosen location setting has been explained in this animated advertisement, which shows that modern urban locations are represented through the Bintang Pratama High School. From success comes growth, which is in line with urban conditions that are moving toward modernization. In addition, locations that represent regions can be seen throughout the dominant Ganesha Denpasar High School that use brown as a symbol of simplicity, classics, and tradition. Besides the frames that are displayed in parallel, it also represents that the frame intends to compare two different locations with the same time or condition.

3.2 Bali



a. Location Settings

The next frame shows the location setting of Bali which represents Ayu’s residence. The Dvarapala statue, flower offerings, and the Balinese kite festival characterize the unique atmosphere of the island of Bali. If analyzed further, Bali Island is the choice of setting of this animated ad location because it represents the regional lifestyle in Indonesia which is still calm and beautiful. This is because Bali, despite being a tourist destination visited by tourists from abroad, can still maintain its local culture so that it becomes a special attraction

for tourists. Therefore, Indonesia, besides being known as having Jakarta as its capital, is also known as Bali as a tourist area that is thick with Indonesia's local culture.

b. Architecture

The identity of Balinese culture in this advertisement animation was first shown through the first scene at the school gate. The school gate is filled with Balinese decoration. The decoration on the Balinese architectural gate has a symbolic meaning which also is used as a sign of building function and the position of the building owner (Suryada 2011), whereas the Balinese-style ornamental gates shown in this animation represent no special forms or motives that have any particular meaning behind it. It's just that from the material and shape used, it's enough to show the identity of typical Balinese architecture.

c. Properties

- Dvarapala Statue

According to Arina (2019), the Dvarapala statue consists of a pair of large muscular statues with bulging eyes, a large fanged smiling smile, and usually carries a mace in charge of guarding the temple gate. It has a philosophical and deep meaning behind it. This statue is believed to reflect human beings who will enter the sacred area and remind them to be introspective and clear their thoughts, actions, and words.

- Bali Kite Festival

The Bali Kite Festival is an international event that is held on an annual basis in Padang Galak, Sanur, Bali. There are various forms of kites shown in this event, such as fish (*Bebean*), birds (*Janggan*), and leaves (*Pecukan*). Usually, people fly and compete with traditional giant kites. This is wrapped by religious events with the intention of sending messages to Hindu gods so that they can bless them with abundant agricultural produce (Freidin 1989).

- Offerings

Offerings are offerings to Hindu deities, usually in the form of flowers or food. The offerings are placed in a container (such as a leaf or tray) and placed in a certain place. The Balinese have a belief that if they make their offerings they will be kept away from bad luck and will be blessed with safety and prosperity (Tracy 2016).

3.3 Jakarta



a Architecture

The location shows the hustle and bustle of the city of Jakarta such as the Bundaran HI and Bung Karno bus stop. This can immediately inform the audience that these two student residences have very different atmospheres. The frame that shows Jakarta's city landscape which is a metropolitan city can be seen from skyscrapers and the dense traffic conditions that are the face of Jakarta. One of the landscapes that became the icon of the city of Jakarta in this animation is the Selamat Datang Monument which is located right in the middle of the Bundaran HI or the Bundaran Hotel Indonesia and the Bung Karno Bus Stop. Besides that, the pen-shaped blue skyscraper clearly visible in the Reza scene inside the subway is Wisma 46, which is the second tallest building in Indonesia after Gama Tower (Wahyudewi

2016). With its unique shape, Wisma 46 is one of Jakarta's most notable icons, besides the National Monument.

4 CONCLUSION

From the analysis provided here, it can be concluded that Indonesian culture is represented in the background of the Pocari Sweat advertisement "Bintang SMA" through the location, architecture, and property settings. The Indonesian culture presented in this animated advertisement is Balinese culture, which is thick with various decorations in the form of carvings both in architecture and property, such as the Dwarapala statue and events such as the kite festival and offerings. Meanwhile, the culture or lifestyle of Jakarta is conveyed through architecture such as skyscrapers like Wisma 46 and the Welcome Monument, as well as the congested traffic conditions at the HI Roundabout or the Hotel Indonesia Roundabout. The animated Pocari Sweat ad "High School Star" shows that cultural values are the main concept in their advertisements. In recent times, a brand will increasingly exist if it has strong ties to certain cultural values (Hendroyono 2019). Makoto Shinkai's beautiful visual style and detail are at the peak of his fame and are utilized in this animated advertisement which can attract buying interest from certain groups. This is also being developed in the world of advertising in this pandemic era, which is called "goodvertising". Besides, when viewed from the media selection in the form of animation, based on the results of the questionnaire, it can be concluded that animated advertisements are effective in promoting products and can be used as alternative advertising choices during the pandemic. Thus, it can be understood that making an advertisement is not only about persuasion and selling products or services, but also must pay attention to the situation and take advantage of opportunities, enabling the brand to survive through various situations.

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Adaptable and Instagrammable features in the interior of a University Library

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ABSTRACT: The existence of a library is very important for the sustainability of a university. However, in reality there is still the assumption that a library is just a complement to accreditation. In addition, libraries aren't being used as much by current millennial academics who are more interested in and pampered by gadgets than visiting to the library. The ease of getting information, entertainment, and socialization can be found online, therefore the university library needs to change from rows of bookshelves and tables to a more varied of layout. This paper examines the interior of modern and contemporary university libraries. Being adaptable and instagrammable becomes one of the considerations of a library's updated interior. The research methodology is implemented using the descriptive qualitative method at the Open Library at Telkom University, Bandung. The conclusion of this paper is that a university library must support "work-leisure-learning" activities.

Keywords: adaptable, instagrammable, interior, library

1 INTRODUCTION

The changing world of technology requires that every aspect of our lives to adapt, and universities are no exception. The university campuses of old must transform themselves into appearing young, energetic, and fun. Their learning atmospheres must be created with enthusiastic "work-leisure-learning" in mind so as to appeal to the current generation of college students (Kasali 2013).

The existence of a library is at the very core of a higher education institution and can be seen as the "the heart of university" (Darwanto 2015; Mubasyaroh 2016). The library is a vital facility for the improvement and sustainability of a university. But in reality, many at the university assume that a library only acts a complement for the school and that its function is sub-optimal at best. Few in the academic community take advantage of that facility. The academic community, especially lecture and college students, are dominated by millennials who are all-too familiar with electronic gadgets. They are the modern generation born between 1980–2000, and, generally, this generation tends to place more trust in user-generated content (UGC) than unidirectional information, prefers cellphones to TVs, must have social media, do not like to read conventionally, more flexible with commitment at works, conduct cashless transaction, know more about technology, utilizing information, and communication technology, multitask, and tend to be lazy and consumptive (Hidayatullah 2018). Therefore, this generation sees the world differently than previous generations, lives in an online world, and uses social media as a tool for expression and to make a living. (Kasali 2017).

The interior of a building is a form of a built environment that embodies all human activities. The physical, physiological, and psychological needs of humans factor into the design of a room (Rengel 2016). The library is not only a place but also a space that encompasses a lot of activities, from user interactions to a room for creating a learning atmosphere. As the millennial generation has very different way of studying than their previous generations (Ertel 2019; Priyanto 2015), a modern library's interior needs to support their needs.

Andrew McDonald said there are ten factors plus one that important to note in the ideal library interior: functional, adaptable, accessible, varied, interactive, conducive, environmentally suitable, safe and secure, efficient, equipped with information technology, and the extra factor “the oomph” or ‘wow’ (Letimer 2007). Adaptable is important for libraries to be able to change and adapt to the changing times. While the factor ‘the oomph’ or with terms ‘wow’ means that the library not only becomes an inspirational and fun room but it also gives spirit for the academic community. In the end, the library has the function to not only as a place to lend a book and read it but can also be a place to create an atmosphere ‘work-leisure-learning’. For it, interior design for the library is important to note character from the user, such as age, gender, culture, and other (Majidah 2019).

2 METHOD

This paper analyzes the interior design of the Open Library at Telkom University (Openlib Tel-U) in Bandung, West Java. The modern library is located at Telecommunications Street no.1, Sukapura, Terusan Buah Batu, Bandung, and encompasses an area of 3200 m² with a total collection of 150,971 books and 95,891 titles. The vision of Openlib Tel-U is to become the leader of the scientific center with world-class governance. The missions are active in knowledge acquisition, knowledge management, and knowledge sharing, active in reading and writing improvement in the community, and working together with institutions that have the same vision. The interior design has a “green futuristic” concept and international standard.

The descriptive qualitative research method was used. The primary data was obtained by field observation and interviews with the developer and respondents who are students. Secondary data was obtained from printed as well as electronic (internet) literature. Printed literature includes reference books and newspapers while electronic literature involves websites, profile videos, Instagram, blogs, social media, scientific journals, and online proceedings.

3 RESULT

3.1 Interior of Openlib Tel-U

The interior of Openlib Tel-U utilizes green futuristic and modern concepts. The interior layout is split into three areas. The left side consists of a special collection room, a reading area, library café, and discussion rooms. The right side is utilized for general book collections, a reading area, discussion rooms, a mini theater, and a sit-down reading area. The middle area consists of the circulation area and a reading area equipped with tables, chairs, and sofas, utilizing an open area without any partitions. Several corners of the area are attractively designed with sofas and bookshelves. The interior concept minimalizes the use of a partition, and only discussion rooms have a glass partition. The application of colorful and bright colors on the wall provide fresh and cheerful stimulation for the users.

3.2 Adaptable for Library interior

Being adaptable means being able to easily and quickly adjust, and be inconsistent and flexible. Adaptable concepts can also mean something that is not monotonous. The nature of adaptability in a room includes three components: expandability, convertibility, and versatility. Adaptable spaces can accommodate expansion, change in function, and provide multifunctional space (Ballast 2007). The adaptable concept in the Openlib Tel-U interior was applied with minimal implementation of a massive wall so as to maximize the use of an open space concept. The impressions of an adaptable concept and the feeling of friendliness can be experienced once entering the center area. A curved partition gives a familiar but not rigid impression. The ability to change or expand in the future as needs change was also considered. The computer area for internet browsing was restricted with

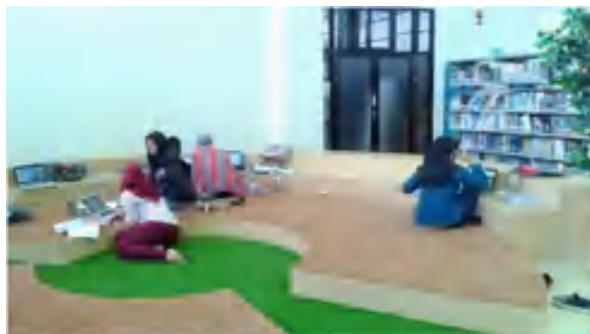


Figure 1. The reading area provides an information feeling. (Source: desinovs.blogspot.com).



Figure 2. The steps used to sit. (Source: openlibrary.telkomuniveristy.ac.id).

an iron pipe mounted vertically, as if a giant birdcage was surrounding the computer desk. The reading area with bookshelves is separated with different floor heights and does not use a closed partition.

The adaptable concept was also seen in the reading area with the procurement of furniture variations. There are several reading areas and discussions room with no seats. This situation gives an informal and more relaxed impression. Meanwhile, near the bookshelf area there is a multifunctional stair. That stair connects the bookshelf area to the mezzanine floor which uses the reading area. The stair is used as the way to go up and down to the mezzanine floor. Some part of the stairs are utilized as seating and reading areas. Some areas are equipped with a sofa for reading with in more relaxed position. The rest of the area consists of tables and upright chairs for single users or groups.

Most furniture layout and interior elements are in the form for a curve, following the room's shape to create an exciting and fun atmosphere. The atmosphere is informal, curved in shape, and furniture can be dragged out for interaction and to attract communication. Also, the material used in the seating facility at the lobby and book display are made of materials that give a bright and light impression. Some area even use a short table for a writing facility so the user can sit on the floor that utilizes synthetic grass. The use of colors that are not monotonous, and reading area placement makes user activity more interactive and supports a “work–leisure-learning” atmosphere.

3.3 Instagrammable

Instagram is one of the social media apps that is very popular with the millennial generation. Instagram is a platform whose usage is similar to their character—energetic and up to date. The applicative social media is used to represent the user themselves. Instagram makes it possible for a user to post a photo or video so that another follower can see and comment on it. The satisfaction



Figure 3. The middle area as a photo spot. (Source: openlib.telkomuniveristy.ac.id).

of the user on Instagram is the effort to get the angle of shooting a photo as good as possible to appeared very excited or as it is known: “instagrammable”. Millennials will always stay at a place for a long time if get they are instagrammable sites. Instagrammable pictures can be realized via an interesting interior pattern.

Based on student respondents at Telkom University, an area that is considered quite interesting and instagrammable is the middle area of Openlib Tel-U due to its stair and ramp that connect it to the mezzanine, the birdcage area, the colors used, and the corner reading area. The middle area of the Openlib Tel-U is the first area that vistor enters into. The circulation in the service room is radial, and its counter table is marked by a curve as a focal point. The stair and ramp on the left side has a stair and ramp is seen as an instagrammable spot because its radial pattern is quite interesting. The use of the green artificial grass floor covering provides a connection to a futuristic green concept.

The entrance of the book collection area also has an instagrammable design. Besides the function as an access to the reading room in the upper floor, the stair can be used as a seat. The red color on the cushions is in contrast with the reading room area. This is the focal point, so the sub-stair is used as a photo spot area.

The birdcage area is shaped as a radial area that is made similar to a birdcage by using iron pipe and finished a white color. It is an area for browsing the internet and is very memorable and always remembered by librarians because it is unique and instangrammable.

The discussion rooms are available for visitor use and and the sizes of the rooms vary. Each room uses a different color and features inspirational quotes on the wall. By using a fresh color, it makes the atmosphere of the discussion room more lively. Color plays an important role and has the extraordinary power to remove emotionality. The colorful discussion rooms are also photo spots used by the students.

4 CONCLUSION

The library at a university provides a big contribution to the provision of learning resources and information access for the academic community. A library with adaptable and instagrammable concept for the interior can create an interesting, and not monotonous, atmosphere. The use of fresh color and a curved shape concept for furniture and Openlib the Tel-U layout become important aspects of creating a fun learning atmosphere. Variation in learning areas provide college students with a way to obtain an alternative are for reading book or taking a test. Therefore, the interior of the library can support “work–leisure–learning”, which is very suitable for the millennial generation. It is the hope that all of this will attract students to visit the library more often.

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The influence of existing activities around public spaces on the selection of location and type of street vendors' business. Case study: Tegallega Park, Bandung, West Java

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ABSTRACT: The presence of street vendors who use public spaces as places of activity has caused various problems. Tegallega Park as a public space in the form of a park is also affected due to the presence of street vendors in it. This study aims to see and understand the relationship between activities around the park and the location selection and type of goods that are traded by street vendors. The research was conducted using a qualitative descriptive method. Data collection was carried out by observation and field documentation. Based on the results of the study, it was found that the level of crowd, type of activity, needs of the community, and goods traded around the park had an effect on the choice of location and goods sold by street vendors. This understanding can be used as a basis for consideration in planning public spaces.

Keywords: Tegallega Parks, existing activities, street vendors

1 INTRODUCTION

The number of migrants moving to the city driven by the need for better jobs and income cannot be matched by the growth of formal sector employment in the destination city. This condition causes migrants to find alternative employment or other sources of income to meet their daily needs through the informal economy. One form of the informal economy is street vendors. This phenomenon occurs in major cities in Indonesia, including Bandung.

Bandung as a big city that continues to grow has a great attraction for newcomers, so the growth in the number of street vendors also experiences a high increase. The number of street vendors in the city of Bandung in 2015 based on data from "Bappeda" reached 22,359 traders (Nugraha Ginanjar 2016).

McGee and Yeung (1977) mentioned that "hawkers as those people who offer goods or services for sale from public spaces, primarily streets and pavements". Siti Salamah & Luthfi Muta'ali (2019) stated that "street vendors generally grow and occupy strategic locations such as trading areas, residential areas, education areas and other public facilities that create attractiveness. These street vendors violate existing regulations because they grow in public spaces that can interfere with public activities, change the function of public spaces, and create a slum impression."

The street vendors use public spaces as a place to run their business. One of the public spaces that are favorite places is a city park.

1.1 *Tegallega Park*

Tegallega Park has a land area of 19.65 Ha (Muhammad Ramadhan & Pranggono 2018). Tegallega Park is used for various activities such as sports, playing, relaxing, ceremonies, night markets,

music performances, and others by residents and the city government of Bandung. Tegallega Park in the center of Bandung has a strategic location, namely the main city road that connects the residential area with the city center and is surrounded by a variety of activities. This condition causes street vendors in large numbers to carry out their activities in Tegallega Park.

1.2 *Street vendors and Tegallega Park problems*

Street vendors occupy areas both inside and outside Tegallega Park. In carrying out their activities they tend to be in groups and can be differentiated based on the type of goods sold or the services they offer. The problem arose because Tegallega Park was not designed to facilitate their activities. Street vendors use various areas or facilities whose function is not to facilitate their activities. These problems cause a decrease in the physical condition of the park and discomfort for other park users, especially in the areas used by street vendors.

This study aims to see whether there is a relationship between existing activities outside the park with the location selection of street vendors to carry out their activities. This study also aims to look at the relationship between the types of existing activities with the types of merchandise and services offered by street vendors. Through this relationship, it is hoped that the consideration of street vendors in choosing a location and determining the types of goods or services they offer can be understood. The results of this study can be used as a basis for consideration of planning and designing public spaces such as parks in the city of Bandung. Planning a public space in the form of a park in the future is expected to consider the existence of street vendors as part of it and facilitate their needs, so that current public space problems due to the presence of street vendors can be anticipated.

2 RESEARCH METHODS

This research was conducted with a qualitative descriptive method, trying to understand a phenomenon experienced by researchers in this case is the behavior of street vendors in carrying out their activities in Tegallega Park and explaining it in words (Setyowati 2011). According to Sugiyono in Setyowati (2011), qualitative research uses a “social situation” which consists of three elements, namely: place, actors, and activities that interact synergistically.

This research was conducted by direct observation and data collection in the field of existing activities outside the park, as well as the location that was chosen by street vendors in conducting their commercial activities. Observations and data collection were also carried out on the types of goods traded and services offered by street vendors at each location in Tegallega Park. Then analysis and conclusions are drawn from the results of the field data to see the relationships that occur.

3 RESULTS AND DISCUSSION

3.1 *Relationship between activities around the park and the location selection of street vendors*

Tegallega Park is located in the southern part of Bandung city. The location of the park is flanked by roads connecting the southern area of the city with the city center. Tegallega Park in the east is bordered by Mohammad Toha Road, the western part is bordered by Otto Iskandardinata, and the south is bordered by the BKR road. Jalan Otto Iskandardinata is a road that connects Tegallega Park with the famous shopping center in Bandung, namely “Pasar Baru” and is a route for Bandung citizens returning to work or traveling from the city center. This road is passed by two kinds of mass public transportation, namely “angkot” (a vehicle that can accommodate 12 passengers) and city buses. On the west side of the park next to Otto Iskandardinata Street, there is a public transportation stop. Jalan Mohammad Toha is a route for city residents who will travel or work to the city center.

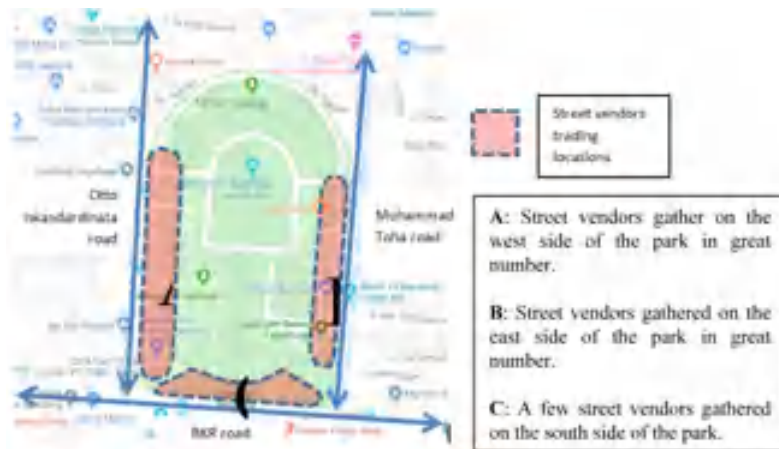


Figure 1. Map of Tegallega park, the road that borders the park area and the location of street vendors. (Source: Google maps & personal analysis).

Public transportation is “angkot” and buses via this road. On the eastern side of the park adjacent to Jalan Mohammad Toha there is a public transportation stop. Meanwhile, the BKR road is the main street of the city of Bandung, which serves as a gateway to the city for immigrants from outside the city of Bandung. This road is traversed by “angkot” and buses. There is also a public transportation stop in the part of the park next to this road. The three roads are very congested every day because many private vehicles, public vehicles, and pedestrians pass them so that congestion often occurs, especially during the hours of leaving for work (6–8 in the morning) and returning from work (4–6 in the afternoon).

The park area in the East and West is the area most densely occupied by street vendors because it is busy with the movement of vehicles and people, so the possibility of interaction between large traders and potential buyers occurs. In the southern area, there are not too many street vendors because this area is an area that is prohibited from being used as a place to sell by the city government. In that area, officers are stationed to keep it free from street vendors.

3.2 *Relationship between activities around the park and the type of goods that are traded by street vendors*

Types of street vendors who carry out business activities in Tegallega Park are grouped based on the goods sold or the services offered, namely:

- raw material traders: sell raw food ingredients for household needs such as vegetables, fruits, meat, fish, and cooking spices;
- food and beverage traders: sell ready-to-consume food and beverages;
- grocery dealer: sells household items;
- fashion traders: selling clothes, shoes, and accessories;
- electronics trader: sells a variety of electronic equipment;
- mixed trader: sells house decorations/decorations, toys, and others (family and home needs);
- sports equipment rental services: rent sports equipment;
- children’s game rental services; renting out children’s play services; and
- medical services: selling drugs and conducting medical therapy.

In the road section of Mohammad Toha, various activities that take place are household activities (residential areas), educational activities (school areas), and work activities (private and government office areas). In the eastern part of the park which is adjacent to Jalan Mohammad Toha, street



Figure 2. Street vendors in the eastern part of Tegallega Park. (Source: personal).



Figure 3. Street vendors in the western part of Tegallega Park. (Source: personal)

vendors gather and carry out their business activities around the park entrance. In addition, street vendors also gather in areas outside the park, namely along the pedestrian paths and along the roadside of motorized vehicles from Jalan Mohammad Toha. The street vendors selling in this area are dominated by raw material traders, food and beverage traders, grocery merchants, fashion traders, and mixed traders.

Based on observations and analysis, street vendors who are in the eastern area of the park choose the type of merchandise that is suitable or needed by the actors in the surrounding activities, such as providing for families, school children, and office employees.

On the road section of Otto Iskandardinata, the various activities that take place are household activities (residential areas) and commercial activities (shop and shop areas). This section of the road is known as a shopping area, and the famous shopping center in the area is “Pasar Baru”. In the west part of the park which is adjacent to Otto Iskandardinata Street, street vendors gather and carry out their business activities around the park entrance. Also, street vendors gather in areas outside the park, namely along the pedestrian paths and along the roadside of motorized vehicles from Jalan Otto Iskandardinata. Street vendors selling in this area are dominated by food and beverage traders and fashion traders.

Based on observations and analysis, street vendors who are in the western part of the park choose the type of merchandise that is suitable or needed by the actors in the surrounding activities, such as providing for the needs of shoppers and shop employees in the Otto Iskandardinata area. In addition, street vendors also sell items that are similar or complementary to those sold in shops (the types of goods sold in shops are mostly fashion items) along Otto Iskandardinata Street, but at a more affordable price.

In the BKR road section, various activities that take place are household activities (residential areas), work activities (private and government office areas), and educational tourism activities (museums). In the southern part of the park which is adjacent to Jalan BKR, street vendors gather and carry out their business activities outside the park along the pedestrian path from Jalan BKR. The street vendors selling in this area are dominated by food and beverage traders.

Based on observations and analysis, street vendors who are in the southern part of the park choose the type of merchandise that is suitable or needed by the activity actors in the vicinity, such as office employees, pedestrians, and motorized vehicle users passing on the BKR road.

In the area south of the park, there are not many street vendors selling because this area has been designated by the city government as a prohibited area for street vendors to occupy. Apart from that, the municipal police officers, “Satpol PP”, are assigned to guard the area so that there are few



Figure 4. Street vendors in the southern part of Tegallega Park. (Source: personal).

street vendors, they do not sell various types of goods, and they only occupy the pedestrian lane outside the park.

4 CONCLUSION

Based on the above analysis, street vendors choose a place to run their business based on several considerations:

- There is a high movement of people or vehicles, allowing interaction with potential buyers.
- There are large associations of people who carry out various activities.
- Government regulations governing an area and the presence of officers in that place.

Meanwhile, in determining the types of goods sold or services offered by street vendors, consider the following:

- The type of activity that takes place around the area is chosen as the place to run the business.
- The needs of people who are active in the area where the business is located.
- Types of goods sold in commercial areas (shop houses and shops) adjacent to the place of business. Goods that are sold are usually more of a trap or the same but at a more affordable price.

The existence of public spaces in the city of Bandung today cannot be separated from the presence of street vendors in it. Therefore, public spaces also need to be designed to facilitate the needs of street vendors. Through understanding the considerations of street vendors in determining the location and type of business, the city government is expected to be able to make careful planning in making public spaces by considering the presence of street vendors as part of it in the future. It is hoped that this approach to public space planning can overcome problems in the public space faced in the city of Bandung today.

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Trend genre mobile app content on Sundanese Folklore

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ABSTRACT: Trends in the development of car applications continue to develop along with technological developments. This study explains a trend in the development of mobile applications within the genre of Sundanese cultural folklore. Folklore is folk art that can be in the form of songs, music, legendary stories, or humorous stories that are passed on orally rather than written down. The research method used is a qualitative method of content analysis that emphasizes content analysis about the development trends of the Sundanese folklore genre. It can be concluded that Sundanese folklore is a culture that is conservative, and technology that is innovative can be integrated with it in mobile applications. The form of application can be as a game or an education app. As the current trend shows us that the majority of people have and use smartphones in their daily lives, there is an opportunity to introduce and develop Sundanese folklore into technology.

Keywords: applications, folklore, mobile, sunda

1 INTRODUCTION

Generally, people know of folklore usually only in story form. Folklore is defined as regional folklore which can provide life lessons therein. However, folklore is more than just a story but has broad meaning such as folk art. Sundanese folklore culture especially has an important position and role as an ambassador of Sundanese culture in the form of folk literature. Folklore can be interpreted as literature in the form of unwritten stories that spread around society from word of mouth. The term *folklore* can be broken down into two words: “folk” which has a collective meaning and “lore” which means a collective and cultural tradition that is handed down (Danandjaja 2007).

Folklore is the body of expressive culture, including tales, music, dance, legends, oral history, proverbs, jokes, popular beliefs, customs, and so on within a particular culture, subculture, or group. It is also the set of practices through which those expressive genres are shared (Supendi 2008). From the description above, it can be concluded that folklore has a broad scope covering many aspects of cultural expression such as dance, music, humorous stories and legends, *lalaguan*, or *kakawihan barudak*.

The industrialization of technology is providing a lot of innovations which greatly affect all of society. There is an increasing number of smartphone users because this technology provides a lot of convenience. One product of this technological innovation is a mobile application. Mobile applications are software that run on mobile devices such as smartphones or tablets. A mobile application is also known as an application that can be downloaded and has certain functions that increase the functionality of the mobile device itself (Irsan 2020).

These mobile applications can make for an interesting educational method when the values of Sundanese folklore culture are conveyed through it in the form of games, animation, and other digital products. It can be interpreted as preserving the existence of Sundanese culture with technology intermediaries. For example, a mobile game application can be categorized as an educational

game that is not only fun but a way to educate the user (Andang 2009). Mobile games are also the same as video games but are played on mobile devices. Video games can provide interesting social experiences that are both cognitive and emotional which have the potential to improve the mental health of children and adolescents. Video games can also make the user feel more prosperous (Garnic 2014). Therefore, it can be concluded that culture that carries traditional values and technology that carries a breath of innovation can be integrated to bring educational value to the community.

2 RESEARCH METHODS

This study uses a qualitative method of content analysis which is a method that examines documents in the form of a general category of meaning. Researchers can analyze a variety of documents, from personal papers (letters, psychiatric reports) to history (Richard 1967). The content analysis method is basically a systemic technique for analyzing the contents of messages and processing messages, or a tool for observing and analyzing the contents of open communication behavior from the chosen communicator (Richard 1967). Another understanding according to Berelson (1952), which was then followed by Kerlinger (1986), is that content analysis is defined as a method for studying and analyzing communication systemically, objectively, and quantitatively against messages that appear (Wimer & Dominic 2000). This study examines the Sundanese folklore culture and its integration with technological innovations in mobile applications to affect Sundanese folklore trends.

3 RESULTS AND DISCUSSIONS

3.1 Result

Over time, the development of the technology industry is a phenomenon that can lead its users to forget the language and culture of their own regions. People often ignore their mother tongue or their respective regions, including Sundanese culture. Only about 40% of West Javanese children know and are able to speak Sundanese (Antaranews 2020). Therefore, mobile applications in the form of games can be an effective and fun tool for introducing Sundanese cultural folklore. Games provide great educational opportunities by analyzing a group of players and individuals using rational strategies (Leyton-Brown & dan Shoham 2008).

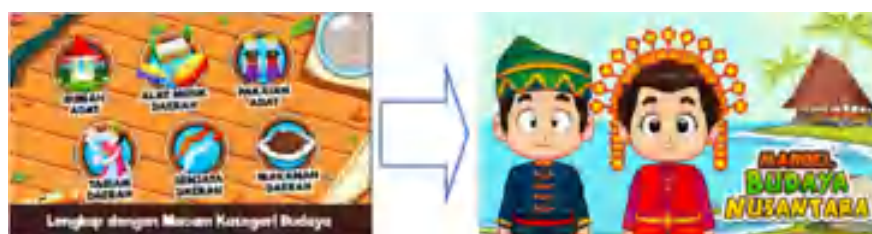


Figure 1. Example of cultural education through a mobile application. (Source. Google Play Store, Marbel Budaya Nusantara 2020).

Sundanese folklore educational media with mobile applications are seen as very effective learning tools. Learning media with mobile applications or M-learning can also deliver Sundanese cultural values more efficiently. Mobile learning has the same meaning as e-learning, only mobile learning can only be accessed via mobile devices. M-Learning has the following advantages:

1. Portability means the device is more portable.
2. Supports learning because the younger generation is more familiar with devices such as tablets than conventional learning methods.

3. Increases the motivation of ownership of the device and can also increase the commitment to use and learn it.
4. Has a broader reach because its use reaches all levels of society.
5. Timely learning enhances learning as needed (Andy 2007).

The results are a trend where cultures that are considered conservative and technology that is considered innovated can be integrated into a learning medium that creates current trends about the concept of an introduction to Sundanese folklore and cultural values.

3.2 Discussions

A mobile application game is designed for fun so if education can be combined with it, there is added value. Educational games are games that are designed with the specific purpose of teaching users about something, be it developing concepts, increasing understanding, or guiding and training its users' abilities. This game must also be able to provide motivation to users to continue playing it (Hurd 2009).

Sundanese folklore expresses its identity in folk art, in which there are songs, rhymes, and legend stories which makes it an ideal genre for preservation within technology, such as mobile applications, that will trend within a community. This form of mobile application can be in the form of games or educational applications.

4 CONCLUSIONS

Although Sundanese folklore culture plays an important role as guardian of a community's identity, it tends to be conservative. Therefore, it could benefit greatly from the innovation of technology such as in the form of a mobile application game that would provide education and increase awareness to its rich culture and history.

According to Andang Ismail (2009), a mobile application game has two purposes:

1. as a pure play activity that aims to find pleasure not based on winning and losing or
2. as a fun play activity that is based on winning and losing.

Mobile applications will be an effective medium to be linked to Sundanese folklore culture because the majority of Indonesian people already have smartphones. Noted in 2015 on gs.statcounter.com, 68.75% of Indonesians were Android smartphone users (Statcounter.com 2020). This high number of users provides a great opportunity for people to use their smartphones to connect to their Sundanese folklore culture.

ACKNOWLEDGMENTS

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Millennial Generation's Online Behavior in the humanity of the Pancasila

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ABSTRACT: The development of digital technology as a feature of globalization has shortened distance, space, time, and is inevitable. Indonesian citizens as internet users are always increasing. This study analyzed the development of digital citizenship in Indonesia and whether it can provide an alternative solution in the establishment of digital citizenship. The method used in this research was case study. The data collection techniques used questionnaires and interviews with junior high school students in Bandung, Indonesia, with a sample of 450 people. Data analysis was descriptive analytics. The results indicate that the millennial generation's online behavior, in the humanity of the Pancasila, still needs to be improved regarding digital etiquette competence, through group power in social media "who controls social media, he controls the world" to make it happen. The implications are to reconstruct rules of use and users of social media and appropriate educational models for digital citizens.

Keywords: civic education, digital era, online behaviour, millennial generation, humanity of the Pancasila

1 INTRODUCTION

Based on Van Dijk's research, presented at the Sharing Session event at Directorate of Research and Community Service of Telkom University in 2015, the number of internet users in Indonesia increases every year, reaching 19.460 million as of 2015. Indonesia experienced a sharp increase associated with the use of Information Communication Technology ICT. However, currently only part of Indonesia is on the level of the digital world used for education and employment. Other influences result from the exposure of negative access to children and adolescents with bad information flooding the internet (Setiawan 2009). Shock culture and the influence of bad information construct Indonesian citizens' low attitude of communication, tolerance, and care, while in this current digital era the value to be upheld is tolerance and care for others. Education is one of the principal pillars to the development of moral quality (Komalasari 2017).

The rapid development of technology had an impact on the behavior and character of people who lived the area. Junior high-school adolescents, the object of this research and based on theories, fall into the birth category of 2001–2010. Characteristics of generation Z are being able to describe actual conditions occurring to and serving adolescents. They also have an instant mindset, are technology dependent, tend to be popular in social media, have minimal social interaction power, and even manage to be individualistic (Renzulli, available at <https://goo.gl/cTymz4>, accessed on December 10, 2018). Therefore, it is foreseen that teenagers use the internet not to find learning resources, but to stream and play social media. Line/WhatsApp, Instagram, Twitter, and Facebook are favorite social media sites. However, there was an imbalance between digital knowledge and skills, and the ability to operate them fully.

2 RESEARCH METHOD

The research approach used in this case study is the descriptive analytics method. Data collection techniques used books, journal articles, research studies, and other materials are related to the impact of the development of information technology, digital citizenship, the civilization of Indonesian citizenship, including interviews with students, teachers of civics educations, headmasters, observations, and documentations. Data was analyzed after data reduction was done, followed by data presentation, data verification, and conclusion.

3 DISCUSSION

Digital citizenship in Indonesia discusses “internet usage and digital safety”. Globalization demands civic education to develop civic competence involving civic knowledge, civic skills, and civic disposition, which are multidimensional (Komalasari 2009). Technology is a catalyst of change, making change to be revolutionary, very fast, and intense (Suryadi 2006). However, the positive side of the world of education and knowledge, is that revolution is happening and has double dimension that connects astonishing modern brain research with the power of information and knowledge that can be accessed quickly and easily through information and communication technology. Suryadi (2006) asserts that the joint revolution of the internet-computer-World Wide Web has formed a new generation, with new values, new social styles, new cultures, and even new economies called the digital economy.

Indonesia, with a population of 290 million people, has 51.5% of internet users, a great potential for citizen development in the digital age. Research by Machfiroh (2016) indicated that 85% of junior high-school students in Bandung City are mobile phone users. APJII research in 2016 showed that 18.4% of internet users in Java Island are aged between 10–24 years old. In the United States, the PEW research results showed that 75% of kids aged 12–17 years old have smartphones (White 2016). However, between the United States and Indonesia there are differences in security and safety. In the United States, parents supervise their children’s mobile phone usage for 36% of the time, but in Indonesia this supervision is still low. Currently, parents or teachers are experiencing gadget addiction. Children who do not get enough parenting acts, due to parents who get addicted to their digital devices, grow up with negative emotions and cannot control sadness, anxiety, or even anger. Developed countries, such as Germany and Finland, have limited the use of mobile phones for children.

It is in accordance with Buckingham (2000) that many children lose their childhood due to consuming too much electronic media in the form of adult material, so that children quickly become adults. Teenagers are already able to operate the internet and can upload content, but are not accompanied by the ability to create their own content. Therefore, it is common for teenagers to just “copy–paste”. Such an attitude indirectly accustoms teenagers to acts of plagiarism toward other people’s work without mentioning sources. The characteristics of adolescents of junior high-school age are at the stage of showing their existence; they like to look for wise words/quotes without trying to construct their own thoughts on the things being quoted. They are also lacking the ability to cross-check data regarding information obtained on the internet. The implication is that the information shared by teenagers on social media can become a means of spreading hoaxes for free. To see the digital skills of adolescents, the following will explain the triangulation results based on three data collection techniques (Table 1).

Along with this phenomenon, speaking textually in the digital era is needed. Teenagers act not only as users but also producers (pioneers) of news useful to others, as well as making themselves exist in social media. In this connection, the skills of adolescents as the subject of knowledge construction need to be continuously built. Some of the skills that teenagers must-have in the digital era include (a) operational skills, (b) formal skills, (c) information skills, (d) communication skills, (e) strategic skills, and (f) content creation skills (Van Dijk 1999, 2012).

Table 1. Triangulation of digital skills based on data collection techniques.

Interview	Observation	Documentation
Cellphones and social media are not only a lifestyle but a necessity for adolescents. Social media is a means of actualization and self-expression for teenagers.	Teens are often caught accessing social media and lifestyle websites, rather than looking for study materials.	The results showed that children aged 11–15 years have an instant mindset, depend on technology, and seek popularity through social media channels.



Figure 1. Youth digital habit (digital skill). (Source: compiled by Researchers 2018).

Digital skills need to be mastered by creating Z in the 21st century to dominate the competitive world (Velden 2012). This is in line with the shift in the industrial society toward an information and knowledge society, which has implications for the mastery of various skills needed in job placement and the world community (Voogt & Roblin 2010). Based on the research findings, education has a role in preparing the skills and competencies of adolescents in facing the digital era. Trilling and Fadel (2009) revealed that three 21st century competencies are often referred to as “the rainbow of 21st-century knowledge skills”: life and career skills; learning and innovation; and media and information technology. The digital habits of adolescents are determined by the extent to which they can demonstrate aspects of universal and responsible positive behavior as values and characters that everyone needs to have, e.g., honesty, firm in upholding consistency (*istiqomah*), intelligence (*fathonah*), disbelieving (mandate), and a conveyor of values (*tabligh*). Diagrammatically, the habits of digital youth can be seen in Figure 1.

Based on Figure 1, the digital habits of adolescents, including honesty (*sidiq*), consistency (*istiqomah*), intelligence (*fatonah*), trustworthiness, and communicative/convey good things (*tabligh*) are in the high category. The value of honesty is 3.97, consistency 3.85, intelligence 4.24, trustworthiness 3.80, and communicative/conveying good things 3.98, while the average value is 3.95. The habit of being honest in adolescents is shown by the habit of providing correct and impartial information. Adolescents’ persistence is demonstrated by five characteristics: relying on one’s abilities, the courage to admit mistakes, the courage to obey school rules, studying seriously, and always upholding principles in relationships. Intelligence (*fatonah*) in using the internet/social media based on the habit of asking questions about things not understood, being able to select and sort information, and respecting differences in beliefs. Intelligence in choosing news and opinions on social media must be accompanied by the ability to present real data and facts not to cause public confusion. Trustworthiness includes being brave enough to admit mistakes and being willing to apologize, not being careless, and maintaining harmony in friendship. Conveying good things (*tabligh*) includes sharing information according to facts and politeness in giving information.

The five dimensions of truth values above must be developed as a benchmark for adolescent digital habits. Then, two previous components (digital knowledge and digital skills) must be understood completely and comprehensively to effectively develop good morals as digital habits. In another perspective, noble morality is equated with moral intelligence because it contains a person's ability to judge good things and bad things. Moral intelligence is seen as a person's ability to understand right and wrong, to have strong ethical beliefs, and act on these beliefs to be correct and honorable (Borba 2008). Moral intelligence is needed for kindness, strong character, and to become a good citizen. The results of the study showed that the most dominant is intelligence or *fatolah*. A person who has high intelligence is supported by an attitude of wanting to communicate with others coupled with an honest or *sidiq* character. By having a consistent nature and being trustworthy, these citizens have a sense of responsibility. There is an oddity in this finding, that honesty is supported by intelligence and others follow.

To face the 21st century, the competence of citizens that needs to be improved includes increasing awareness, understanding, and legal awareness. The millennial generation tends to use digital technology in various aspects of life. Therefore, forming citizens is on a legal understanding in IT to prevent cyberlaw (IT crimes). In today's digital era, the values that must be upheld are tolerance and caring for others following the second principle of Pancasila, namely fair and civilized humanity. Jeffery (2012) revealed that the value of humanity is one of the obligations as citizens of the world, that is respect for the rights of others and tolerance. Insulting and defaming other people, including deception to others in any national society, is not justified, especially in cyberspace where individuals can easily access and influence the perceptions of others.

Advances in information and communication technology must be useful for the welfare of the community. This technology is a tool to create an intelligent and advanced nation. The Internet can provide immense benefits to education, research, commerce, and other aspects of life. Citizens who are civilized in the digital era should use technological devices that can be used according to their designation as a mirror of digital society (digital citizenship) that upholds civilized values, awareness of brotherhood and humanity, supports human rights, makes themselves citizens with dignity as a human being, and there is also a balanced attitude between local interests (local awareness) such as love of family, ethnic identity, awareness of the community and self-interest, and global interests such as universal awareness of human equality and obedience to the constitution in each of its actions as manifestations in the second principle of Pancasila, which is a just and civilized humanity. Aristotle in Heater D. (2004) said that if citizens behave and follow the constitution, they can be said to be good citizens. Still, good humans do not see the state because, basically, humans are right from their conscience. This means that the behavior and attitudes of good citizens in the digital era are based on their conscience.

Indonesia has different characteristics in fostering civilized citizens in the digital era. Based on the objectives of national education, article 3 of Law No.20/2003 concerning the National Education System imperatively outlines that: national education functions to develop abilities and shape the character and civilization of a nation with dignity to educate the life of the country, aimed at developing the potential of participants educated to become human beings who believe and fear the Almighty God, have a noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. Things to be developed are noble and intelligent characters in the use of social media. Efforts in forming civilized citizens in the digital era are not only able to understand but are able to show morality, intelligence, tolerance, caring, and human value development that can be done through social media.

Social media is very influential in various kinds of decision making. On the other hand, this digital era must be able to form smart citizens. Smart in choosing information and smart in providing information. Van Dijk's (2011) writing showed that citizens of countries such as Korea, China, and the United States must be cultivated or well educated in the current era of globalization, and are not easily influenced by information alone. This is reinforced by the opinion of Cogan and Derricot (1998) that global citizens must have several multidimensional national characteristics, namely: (a) the ability to understand, accept, and respect cultural differences; (b) the ability to think critically and

systematically; and (c) the ability to resolve conflicts peacefully without violence. Such characters are necessary for citizens in the digital age. The development of information, communication, and technology is one of the causes of the world revolution (Waters in Sunarto 2004). That is the importance of rebuilding noble morals for young citizens in the digital era.

4 CONCLUSIONS AND IMPLICATIONS

Digital citizenship in Indonesia needs to be upgraded to digital etiquette and digital law competencies toward good and intelligent digital citizens. The strategy was undertaken to realize it through the power of groups in social media “who controls social media, he controls the world”. The implications of this research are to reconstruct the rules (UU ITE) in the usage and users of social media and the appropriate education model for digital citizens. It focuses on freedom of opinion, which still has multiple interpretations.

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Ergonomics aspect review: Effectiveness of information-based technology display at the Mpu Purwa Museum in Malang

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ABSTRACT: In Indonesia, to support their exhibition, some museums have been already been applying multimedia and interactive technologies in their presentations, including the Mpu Purwa Museum in Malang. The purpose of this study is to find the ease of the ergonomic aspect so that the stored information can be easily obtained by visitors and to determine the effectiveness of the QR code label at the Mpu Purwa Museum in terms of ergonomics. The problem is the application of the QR code as part of a display object in a museum exhibition in Indonesia is still relatively new, so its effectiveness needs to be reviewed. The method used in this research is qualitative, with data collection in field studies, visitor interviews, and literature studies. The results of this study conclude that the ergonomics of anthropometry, display location, lighting, and circulation areas must adapt to each other with the type of technology-based media used in the museum.

Keywords: ergonomic, QR code, display, technology, museum

1 INTRODUCTION

One thing that supports a visitor's multidimension experience in museum exhibitions is the concept of audience participation. In participatory-concept museums, the two-way interpersonal communication can be achieved by interactive exhibits through various media such as audiovisual, touchscreen, and multimedia (Wulandari 2014). The format of delivering information in a different packaged museum will be easier for visitors to remember than passive writing without meaningful interaction, such as typographic presentations on walls or information that can explore through gadgets (Palmyre Pierroux 2019).

Technology developments, especially smartphones, affect emerging behavior (Weilenmann et al. 2013). With the increasing use of smartphones and sensory system technology developments, public spaces such as libraries or museums now have the opportunity to enhance their visitor experience and further achieve their institutional goals (Mar Perez-Sanagustín 2016). The strategy of using technology, such as mobile applications, touchscreens, and websites, is considered one of the most effective design systems for presentation methods in museums and learning environments (Al-Hajji 2017). Technology in the museum also uses existing historical collection objects, for example, to explain and describe the collection's background story. By utilizing technology, the museum's display collections are expected to provide a new experience in interacting with objects that are in the museum display.

A QR code consists of a black box module, which is a code that can be read by a scanner or a gadget camera that has been facilitated by this QR code reader application, and that code links with the digital information storage of the related object on the internet. By that explanation, it can be seen that QR code technology allows visitors to interact with collections in the museum by utilizing their smartphone. According to previous research, a QR code is an option for cost-effectiveness in museums and has been applied by several museums to guide visitors and contains information that supports exhibitions or libraries (Schultz 2013).

1.1 *Ergonomic display in museum*

Ergonomics is a scientific discipline that is concerned with understanding the interactions between humans and other elements of a system, providing theoretical principles, data, and methods for designing how to optimize human well-being and overall system performance (Erminia Attaianese 2012). The goal of the ergonomic design of the museum environment is to create prevailing ambient conditions that are comfortable and acceptable accommodations of activity performance or visitor health (Stanton 2005). The aspects of the physical environment in the museum that can affect the effectiveness of information presented are noise, lighting, ergonomics of the eye line (anthropometry), the connectedness of the content and objects on display, visual elements, and their location to the visitor's circulation flow (Screven 1992; Wulandari et al. 2017). Effective layout and display designs are designed to engage visitors for self-education on a subject and to inspire the visitors to learn more (Wolfgang Leister 2016). If there is any display design's fault and improper arrangement both visually or physically, that means the collection will potentially be overlooked by visitors.

Labels on collection displays also play an important role in providing information to visitors. Information labels are important to provide a deep understanding of a display object in a museum (Wulandari et al. 2017). Labels refer to all types of media—print, audio, graphics, and presentation formats—used to help visitors interpret and connecting with exhibition content, have an emotional impact, or to motivate visitors to get to know more (Screven 1992). The presentation aspect of label format includes all type of media used such as interactive, sound, image, and video.

In order to be easily read by visitors, object information labels need to be designed in accordance with human ergonomic standards by paying attention to attractive visualizations and placing them according to the normal human eye line (Wulandari et al. 2017). Several techniques have been used in previous research to display effective information designs in the form of graphics, sculptures, boards, or other information products in museums by following UX design principles (Al-Hajji 2017). Principles of UX Design are easy to use, to find the function, and to understand; users do not have to get help to do the task; visual focus, direction are clear; and users can perform their task efficiently and correctly, works for the user (Rosenzweig 2015).

Another supporting factor for the ergonomics of the interior environment is lighting. Lighting has an important role in the exhibition space, both for the conservation of collections and visitors (Hunt 2009). With an appropriate light, exhibition organizers are present with an influential tool that enables the definition of the atmosphere for viewing art, establishes a sense of drama to support its reception, and generally contributes to the success of the exhibition (Schielke 2019). The lighting intensity is very important for visitors to be able to easily observe the collection and read the label information clearly (Wulandari et al. 2017).

1.2 *Objectives*

In this study, we will discuss the effectiveness of a QR code as a label for statues collection at the Mpu Purwa Museum in terms of the ergonomics placement. A QR code label contains descriptions and explanations of the statue collection in Bahasa and English in the Mpu Purwa Museum. The Mpu Purwa Museum is a public museum located on Kota Malang, East Java. Most of the Mpu Purwa Museum collections are statues and inscriptions from the Mpu Sindok period to the Majapahit Kingdom (year 929–947 AC).

Ergonomic problems in placing QR codes as information labels for collections in museums that will be discussed in this paper are lighting and anthropometry related to the placement of QR codes. Based on visitor interviews and field observations, the problem found in implementing QR codes as collection information is that not all of them can be seen by visitors and require more effort to aim the smartphone camera at the QR code. Other problems are the material selection, QR code image placement, and lights position that cause a very bright reflection on a QR code.

2 **METHODOLOGY**

The research method used in this research is the qualitative method by conducting literature studies, field studies, and interviews. Studies conducted to search for reference data and analyzing the



Figure 1. QR code placement case A.



Figure 2. QR code placement case B.

Table 1. QR Code label location identification.

Case Study	QR Code Location	Circulation Dimension	Standart Dimension (Panero and Zelnik 2003)		Effort
			Line-of-sight placement	Minimum circulation area	
A - Figure 1	10 cm from the floor	200 cm	107–170 cm from the floor	167.6 cm (accommodate two people viewed the display and circulation for one person.)	Visitors must bow their heads or their bodies to read labels or scan QR codes with their smartphones.
B - Figure 2	50 cm from the floor	140 cm			Visitors must squat down to read labels or scan QR codes with their smartphones.

interior aspects that affect the display of museum collections, lighting, circulation and ergonomics anthropometric display design technology based on museum collections. Meanwhile, field studies were conducted to determine the ergonomic aspects of anthropometric display arrangement equipped with QR codes and the size of the circulation area. Interviews were conducted with managers and visitors about the purpose QR code application and comfort when reading QR code in the museum.

3 RESULT AND DISCUSSION

Based on field studies in the statues collection area, there is a QR code label on each collectable. QR code labels are placed near the object and located on the front of the display case. Placement of the labels next to the object makes it easier for visitors to see the object and read the label at the same time (Bitgood 2002). However, in case study A (Figure 1), the label was placed at a height of 10 cm from the floor. In case B (Figure 2), the label was placed on the front of the display case at a height of 50 cm from the floor.

The black QR code is printed on a white paper measuring 10 x 15 cm and laminated by plastic. Label not only contains a QR code but contains collection name and description in Bahasa and

English in terms of visibility, the label applies a ground-figure contrast. Not only is it easier to attract attention with a ground-figure contrast, but it is easier to read text when the letters and background have high contrast (Bitgood 2002). Labels that are located in line of sight will be easily detected and legible, however, the QR code label on the study object (Figures 1 and 2) is located far from the eye line area in a normal standing position and using small font size results, cause information on the label is not easy for visitors to read. Labels that are not in the eye line area will affect the effectiveness because it will tend to be overlooked and unreadable by visitors. Visitors have to spend extra effort by squatting or bending in the attempt to read the QR code label. The extra effort is one of the distractions that affect motivation and focus the attention of visitors (Bitgood 2002).

Based on field studies, represented by cases A (Figure 1) and B (Figure 2), the circulation width inside the museum is quite narrow to accommodate the activities of a squatting visitor while aiming smartphone cameras at the QR code and tend to disturb other visitor circulation areas. The circulation width area in the museum does not yet meet the minimum required standard for circulation width according to anthropometric ergonomics (explanation in Table 1).

Placement of objects and the space provided in the museum should pay attention to the comfort of visitor's activity. Object and space can become the focus of attention, facilitate or encourage the movement of visitors, provide a rhythm or balance, and can improve visual and physical abilities to enjoy the collection in the museum (Swathi Matta Reddy 2012). If there is one that doesn't meet the standard, the activity comfortability will be disturbed. Squatting and bowing while aiming the cellphone camera at the QR code will take up a wider space, so it can interfere others circulation area, especially if the museum has a lot of visitors. Circulation disturbances can also cause crowds, thus disturb visitors' comfort while observing collections in museums or reading the existing information. This disturbance can cause the object around it to be less notified by visitors.

In arranging and placing technology to support historical collections, several things need to be considered in order to be effective, one of which is the interior environmental conditions. Physical aspects of the environment such as visibility generated from lighting effects, visual barriers, and glare will affect the appearance of the display so that it also affects the attention of visitors (Schielke 2019). Based on the existing, the lighting used at the Mpu Purwa Museum is 25% natural lighting and 75% artificial lighting. Artificial lighting is used as a general light and decorative light to expose the collection. There is no special lighting that exposes QR code labels, so the lighting takes advantage of general light or spotlight that leads to the display object.

QR code labels must be well lit. Based on research on the mobile phone audiovisual guide tour at Ueno Zoological Gardens and the National Science Museum in Tokyo, visitors find it difficult to scan QR codes in a dark gallery area (Sakamoto & Sakamoto 2007). However, lighting that is too bright must also be considered, because it can cause a glare effect both in camera phone and visitor's eye. If there is glare or too much reflective light, guests may experience discomfort while interacting in the museum, and their experience will be greatly altered (Hunt 2009). Based on a case study at the Mpu Purwa Museum, there are several QR codes that reflect light from a spotlight that illuminates the collection object, so visitors must find the right position so that the scanned QR code does not have a white spot reflected by the light.

The problem with the appearance of a white spot is that the QR code label has a shiny plastic material facing the spotlight so that a bright light reflection occurs. This condition can be overcome by moving it to a part that is not directly facing the direction of the light, moving the location of the spotlight or replacing the QR code label material with a non-reflective material. From this condition, it can be concluded that physical environmental aspects such as lighting also play an important role in influencing the effectiveness of the information on labels, even though the presentation and type of labels displayed are based on the latest technology. Determination of the placement and type of lamp used has a correlation with other elements in an interior space (Swathi Matta Reddy 2012). The placement of lights, QR code labels, and materials used must be considered so that the information presented can be easily accessed by museum visitors.

4 CONCLUSION

The advantage of using a label that uses a QR code at the Mpu Purwa Museum provides a new experience for visitors to use a smartphone to get information about the object collections in the museum. The drawback is the location QR code label placement that does not comply with ergonomic standards anthropometry, so the label of QR code placement on at the Mpu Purwa Museum is still not effective. To maximize the benefit by QR code label, the label should be moved to a place that meets the anthropometric-ergonomic standards of human activity and aligns it with the lighting placement in the interior of the Mpu Purwa Museum. Based on the ergonomic analysis of the QR code label at the Mpu Purwa Museum which was described above, it can be concluded that the physical condition of the environment must be reconsidered and redesigned in order to maximize the benefits of using digital technology to increase visitor engagement with museum collection objects. Physical environmental factors such as ergonomics of object's placement, lighting, and area of circulation must be adapted to the type of technology-based information media used in the museum. If visitors can take full advantage of it, it is hoped that the information conveyed by utilizing digital-based technology can be well received by visitors.

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