

Application of Design Thinking Method in Educational Card Design "Sobat Saleh"

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KEYWORDS

solving problems, design methods; design thinking, gamecard

ABSTRACT

In developmental psychology theory, students are late adolescents who need to have problem-solving skills (Sahrah, 2019). For this reason, it is necessary to be trained in order to become a capable, creative and independent person in accordance with the goals of Indonesian national education. However, in the learning process in the studio class, the DKV study program which has the purpose of learning to hone students thinking skills, often has difficulty solving a problem. A study that has been conducted previously that it is known that aspects of methods in solving problems are still confusing for students (Ulita & Hananto, 2022). The research outlines that some students are still not fully aware of how to apply the method in designing. Therefore, this journal will describe the form of application of design thinking methods in a case study of designing an educational card game "Sobat Saleh" that can help student design learning that provides an overview of the process of solving problems into a design idea. Starting from data collection, analytical techniques and thinking processes as well as the form of application of the design thinking design method. Thus, it can be observed more deeply the patterns carried out in efforts to apply the design thinking method so as to help students more easily have the ability to solve problems with the method. The ability of critical thinking and creative things in solving problems can support the design logic that is needed by a designer when doing a design.

INTRODUCTION

From the objectives of Indonesian national education as stated in Law Number 20 of 2003 article 1 it can be seen that education functions to develop the ability or potential of oneself to be capable, creative, and independent. Thus, universities that are part of the national education implementation space can encourage the creation of people who have skills, are creative and also independent. In developmental psychology theory, students enter late adolescence who face many problems in the process of self-discovery and are in a phase of idealism that tends to reject values or even challenge the values that exist in society. Therefore, in this condition, the ability to solve problems is something that students must have (Sahrah, 2019).

Thus, it is very important in the learning process that is carried out to train and hone students' abilities in order to solve problems. One of them is in learning design in the studio class in the visual communication design study program. The results of a study are known that there are still many visual communication design students, especially those who experience confusion and difficulties when designing. There are several things that cause, namely: lack of understanding of the importance of operational definitions in design, understanding of design methods and lack of understanding in the application of analytical techniques from data that have been collected by designers (Ulita, 2022).

Another journal elaborates that in carrying out the design process, the stages of work need to be a concern, but in completing the designer, they have the right to have their own methods in order to find ideas in solving the problems they face, but in practice, the black box method and

the glassbox method both need to complement each other in the design process carried out by students (Soedarwanto, 2020).

In addition, a review of design methods that are often used by design students has also been carried out and it is known that the methods used use design methods in the field of Architecture, namely: black box method, glass box and design thinking method. However, in its application, Ulita & Hananto (2022) explained in the 2022 report of the domestic collaboration research document of Universitas Mercu Buana and Universitas Pelita Harapan entitled a review of methodology in visual communication planning design that some students are still not fully aware of how to apply the method in designing. This can be seen from the documentation of student design reports on the elaboration of the stages of design methods which are a lot just explaining the stages to the stages of the production process alone, without elaborating on the thinking process and work process of the design as part of the application of methodological aspects should be.

Based on this, it is necessary to examine more in the form of the application of design methods in working by students. The design method that will be described is the design thinking method.

Students are certainly expected to be able to describe the thinking process and design work process that is structured and systematic so that it can be an example for other visual communication design (DKV) students in realizing the importance of methodological aspects in the design carried out. This is also in line with the results of classroom action research conducted that learning design methodology is needed in analyzing and applying work stages to a design (Hananto, Hadi, Hermawan, & Gondo, 2020).

The research was conducted using a case study from a design conducted by visual communication design students of Mercu Buana University who designed an educational card game "Sobat Saleh" by Rizki Ramadhani. The educational card game design has a target user for children aged 8-12 years. The purpose of designing the work is to assist Islamic teachers in providing education related to zakat, infaq and alms so that the subject matter in the Islamic curriculum at the elementary school level can be more easily understood by students.

By conducting research on the application of design method, design things will help students have reinforcement in the thinking process and design process that will become skills after graduating from their studies later. Thus, graduates from the visual communication design (DKV) study program can become graduates who have the skills, independence, and creativity in accordance with the goals of Indonesian national education, namely becoming individuals who are able to solve various problems that will be faced later. The ability of critical thinking and creative things can support the design logic that is needed by a designer in solving problems in society.

METHOD

This research is a research in finding the need to know about Planning design methods, especially visual communication design. The design thinking method that is the formal object of this research has been widely used by various other fields of science, the most frequent of which is management and business science. Meanwhile, in the field of visual communication design, there are still few design thinking methods that use in the right way as they should. Even though understanding the method of doing design can answer the problems that students often experience in the creative process in the studio class. The design of the educational card game "Sobat Saleh" in this research case study is a material object that is used as an observation in the application of the design thinking method in the design of DKV works.

Thus, the formal object of this research lies in the application of the design method to the results of the DKV design that has been implemented, and not discussing the design objectives of the educational card game "Sobat Saleh". In other words, this study will focus on dissecting the design process from the point of view of applying the design method. The variable of this study is the design thinking method, which is described in more detail on the thinking process

and the process of design work stages in accordance with the operational definition of design thinking theory.

Thus this research uses qualitative methods with a case study approach. Qualitative methods are considered to be an approach in this study because the data are descriptive in describing the methodological aspects of the design applied by the case study in this study. The data in this study is more on individual patterns in designing when using the design thinking method so that in the end it forms a research conclusion. The method of data collection carried out in this study is: literature study, documentation, and interviews.

The collected data is then analyzed using Miles and Huberman's data analysis techniques, namely reducing data by: summarizing existing data from both partner universities, coding data according to problems and keywords, namely design thinking (Matthew B. Miles, 2014).

RESULTS AND DISCUSSION

Most students are familiar with design methods, and understand that using methods in design is the most important thing. However, the problem that often occurs is when applying methods in design starting from the initial stage to the end of the design. Students often have difficulty at the stage of processing data and finding design ideas. These two things are interrelated and become the initial foundation before designing. If students find it difficult to process the data that has been collected, it will certainly have an impact on finding the right design ideas. For this reason, this study will identify design data and how to analyze data so that data can be a design idea.

Data is indispensable for a designer before designing. Designers must be able to find problems from data and then choose the right solution as the design idea. Therefore, methodological aspects are needed that process data into design ideas. So in this study will be described the process of applying the design thinking design method starting from a work that is used as a case study in this study, namely the design of the educational card game "Sobat Saleh".

The educational card game "Sobat Saleh" is one of the works of students who collaborate with lecturers who in the design process use the method *design thinking*. Method *Design Thinking* is a centralized design method starting from tracing the problems and needs of the target / user. Therefore, in designing the educational card "Sobat Saleh" data collection starts from children's interviews related to insights about zakat, infak, and alms as the target of the work. Although the target users of educational cards are children aged 8-12 years. However, this educational card cannot be used without parental guidance or accompanying teachers in playing so that they also conduct interviews with parents.

The design method starts from the initial stage of collecting data. Method *design thinking* Has 5 (five) stages of the work process, namely: *emphatize*, *define*, *ideate*, *prototyping*, and *testing*. The thought process is carried out repeatedly and continuously between *Creative Thinking* and *critical thinking*. The same is done in the design of the educational card "Sobat Saleh".

The first effort was to collect data to find problems related to learning materials about zakat, infak, and alms in children. For this reason, designers conduct closed question interviews with children and parents to find out things related to issues around insights about zakat, infak and alms. Interviews conducted using *emphaty map* guidelines are related to 4 (four) things:

"I conducted interviews with 50 (fifty) children and parents in collecting data using Emphaty Map: Say, Feel, Think, and Do. From the number of respondents above with an age range of 9 years and above, it produces data that there are still many children who do not understand the meaning of zakat, infak and alms correctly, many of the children only know the zakat paid at the end of Ramadan which is commonly called zakat fitrah. On average, the whole already knows zakat, infak and alms, but from the interviews the children still do not understand how to do it properly. From these data, I finally got an idea of the need for education in strengthening zakat, infak, and alms materials in terms of doing it in the

right way. Thus it is the material that ultimately needs to be developed and become the focus of my work." (Ramadhani, 2023)

From the documentation of the design report carried out by Rizki Ramadhani as the designer of the educational card game "Sobat Saleh" it can be seen that the efforts of the designer found problems from the data he managed to collect. Interview data were identified and then categorized based on *empathy maps*. Thus designers can find things that are difficult for children and things that are expected by children and parents. This in the *design thinking* method is known as *pain* and *gain*. From this data, finally the designer can then formulate a problem (*problem statement*). The following is the formulation of the design problem compiled by Rizki Ramadhani in his design:

Motivating factor	Impact of occurred
<p>There is a need for better comprehension of how to involve children in practicing Zakat, <u>Infak</u>, and <u>Sodaqoh</u> (ZIS) in their daily routines.</p>	<p>When there is a lack of understanding about ZIS, children may experience difficulties in applying it to their daily routines.</p>

Picture 1. Rizki Ramadhani Final Project Report
(Source: Ramadhani, 2022)

From the formulation of the problem prepared, the designer performs the next stage, namely the define stage. This stage the designer formulates solutions to existing problems. Because the problem found is the lack of understanding of children in implementing zakat, infak, and alms (ZIS) in everyday life, the right solution is to educate about how to do the right zakat, infak, and alms in daily life. So to develop the solution, the designer compiles the solution formulation in a clear statement (*solution statement*). This statement will be the reference and basis and motivation for the design to be further developed into design ideas.

Based on the above, the designer collects data again regarding design works that are used as references in delivering education for children. Designers collect data about children's characters and what they like. Finally, designers found references through literature studies that children love games and children tend to easily imitate what they see. With this data, designers develop *Solution Statemet* it becomes the need for educational games that are interesting and help children remember how to do the right thing about the insights of zakat, infak and alms. Therefore, designers then looked again for literature studies related to educational games, which finally found operational definitions of educational games to the types of educational games. From there designers then sort through and identify the type of play that is appropriate for children aged 8 – 12 years.

".... Of the various types of educational games, I chose educational games in the form of card games because these games have opportunities for visualization that can be more varied and attract children's attention. I also get references that there are 4 (four) elements that must be present in educational games, namely: challenge, curiosity, control, and fantasy. Thus, I developed the concept of design into the design of an educational card game card game." (Ramadhani, 2023)

Thus at the stage of *Define* The definition of the problem formulation has changed to the design formulation. This is what then becomes the next designer's reference in developing his design ideas.



Figure 2. Moodboard Designing
(Source: Ramadhani, 2022)

As for if you have got a design idea, often the design idea arises from subjectively rather than objectively. Even though a designer should formulate his design ideas because of motivation based on needs in solving problems, and of course this should make it more objective. In the third stage, namely the ideate stage, this stage is the stage to develop a solution statement in a design idea that is more specific to the visualization aspect. This stage is better known as the elaboration of big ideas / creative briefs. At this stage the solution statement is described specifically, starting from the main message, symbols / icons, illustrations, color composition, the use of typography types and other visual elements that will be used in building planing design ideas.

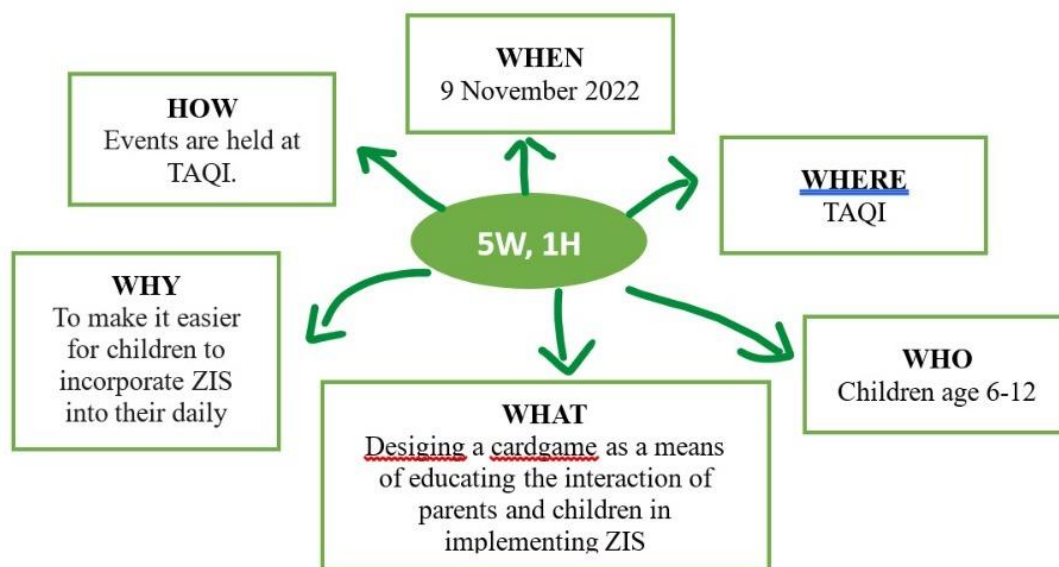


Figure 3. Planning Educational Activities
(Source: Ramadhani, 2022)

After compiling a moodboard as a reference in exploring his visual design, Rizki Ramadhani redeveloped the idea using the description of 5W1H (What, Who, When, Why, Where, and How). This method helps designers to be able to plan educational activities that will be carried out so that the design becomes clearer and can be more easily produced.

Table 1
Description of Educational Card Game Design Ideas "Sobat Saleh"

Problem Statemet: Children's lack of understanding in implementing ZIS in everyday life	
Solution Statemet: the need for educational games that are interesting and help children remember how to do the right thing about zakat, infak and alms insights.	
BIG IDEA/CREATIVE BRIEF	
Key Messages to be delivered	Education about zakat, infak, and alms as well as understanding how to do the right thing in everyday life
Educational Materials	Definition of zakat, various types of zakat, zakat group, time of payment of zakat and nisab in zakat, definition of alms, differences between alms and infak, how to perform alms, understanding infak, differences between infak and zakat, infak recipient groups, and infak payment time
Keywords	<i>Fun, excited, joy</i>
Product works	35 cards, 1 playing board, 4 answer cards
Symbols/icons	Hands, plants, animals
Color composition	



Typography	<i>Handwriting fonts</i>
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(Source: Processing researcher data, 2023)

The final stage of designing with *the design thinking method* is the testing stage. At this stage the designer conducts a second design test after the first design test. If the first is more about correcting the shortcomings of the work in the designer's subjective view, while the second design test of the design work is corrected from the point of view of the target user. In designing the educational card "Sobat Saleh" designers conducted design tests on target users, namely children aged 8-12 years. This is according to what was said in the interview with the designer:

"At the testing stage, it will be carried out to target players in accordance with the criteria mentioned at the initial stage. Testing will be done by playing prototype card games to prospective players directly and interviewing players to get feedback." (Ramadhani, 2023)

From the results of testing conducted by designers on the design of educational cards "Sobat Saleh" it was found that educational cards are very liked by children, and children have increased knowledge after finishing playing the educational cards.

Discussion

From the description of the process of designing educational cards "Sobat Saleh" which uses the *previous design thinking* method, it can be seen that the design method makes it very easy for designers to plan, conduct and evaluate planing design. Therefore, in this study, researchers also collected data using literature studies, regarding the experience of other designers who have also used *design thinking* methods in the design process.

A journal that discusses a community service activity using the method *Design Thinking* said that using the method provides its own convenience that can be understood and directs students to structured and systematic work in designing so that it is right on target. Thinking framework with methods *Design Thinking* can produce various alternative solutions that are creative and right on target. Thus this method is able to provide other creative perspectives in an effort to solve existing social problems. (Rizkavirwan, 2020)

At Designing a website done by a designer using the method *design thinking*, also explained the design process which begins with data collection focused on user needs, of course, providing convenience and obtaining *Feedback* from the returning user. Through this method, the creative thinking process can be carried out repeatedly until getting the best design results for its users. In the journal, it can be seen that the data collection carried out by designers through observation and interviews with stages *emphatize* which is a stage that greatly determines the

concept of website design. Designers suggest being able to explore all user needs in order to produce works that provide convenience for users when accessing the website. (Soedewi, Mustikawan, & Swasty, 2022)

Method *Design Thinking* It can also be used in logo designing. By using this method, it has succeeded in realizing the company's desire to get the expected and targeted visual identity. With this method also designers can more easily get *Feedback* positive from consumers so designers say that this method is very helpful to find the right solution for the product. (Laksono & Islam, 2020)

Other journals also say the same thing with regard to the application of the method *Design Thinking* in the design process carried out. The designer said that this method should be used by DKV designers so that the work produced can be able to synergize with other scientific fields. In addition, the thought process on *Design Thinking* will make the media quality better. With this method a designer can put aside personal ego in designing and prioritize the needs of the problem but certainly not only do one stage, it should be done with repeated stages so that it can find useful solutions. In addition, there are also those who say that the method (Pratama Y. Y., 2021) *Design Thinking* Also provides 3 (three) innovation rooms, namely: inspiration room, idea room, and implementation room, where each other supports each other to make the design more effective and on target (Septiningsih, 2017).

CONCLUSION

From this study provides findings that using methods in the design process is very necessary starting from collecting data, processing data, identifying data, finding design problem formulations, finding design ideas to building design ideas and producing works to suit the needs in accordance with the problem. The use of design methods will greatly facilitate students or designers because it will lead to a picture of a planned, structured and systematic work process.

One of the methods that can be exemplified in this study is the design thinking method. This method directs the main focus to the problems and needs of the target user / user. This stage consists of 5 (five) stages, namely: emphasize, define, ideate, prototyping, and testing. Each stage is interrelated with supporting each other, can be done a repeating process using the Christian thinking process and the creative thinking process. The work produced using this method will certainly make the work more targeted and useful in accordance with target needs so that the design is not based on the subjectivity of the designer but can respond more objectively. This design thinking method should continue to be developed in the learning process in studio classes, DKV study programs from both universities partnering to improve the quality of student graduates more optimally.

This research can continue to be developed by conducting experiments on students from both universities partnering in applying the design thinking method without using the design thinking method. With a measurable indicator scale, this can be generalized and utilized for the development of other visual communication design sciences. And from this research, a book can also be compiled as a reference in describing the design process using the design thinking method.

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