

The Design Thinking Method in the Learning of Store Interior Design

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Abstract. This study aims to describe the application of design thinking method in innovative Interior Design learning with five stages: empathize, define, ideate, prototype, and test, and to find out whether the design process and results are in accordance with the set reference. Data collection through observation by observing 20 students participating in the Public Building Interior Design Lesson with store design project. From the results of the observations it can be concluded that students are able to think creatively (80%), understand theories (80%), formulate problems (80%), and provide design solutions with an emphasis on creating attractive, effective and efficient spaces in accordance with the image of the store (80%). Even with the same stages, the methods used by each individual are different because of the different working styles of individuals. The difference can be caused by the client and the solutions offered vary, also the mindset and work of each different participant.

1. Introduction

Design Thinking is an approach used for practical and creative problem-solving. It is based heavily on the methods and processes that designers use, but it has actually evolved from a range of different fields, including architecture, engineering and business. Design Thinking can also be applied to any field; it doesn't necessarily have to be design-specific. Design Thinking is extremely user-centric. It focuses on humans first and foremost, seeking to understand people's needs and come up with effective solutions to meet those needs. It is what we call a solution-based approach to problem-solving. (<https://careerfoundry.com>). In accordance with its character, the design education by design thinking method is not only focusing on the psychomotor training but also on the skill to think as an interior designer and the ability to apply the concept of design.

Design thinking method has four principles: 1) The human rule: No matter what the context, all design activity is social in nature, and any social innovation will bring us back to the "human-centric point of view". 2) The ambiguity rule: Ambiguity is inevitable, and it cannot be removed or oversimplified. Experimenting at the limits of your knowledge and ability is crucial in being able to see things differently. 3) The redesign rule: All design is redesign. While technology and social circumstances may change and evolve, basic human needs remain unchanged. We essentially only redesign the means of fulfilling these needs or reaching desired outcomes. 4) The tangibility rule: Making ideas tangible in the form of prototypes enables designers to communicate them more effectively. (<https://careerfoundry.com>).

In the Art Education Department, Faculty of Languages and Arts, Yogyakarta State University, the education system through the design thinking method has been applied for the students since the first semester but it has not been done optimally due to many factors. One of the factors is the lack of students' motivation to be engaged in intensive design process. Therefore, in this study, the design thinking method will be effected and revived to increase the motivation in learning and practicing store design for the students to improve the learning quality of The Public Building Interior Design Lesson.

Interior design is the planning, layout and design of the interior space within buildings. These physical settings satisfy our basic needs for shelter and protection. They set the stage for and influence the shape of our activities. They nurture our aspirations and express the ideas which accompany our action. They affect our outlook, mood and personality. The purpose of interior design, therefore, is the functional improvement, aesthetic enrichment, and psychological enhancement of interior space (Ching, 2002: 46).

The Store Interior Design Lesson is one of the competencies that are taught to the students in Art Education Department. Here, the students learn about basic interior design, technical knowledge of manual drawing, and drafting design. Students are assigned to do the project of store interior design which is done by the basic principles of planning and drawing techniques, including: a) human needs, b) architectural the influence of climate, location and complex analysis, which includes site, the concept of space and circulation], and c) construction (building materials).

Based on the description above, it can be expected that students have a responsibility to learn a considerable need for facilities in practice and sufficient time to complete learning responsibility, in this case on the competence of store Interior Design. Thus, the availability of facilities in the design studio and adequate time to learn need to get serious attention from the faculty and the institution, in order to support and motivate students in the completion of tasks, which ultimately is aimed at increasing students' achievement and improving the quality of education. The design education process through the design thinking method is not a new thing anymore because this kind of method is adopted from the design education system of the France's Beaux-Arts as well as the Germany's Bauhaus (Istanto, 2002).

Being an interior designer, one has to master certain knowledge and skills. A designer needs certain competencies that are, among others: (1) personality (attitude) competency, (2) technical competency (skill and knowledge), communication competency, (4) methodological competency, and (5) social competency (Aditjpto, 2002). Inside the studio, the students' knowledge and their developmental design aspects are being developed by doing some training or students/lecturers' interaction. In this studio, training and discussion will gradually develop and form a kind of design concepts inside the students' mind. In the studio, the students will also be able to do some practices to balance their hand and way of thinking, develop their senses of shape and form, enhance their design skills, elaborate their understanding toward design and improve their skills and design quality.

The teaching and learning process by the design thinking method is just one aspect of education, besides the other important aspects of the education itself. The design thinking method that has been considered as the perfect system for the design education still needs straightening up.

2. Method

The method conducted in this study was classroom action research following the four steps: (1) preparing action plans, (2) implementing the action plan, (3) observing the action, and (4) reflecting.

In the planning, 20 students were asked to design store interior design that includes: development of planning concept, alternatives sketches, and development of work sheets that include: layout, floor

plan, plafond plan, and elevation. The action plan conducted by implementing design thinking method in five steps or phases: Empathize, Define, Ideate, Prototype and Test.

The result of pre-action showed that the average score of 20 students in the task of making alternative sketches and developing the work sheet is 74.3 and in developing the design concept is 74.0, so that the average score in a class assignment is 74.2. Beside that, the pre-action obtained data related to processes such as: think creatively, understanding theories, formulate problems, and provide design solutions with an emphasis on creating attractive, effective and efficient spaces in accordance with the image of the store. It can be seen that the students were very weak in understanding theories and formulate problems. During their first effort at making a design without implementing the design thinking method, the six aspects of teaching and learning were scored respectively on a scale of 5. The score is an average of the scores on the 6 criteria of the evaluation form. The weaknesses were mainly in think creatively, understanding theories, formulate problems, and provide design solutions.

3. Findings and Discussions

The action took place one month in 4 meetings. Every meeting lasted 4 hours in the design studio at campus and in the field.

3.1. Implementing the Action Plan Cycle I

Based on the findings of the pre-action above, the weaknesses were caused by the lack of references and data, and the lack of originality due to the lack of observation of the lecturer. Based on those weaknesses, the researcher applied the design thinking method in the task of designing a store interior including the drawing of the layout, floor plan, ceiling plan, and sections. The planning of class action in Cycle I was designed as Table 1.

After the conduct of the method of design thinking, the second teaching plan did not show this weaknesses to the same degree. It can be seen that the students able to think creatively, understand theories, formulate problems, were improving significantly. The weakness still happened mainly in the make an effective and efficient spaces in accordance with the image of the store.

Table 1. The Planning of the Classroom Action in Cycle I

No	Phase	Descriptions
1	Phase 1: Empathize	The first stage of the process is spent getting to know the clients and understanding their wants, needs and objectives. The client is someone who requests designer services to carry out space design activities. As a party that needs design services, then all design considerations done by the designer must be based on the wishes of the client, because the client is the user of the designed space. This means observing and engaging with clients in order to understand them on a psychological and emotional level. During this phase, the designer seeks to set aside their assumptions and gather real insights about the user of store.
2	Phase 2: Define	The second stage in the Design Thinking process is dedicated to defining the problem that happened in designing store. Gather all of findings from the empathise phase and start to make sense of them: what difficulties and barriers are the users coming up against? What patterns that observe? What is the big user problem that the team needs to solve? By the end of the define phase, will have a clear problem statement. Once the problem formulated into

		words, you can start to come up with solutions and ideas — which brings onto stage three.
3	Phase 3: Ideate	With a solid understanding of the clients and a clear problem statement in mind, it's time to start working on potential solutions. The third phase in the Design Thinking process is where the creativity happens, and it's crucial to point out that the ideation stage is a judgement-free zone. Designers will hold ideation sessions in order to come up with as many new angles and ideas as possible. There are many different types of ideation technique that designers might use, from brainstorming and mindmapping to bodystorming (roleplay scenarios) and provocation — an extreme lateral-thinking technique that gets the designer to challenge established beliefs and explore new options and alternatives.
4	Phase 4: Prototype	The fourth step in the Design Thinking process is all about experimentation and turning ideas into tangible products. A prototype is basically a scaled-down version of the product which incorporates the potential solutions identified in the previous stages. This step is key in putting each solution to the test and highlighting any constraints and flaws. Throughout the prototype stage, the proposed solutions may be accepted, improved, redesigned or rejected depending on how they fare in prototype form.
5	Phase 5: Test	After prototyping comes user testing, but it's important to note that this is rarely the end of the Design Thinking process. In reality, the results of the testing phase will often lead back to a previous step, providing the insights that need to redefine the original problem statement or to come up with new ideas that hadn't thought of before.

3.2. Reflection of Cycle I

The weakness still happened mainly in the the making of the image of the store. In designing store, designer must understand the corporate identity of the every store and its brand image. It caused by the lack of data at the phase of emphatize. Based on the weakness that still happened, it was necessary to continue to the next cycle, with an addition matter in collecting the data of the clients.

3.3. Implementing the Action Plan in Cycle II

Based on the weaknesses that have been identified on the lack of sensitivity in design the image of the store that meet the brand image at the next meeting, the researcher applied the same method again by intensifying the implementation of the design thinking method, focusing in improving the sensitivity of the brand image of the store interior design.

The action plan in Cycle II was designed as follows: The students were trained in their sensitivity of composition by determining the design principles (unity, balance, harmony, proportion, scale, rhytm, and emphasize) that related to the image of the store in form and color by observing the products, interview the owner of the store and searching the products knowledge. After conducting the method of design thinking focusing in getting to know the user and understanding their wants, needs and objectives and seeks to set aside their assumptions and gather real insights about the user of store, the teaching plan showed the result can be seen that the students could achieve the ideal scores in creating the brand image for store design.

3.4. Reflection of Cycle II

Students' understanding of the design process increased and they were quite capable of integrating the entire design considerations, shown by the increasing 'students' ability to think creatively, understand theories, formulate problems, and provide design solutions with an emphasis on creating attractive, effective and efficient spaces in accordance with the image of the store.

This classroom action research that was performed in this study ended in Cycle II, because the second cycle had reached the set target indicators of success in the study, ie, increased learning of sore Interior Design by applying the design thinking method in the indicators: ability to think creatively (80%), understand theories (80%), formulate problems (80%), and provide design solutions with an emphasis on creating attractive, effective and efficient spaces in accordance with the image of the store (80%).

4. Conclusion

Based on the findings above, it can be concluded that the design thinking method increased these students' competence, particularly in conducting the Store Interior Design Lesson in the Art Education Department, Faculty of Languages and Arts, Yogyakarta State University. The results showed that the design thinking method has proven to enhance students' learning achievement in three aspects of cognitive, affective, and psychomotor. Even with the same stages, the methods used by each individual are different because of the different working styles of individuals. The difference can be caused by the client and the solutions offered vary, also the mindset and work of each different participant.

5. References

- Ching, D.K. 2002 *Interior design illustrated*. London: Maxmillan University Press.
- Aditjpto, M.I. 2002 Architectural education: Facing the future. *Paper*. International Seminar The Design Studio: Asian Experience of School of Architecture.
- Arifin, L.S. 2002 The role of creativity: Method for studio management development *Paper* International Seminar. The Design Studio: Asian Experience of School of Architecture.
- Istanto, F.H. 2002 *Design thinking method in school of design in Indonesia*. Surabaya: Petra Christian University Indonesia
- <https://careerfoundry.com>