

# Design Thinking Framework Implementation in Design for Society Course

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## ABSTRACT

Nowadays, Visual communication design puts forward the problem-solving of commercial problems rather than social issues. In this case, the aspiring designer is students; the commercial aspect is significant and takes the design's primary consideration. Therefore, a solution to the learning design process that prioritizes problem-solving based on social and communication issues is needed. Desain for society is a learning course in the department of visual communication design of UMN with the learning outcomes to establish an understanding and responsibility of visual communication designer as solutions to the problems existing in society and community. Stanford's design thinking is a methodological framework for the students of design for society class to be directly involved in practicing this method and their design skills, keeping the ammunition in providing useful design solutions. The study was conducted in Pagedangan Village, Tangerang District by taking a number of study object such as social issues based on economic, cultural, education, and health aspects. It was utilized to practically apply the design thinking method in solving social and community problems in the village.

**Keywords:** *Design Thinking, Design for Society, Visual Communication Design.*

## 1. INTRODUCTION

The visual communication design development has always been dominated by industrial development and the accompanying commercialization. Practically, practical design development in the old paradigm focuses on product design output and technological development. Graphic designers are demanded to produce unique and attractive design output by utilizing existing technologies. In the new paradigm, the design does not focus only on attractive and commercial results, but it shifts to a community-oriented with all its social problems, involving communities as stakeholders and being more collaborative. The final goal is how graphic design provides positive results in society and community social life.

The Visual Communication Design study program of Multimedia Nusantara University (UMN) responds to this need by creating a special course called Design for Society. This course is a unique and differentiating subject in the new curriculum of UMN visual communication design study program which is oriented on social solutions for society. This course is given to

establish a balance in integrating a mindset for design students that design solutions do not always refer to commercial output. The purpose of this course is to learn about design application to solve occurring social problems. This course studies people in the social environment and their relationship with design by using design thinking. Finally, at the end of Design for Society course, students are required to produce a ready design prototype to apply on the social environment.

In the process of implementing this course, the used case studies are problems encountered in a village near the Multimedia Nusantara University, that is Pagedangan Village. Pagedangan Village is a village located in Tangerang city but it is squeezed by the commercial real estate industrialization of one of the leading developers in Indonesia, Sinarmasland. The result of initial observation indicates that this administrative village contain many potential problems both in education, economy and culture that can be solved by visual communication design. The practice of the Design for Society is expected to provide an overview of practical solutions that can be implemented by the community and village officials from visual communication design

students. From the background above the research question is how do visual communication design students respond to the Design for Society course by providing solutions to case studies of several socio-cultural, education and health objects in Pagedangan Village, Tangerang? And How to respond on creative design solutions by using a design thinking framework. For more further the objectives and benefits of this design are to help Pagedangan community through alternative creative solutions in solving social issues related to education, socio-culture, health and economy, design thinking method is a method that can be applied to the Design for Society course and To build social sensitivity for students of visual communication design related to social issues and solve with design.

## 2. DESIGN THINKING

Main objective of Design thinking is to provide solutions on problems and needs for the community. In its implementation, the thinking design is very suitable for Design for Society course because this method is relevant to Problem Based Learning (PBL) simulation. The *design thinking* method in IDEO, has a *human centered* aspect and a spirit of collaboration. *Human centered* directing students in the design for society class to establish empathy for the surrounding community and collaboration is how students will work on projects alongside to find problems and learn to find and realize solution that have a direct impact on communities. The advantages of Design Thinking according to IDEO in Drajat, et al. [1] connecting the organization with the people it serves, 2) transforming data into realizing formulation of ideas, 3) seeing opportunities for new innovations, and 4) the acceleration and effectiveness of creating new solutions. Of the Design Thinking method when it is introduced by various versions and stage models, one of them is the 5 stages of the Stanford University Design Thinking method. The five stages of MDT according to Stanford University - Hasso Plattner Institute of Design (2010) in Carrol [2, 3] are:

1. **Emphatize**, is the first stage that focuses on understanding and mastering the problem to find a solution. In this phase, it is expected that designers are able to enter the world of users, understand their perspective on their encountering problems. Deepening the problem from user's point of view will help produce relevant solutions according to the user's problem conditions.
2. **Define**, the second stage is data collection from the first stage, then analyzed and synthesized to obtain core of the problems encountered by users.
3. **Ideate**, the third stage, where there is a process that creates a solution. At this stage, it is expected that innovative ideas will emerge from the point of view of a creative person, resulting in new possible solutions. From the discussion process, these solutions will produce the relevant main solution and implemented in the field.
4. **Prototype**, The fourth stage embodies ideas into design work and visual into prototypes. This process is the first step in internal testing and obtains an idea of whether the design and visual work will be relevant and able to provide the expected solution.
5. **Test**, the fifth stage is the overall testing including prototyping and obtaining feedback from users. This testing stage can be executed repeatedly, so, the proposed solution can be found according to the designer's expectation for potential users.

Research Objects in Pagedangan Village Tangerang. Pagedangan Village was founded during Dutch colonial period in 1935. Its location is very strategic because it is in the middle of shopping centers, offices, education centers and settlements, making the village as the center of community activities. It is located in the city center of Pagedangan sub-district and on the district autonomous road between Legok and South Tangerang. So, Pagedangan becomes a transportation crossing point for Regencies, Provincial and traditional shopping centers (Serpong market, Curug market, Parung Panjang market and others) and modern (BSD, Gading Serpong, Summarecon and Paramount). Viewed from the social condition and pattern, this village is a heterogeneous village. Pagedangan has a population of 8,480 people: 4,183 male and 4,297 female. The village which is led by Mad Saih has an area of 464,607 Ha: 120,280 Ha is housing for residents, 337,896 Ha is agricultural land and 6,431 Ha is allocated for public services/public facilities.

Based on the search, several object studies are selected as case studies for the application of design thinking and PBL that raise social issues in Pagedangan Village. The study objects are (1) Uyut Onang Sacred Grave, a grave in the middle of the village which as a center of spiritual activities for pilgrims and a historical center as well as a public cemetery. (2) Raudlatul Anwar Islamic Elementary School, an Islamic-based elementary school and independently managed by a foundation to

provide access on education for the residents around the village. (3) Integrated health Service Station (*Posyandu*) Seruni IV, a micro health service from the Village Community Health Center to reach micro communities, mainly mothers and children in one of the Pagedangan village areas.

### 3. DESIGN METHODS

The used methodology in the design process is Stanford's five phase Design thinking in the implementation of the Design for Society course.

- **Emphatize**  
This stage was executed by going directly to the location of study object, applying the research data collection instrument from field observation, and conducting observation and interview as well as focus group discussions by the stakeholders of the relevant study object.
- **Define**  
Data analysis based on the results of observation, interview and focus group discussion and map arising potential problems, identifying problems and formulating core problems.
- **Ideate**  
The process of formulating relevant alternative solution to answer the problem by using design approaches. In addition, this stage also performed the process of visualizing design from raw material to digitalize it into a design medium.
- **Prototype**  
The process of implementing and finalizing the design of conducted process at the idea stage by paying attention to the production aspect of prototypes that were ready to test in the field.
- **Monitoring, evaluation and review**  
This stage was the stage of evaluating and recording the tested prototype results on stakeholders and users. The evaluation result was used as repairs and refinements on the prototype before it was produced and used.

Table 1. Five Phase Design Thinking by Standford

|                          |   |
|--------------------------|---|
| Phase 1 <u>Emphatize</u> | Observation and a research to explore data in object and user studies               |
| Phase 2 Define           | Perform analysis and synthesis and formulate the core problems experienced by users |
| Phase 3 Ideate           | The process of generating ideas and work solution                                   |
| Phase 4 Prototype        | Production process of work solution prototypes                                      |
| Phase 5 test             | Monitoring, evaluation and review   |

## 4. IMPLEMENTATION PROCESS

### 4.1. Emphatize

In this process, the student team conducted data mining by conducting observation, interview, focused group discussion and interacting at the study location to obtain potential problems in that location. It was expected that the potential problems would raise in the identified study object.

Makam Keramat Uyut Onang



Madrasah Ibtidaiyah Raudlatul Anwar



Posyandu Seruni IV



Figure 1 Observation, Focused Group Discussion and Interview

### 4.2. Define

At this stage, students identified problems and formulated what the problem issues that would be solved through affinity diagrams and fishbone methods, and students created project plans. In case of Uyut Onang's grave, the problem was the issue of lack of historical information and low awareness of surrounding community about the existence of historical site of Uyut



Onang's Grave. Meanwhile, for Radlatul Anwar Islamic Elementary School, it was found that the problem was low interest in learning, lack of motivation and a lack of learning medium to rise student interest in learning. Meanwhile, for Seruni IV Integrated Service Station, it was found that there was a low number of visiting to the Integrated Service Station by pregnant women and children with toddlers for consultation because the atmosphere was not supportive and uncomfortable.

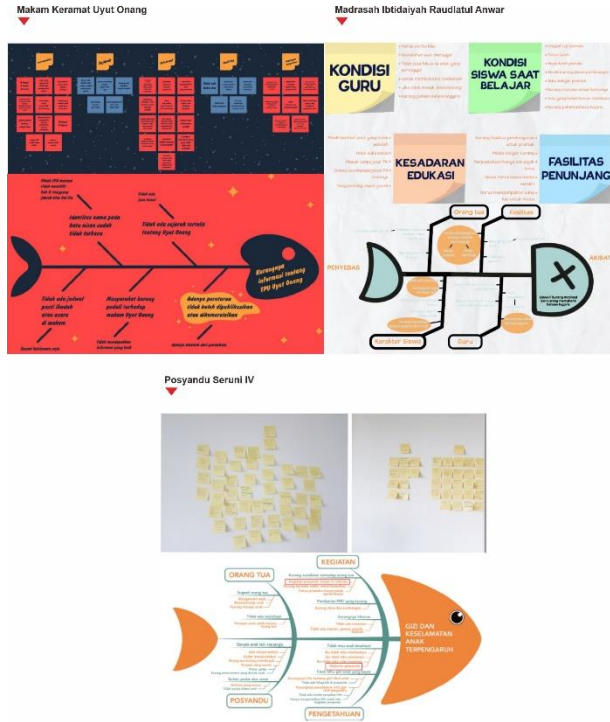


Figure 2 Affinity Diagram & Fishbone

4.3. Ideate

This stage was a continuation of the result of problem identification and determination of design solution through formulating objectives, compiling alternative solution, developing potential ideas, formulating idea finalization and design implementation. These activities were conducted through mind-mapping, brainstorming and design sketches. Sacred grave created solution in designing historical stories by using illustration, utilizing the medium in the location, historical guidebooks and the sign system for the pilgrimage of sacred grave. Raudlatul Anwar Islamic Elementary School designed interactive board game-based learning solution to be played by teachers and students and it was able to customize by teachers. Integrated Service Station Seruni IV designed more attractive, informative and comfortable atmosphere as a gathering and consultation place for toddlers, village women and their volunteers.

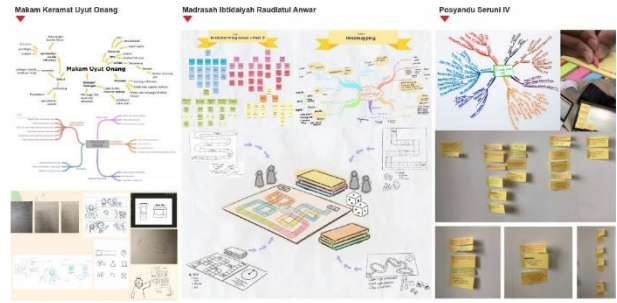


Figure 3 Mind mapping, brainstorming and idea

4.4. Prototype

This stage was the process of finalizing and digitalizing the established design sketches. The design process was also implemented in relevant medium.

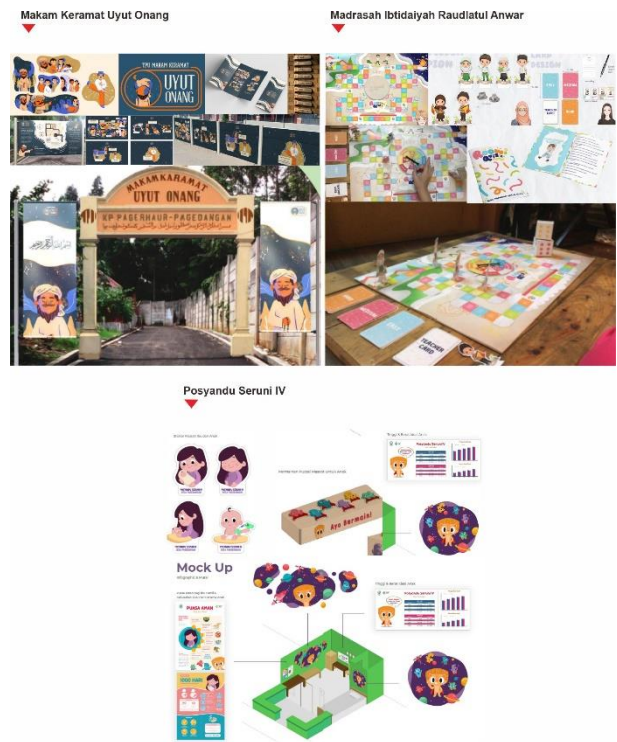


Figure 4 Brainstorming, mind mapping and design

Uyut Onang sacred grave focused on creating a prototype of Uyut Onang's visual historical narrative on mural and printing as well as implementing the sign system. Meanwhile, at Radlatul Anwar Islamic Elementary School, the design process was also implemented into board game elements such as game cards, board of game boards, game manuals and game packaging. Meanwhile, for Seruni Integrated Service Station, the focus was on implementing informative and interesting infographic nuances on the interior as well as simple play media for mothers, toddlers and children.

**4.5. Monitoring, Evaluation and Review**

This stage was a ready-to-produce test design prototype to obtain feedback from users and stakeholders. The testing that should have been performed offline was then changed to online due to the Covid-19 pandemic. Testing was performed by interviewing, virtual testing and preparing user response questionnaires, this has been adapted in the previous studies as well [4]. The feedback results would be used as a measuring tool for the achievement of design objectives and evaluation to make design improvement and refinement.



**Figure 5** Monitoring and evaluation process

**5. CONCLUSION**

By raising the issues of social problems in society, it turns out that it can provide new insight for prospective visual communication design students on the importance of being sensitive on the environment and foster their empathy and responsibility in creating creative design works. Student responses are not only in the form of creative work but also the students are able to research, understand and analyze problems by using data collection methods in the research to establish objectivity in design. In its implementation in the field, related to the design for society project, the design thinking method is considered capable of providing easily understood systematic sequential direction by design students in designing the right target design. Case of Uyut Onang sacred grave, Raudlatul Anwar Islamic Elementary School, Integrated health Service Station (*Posyandu*) Seruni IV provides concrete evidence that design thinking frameworks can produce diverse creative solutions and on target, and also it has the potential to be applied in the field. Broadly speaking, it can be concluded that visual communication design is able to provide another creative perspective to solve social problems in the community by using a design thinking framework.

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