



DEVELOPING A CONDUCIVE LEARNING SPACE FOR THAI ARTS AND DESIGN STUDENTS
AT THE SILPAKORN UNIVERSITY LIBRARY, WANG THA PHRA CAMPUS



By
Miss. Rueanglada Punyalikhit

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree
Doctor of Philosophy Programme in Design Arts
International Programme
Graduate School, Silpakorn University
Academic Year 2015
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The Graduate School, Silpakorn University has approved and accredited the Thesis title of “Developing a Conducive Learning Space for Thai Arts and Design Students at The Silpakorn University Library, Wang Tha Phra Campus” submitted by Miss. Rueanglada Punyalikhit as a partial fulfillment of the requirements for the degree of Doctor of Philosophy in Design Arts

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KEY WORD: SERVICE DESIGN / LEARNING / LEARNING SPACE / ARTS AND DESIGN / CO-CREATION /
DESIGN THINKING / PARTICIPATORY / ACTION RESEARCH

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CAMPUS. THESIS ADVISORS: ASST. PROF. VEERAWAT SIRIVESMAS, Ph.D., ASST. PROF. APISAK
SINDHUPHAK, Ph.D., AND ASST. PROF. WARANAN SOWANNEE, Ph.D. 184 pp.

Learning is one of the important elements of acquiring process of knowledge in education field. It becomes one of the three fundamentals in educational sphere beside the area of study or subject and teaching process. This learning process particularly formal learning process requires a suitable and appropriate learning space particularly for Arts and Design students which relate in the context of service design. This study therefore, focuses on the learning space at the Silpakorn University Library of Wang Tha Phra Campus. The objectives of this study are to explore the current situation of learning space of the Silpakorn University Library of Wang Tha Phra Campus that is currently used by Arts and Design students, to evaluate the correlation of requirements between the learning space and the users within the learning space, and finally to create a suitable model of learning space service that is suitable for Arts and Design students at Wang Tha Phra Library. The qualitative approaches by employing two phases of data collection are employed in obtaining relevant information and data. The first phase of data collection under Observation and Interview is to focus on the pilot study in order to obtain fundamental issues to be used for second phase data collection the Participatory Action Research through Design Service Process. The findings of this study are the Space ratio and Space type of Arts and Design Creative Learning Space, which can be divided into 3 types 1) 42% of Educational Space, 2) 36% of Relaxation Space, and 3) 22% of Library. This research also find that the student always use university learning space for 2 main purpose firstly, to find more information about learning and secondly, to gain their creativity skill. Furthermore, the designed space that also reflected all students's choice of relaxation.

The conclusion and recommendations of this study are purpose to suggest Arts and Design-Creative Learning Space Framework. From the integration of all attributes result to finding, the opportunity of searching for "knowledge" to motivate new creativity was created through the design of learning space in an ideal visual arts and creative design. Creating Shared Value (CSV) through Arts and Design-Creative Learning Space that created the shared value in society via the creative learning. Society in this context was a learning process to conceive the new type of learning for arts and design society.

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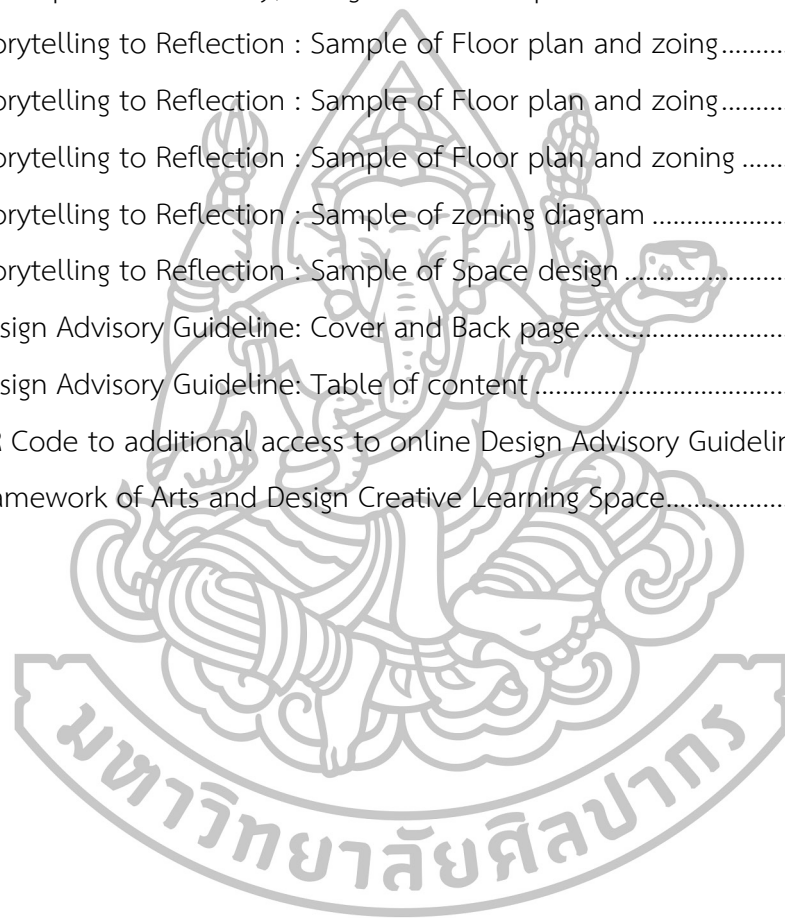
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Chapter 1

Background of the Research

1. Introduction and Background of the research

When the idealistic idea of lifelong learning has become a reality, learning space is not only found in classrooms, libraries, or schools, rather everyone can learn anywhere at any time. Often classrooms try to push and produce students to have the same ways of thinking and qualifications, would that consider a future of educational achievement? Moreover, social, economic, and cultural factors have been resulted in the change of people's ways of living, including learning, work, society, and space. The current advancement of internet and technology help learners to have better access to knowledge and freedom to express creative ideas easily and rapidly.

For the present, the old process and way of thinking becomes less effective to make arts and design students maintain the learning interests and reach their goals as they are many additional distractions. However, regarding the learning process to obtain knowledge, the important thing of learning space management and design is knowing the learners and find out what do they need from such learning process as well as how they would like their learning space, for this might lead to the effective result of learning.

According to Partnership for 21st Century Skills (P21, 2015), the 21st century world is a different situation from the 20th and 19th centuries, where the educational system and learning space especially space for arts and design pedagogy needs appropriate space management that must be developed to comply with a suitable condition.

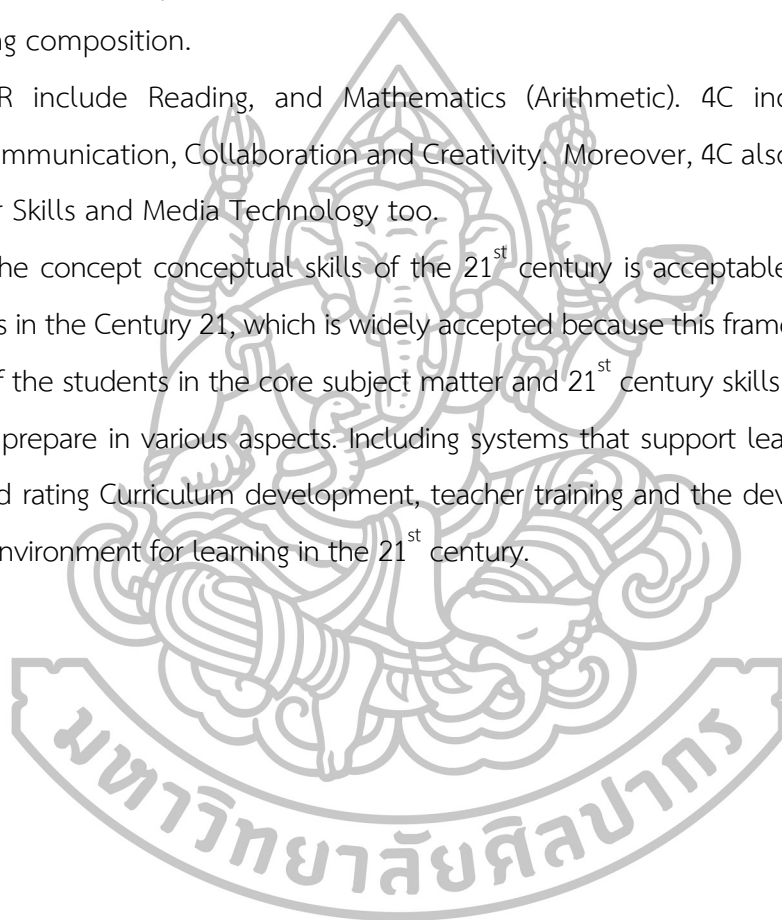
In the United States the concept "Skills of the Future: Learning in the 21st Century," was developed by a group of leading private companies, large enterprises such as Apple, Microsoft Corporation, The Walt Disney Company, LEGO, National professional organization, and the State Education Office. Integration and established

a network of cooperation to the skills learned in the Century 21 (Partnership for 21st Century Skills) or abbreviated as network P21.

These companies are concerned that young people must have the skills for life in the world of the 21st century, which different from the 20th century and 19th. By the reason is to develop visions and concepts for learning. As the result of context of change, P21 has developed learning and innovation skills or 3R and 4C, which have the following composition.

3R include Reading, and Mathematics (Arithmetic). 4C include Critical Thinking, Communication, Collaboration and Creativity. Moreover, 4C also covering life skills, career Skills and Media Technology too.

The concept conceptual skills of the 21st century is acceptable to build the learned skills in the Century 21, which is widely accepted because this framework focuses on results of the students in the core subject matter and 21st century skills that will help students to prepare in various aspects. Including systems that support learning process, standard and rating Curriculum development, teacher training and the development for space and environment for learning in the 21st century.



□

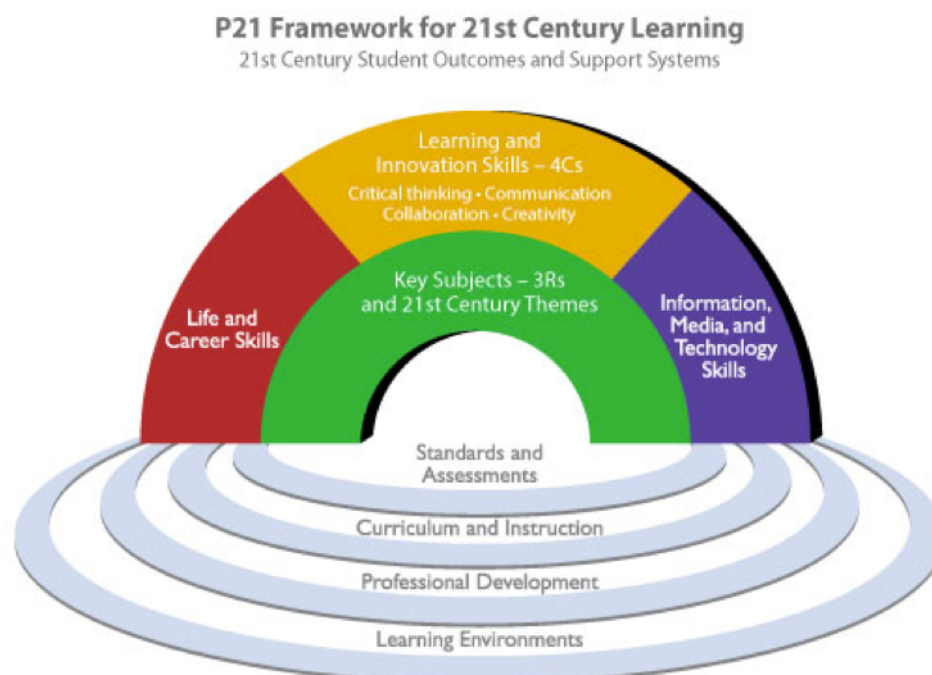


Figure 1 21st Century Learning Framework

Source: P21, **21st Century Learning Framework**, accessed May, 20, 2014, available from http://www.p21.org/storage/images/stories/rainbow/rainbow_external.jpg

It is generally accepted that the transition to learning context in 21th century has already happened, we could not change the way they learn and live in a society, but we have to provide learning services which include learning space to help them achieve along the way as they learned.

2. Background and significance of problem

Why Learning Space Needs Design Services. These days, the relations including politics, economy, society, culture, and environment are connected and fused to be united. Moreover, the advancement of information technology is one of the factors that break the border between people and places that are obstructed each other, therefore the world these days is as if it was contracted in time and space, and thoughts and beliefs are combined to be more relevant to each other. So, the world is getting smaller and not bigger than a village, and many people call it “global village”

(Trilling, 2012), which means the new age of the world that is based on technology leading to faster change at every level of human society.

Research summary of Herman Miller Inc., (Herman Miller, 2010) asserts that “...Today’s academic library operates in a world of instant gratification, e-commerce, and competition for resources. The traditional roles of librarians are evolving to that of knowledge navigators presiding over a complex, dynamic facility. In the face of these and other escalating trends, there are opportunities to reinvent the academic library.” So, there is some reason that why university libraries will be increasingly expected to open their play role and their resources from a traditional library into creative learning space, in the process increasing the need for sensitivity to culture differences and changes as well as technological and environmental views also.

As Christchurch City Council stated in Libraries 2025 Facilities Plan that, International trend watchers predict a continued future need and confidence in public library services and facilities. Central to predictions: books are here to stay (Council, 2005). The anticipated demise of printed books simply has not disappeared, which also showed a print publishing collection currently continues to increase at the rate of 9% per year. Furthermore, the changes of the future of university student’s knowledge acquiring, libraries will have to reconsider existing future services to respond to shift in mobility, collaboration, personalization, participation and sharing. Therefore, the roles of libraries need to be readjust, from delivering methods, services to people, and use of continuous support for its visitors.

Although, traditional library is a place for learning and as a warehouse to collect book, journal, or special media collection but for the present libraries has various types existed around the world with more specific interest rather than general collection from before. American Library Association (Library, undated) divided libraries into 4 types which are Academic libraries, Public, School libraries and Special libraries. The Da Vinci Institute, an influential American non-profit futurist think tank, points to key trends that will affect libraries in the next generation: (Thomas Frey: davinciinstitute.com) 2015

1. Communication systems are continually changing the way people access information.

2. Search technologies are becoming increasingly complicated.
3. Time compression is changing the lifestyle of library users.
4. Over time, we will transition to a verbal society.
5. Demand for global information is growing exponentially.
6. We are transitioning from a product-based economy to an experience based economy.

7. Libraries will transition from a centre of information to a centre of culture.

As national research indicates the importance of student engagement and its relationship to increased learning (Research, 2009), libraries can provide powerful environments for learning and increased student engagement to take place. In an era of increased calls for accountability and demands that colleges demonstrate they are increasing “learning per square foot,” libraries will be expected to be as rigorous as anyone on campus by providing the maximum opportunity for “engagement per square foot” to occur. By providing a place to enhanced student engagement and deeper learning, libraries are helping colleges and universities meet the challenge posed by regional accrediting agencies that want to see more demonstrable learning taken place (Herman Miller, 2010).

How difference between “library” and “creative learning space”. Manush Rajkoomar said that, library is a treasure-house of knowledge. A well-stocked library is an asset to the school, college, university or the neighborhood (Rajkoomar, 2012). In addition, the author also agrees that the person goes to a library not only to search and get information from books but also to sit and study in the space so that supporting services that libraries need to shift themselves to support the future of learning, which is eventually transferred from traditional libraries to creative learning space.

There is no need for everyone to sustain an obsolete learning environment, they all have a chance to develop themselves toward the direction that they want and at the level that they can strive to gain variety of learning experiences that offer opportunities suitable to their best abilities. So to this term of ever changing educational realm, arts and design as well will benefit from a designed learning space.

3. Objectives of the research

The intention of this research was to develop concept guidelines to support people toward learning and beyond life long experiences in regard to arts and design education, where both have materialized into a unit and become very importance for the future education. This research provided a transformation of how service designers create an understanding of the needs and motivations of those affected by a service. The objectives have committed to:

1. explore the current situation of learning space of the Silpakorn University Library of Wang Tha-Phra Campus that is currently used by Arts and Design students.
2. evaluate the correlation of requirements between the learning space and the users on the learning space of Silpakorn University, Wang Tha Phra Campus.
3. create suitable service design model of learning space that is suitable for Arts and Design students the Silpakorn University Library of Wang Tha Phra

4. Definition of Terms

Learning- the act of acquiring new, or modifying and reinforcing, existing knowledge, behaviors, skills, values, or preferences and may involve synthesizing different types of information through or within a designated environment or space.

Learning Space- Place for learning, sharing or doing thing for gaining knowledge individually, with peers, and teachers, which related to arts and design pedagogy.

Service Design- Service design is the activity of planning and organizing people, infrastructure, communication and material components of a service in order to improve its quality and the interaction between service provider and customers, within the learning space in regard to the arts and design curriculum.

Co-Creation- A business strategy focusing on customer experience and interactive relationships. Co-creation allows and encourages a more active involvement from the customer to create a value rich experience, thus offer arts and design experiences from both learner and educators.

Participatory- Providing the opportunity for people to be involved in deciding how learning of Arts and Design can be improved through service design processes.

5. The questions of the research

This purpose is investigated with the help of a number of research questions, which are;

1. In different ways, how to use space and technology to learn creative arts and design?
2. What will 21st century Thai art and design's university look like?
3. How to use space to create beneficial differences of learning experiences for arts and design student?
4. How to create learning space that make the most out of learning experience?

6. The Importance or Significance of the research

Currently, the advancement of information technology is one of the factors that break the border between people and places that have obstructed each other, therefore the world is as if time and space, personal or group thoughts and believes are combined to be more relevant to each other. So, the world is getting smaller and not bigger than a village and many people call it “global village” (Trilling, 2012), which means the new age of the world that is based on technology leading to faster change at every level of human society.

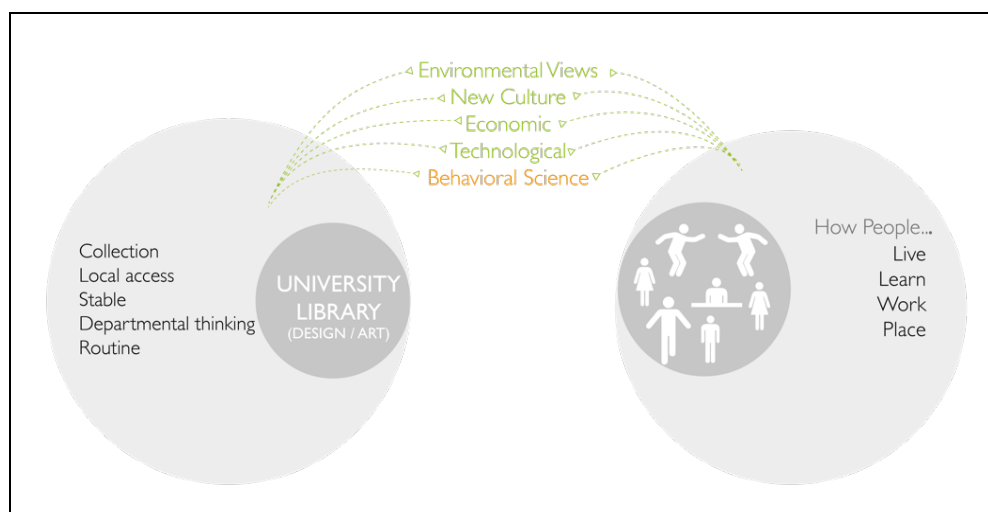


Figure 2 Definition of the problems

The world has changed severely with shorter time and distance or time-space compression (Oke, 2009), and according to the change factors in any context, it is now the time that education providers should review and re-design the structure of learning space. The education should be set to concern about the differences of students and help them to fully use their abilities effectively. There is no need for everyone to be the same but they all have a chance to develop themselves to the direction that they want and at the level that can go with their best.

In addition, when the idealistic idea of lifelong learning has become a reality, learning space is not only found in classrooms, libraries or schools anymore, rather everyone can learn anywhere at any time. These constant changes resulted in significantly changed tendency of the learners' behavior in response to their needs and the paradigm of the study especially student who study in design arts field. Actually, the study of design arts should allow learners to express opinions freely and flee with their imaginations, as well as to have a special learning space in order to fulfill imaginations, enhance creativity and fully show abilities of the learners.



Figure 3 Learning Space, School of Architect, Bangkok University
(Rueanglada Punyalikhit, Bangkok University Photographer, 2015)

In particularly the university library well know as a space for learning, which played significance role as forefront to support also traditional education and new kind education as well as learning activities too. From the proverb “give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime” so, that showing give knowledge acquiring is the best charity and it is better to know how to help yourself than to beg from others. This is the answers that, why university have to prepare themselves and to increasing education facilities and global changes to support learning and knowledge acquiring in the knowledge-based learning economy. Actually, the truths of library are not about books but are about people and connecting people with information also selling a service not a book.

The question remains about what kind of library will be appropriate and suitable that also balance to knowledge acquiring for Thai library visitors. Some people seen library as warehouses insular and outdated. “Everything is electronic and available online.” So, who needs libraries? “I can find everything I need using Google.” So, who needs libraries? “Libraries are stuffy and quiet and boring.” So, who want to hang out in a mausoleum? Many questions that sound like libraries going to far away from people life style how can universities protect and treat them. Indeed, the very need for libraries is being questioned in some quarters. For this interested point of

exploration, “the changing nature of users” the changes and challenges facing higher education libraries in the age of fast forward world. Perhaps most importantly, on the fast changing world, knowing in technological might be unimportantly. Whichever, on the other hand Thai People have to learn themselves what are their needs and desired and where is the real exact balancing point for Thailand university library under Thai people paradigm.



Figure 4 Learning Space, School of Architect, Bangkok University
(Rueanglada Punyalikhit, Bangkok University Photographer, 2015)

An idealistic learning space should allow learners to decide which learning space is best for them, thus, the important thing of learning space management is to get to know learners in order to find out what they actually need from learning and what kind of learning space they want. “Understanding your learners is part of designing good learning experiences. If you don’t understand your learners, unfortunate things can happen” (Dirksen, 2011). Education should realize the differences between learners and help them to use their abilities as much as they can.

During a great leap forward into creative economy Thailand cannot escape from a changing global that is effect to directly and indirectly on the country’s Higher Education. On the other hand, Thailand moving towards an ageing society very soon

with reduced expansion, universities should now focus on education quality, enhance its role in improvement of economic productivity of working population, and direct more efforts on continuing and life-long education in view of changing jobs and careers, and new and emerging occupations. Support to the ageing population to contribute towards economic and social productivity is to be (Commission on Higher Education, 2008).

Silpakorn University is a well-known university for its reputation of education and the service for arts and design, which ranked in the top 5 of Thailand, having Wang Tha Phra campus as a place to captivate and manage the study of design arts for students and Wang Tha Phra main library that supports learning service including resources and space. Regarding changed factors above and the role of being a campus for arts and design, therefore, the emphasis of the university's learning space is considered as one of the top factors that will support learning. Learning space should not be only a place to study but a creative learning space that reflects the context of society, environment, and learners of that space, especially design arts learning space that should have learning style that develops both thinking and imaginative skills. As seen in figure 5, of which the learning activities have moved out of the classroom and held a session outside of a physical traditional learning space.



Figure 5 Learning Space, Silpakorn University Wang Tha Phra Campus

Regarding the study of the real need of design arts study, it cannot be studied from the collection of thoughts or traditional tools that have been used because art students have various needs and interests and they are different depending on skills and majors. So, there should observe through innovation, which is the collection of thoughts or new technology that will unlock and create changes, which have never happened before, to the design of learning space. The application of service design tools with the study of humanity and social science, even though the researcher acknowledges the actual need of the target group from an interview or a traditional way of data collection, basic skills of the traditional research such as conversation, listening, observation and test are not enough to design efficiency service especially for arts and design learning space, which its users have various needs.

To investigate these gaps, service design is a new holistic multidisciplinary (Mager & Moritz, 2005) fields, which have integrates management, marketing, design and research. As service design is the way we think of the relationship between library (learning space service provider) and users will help to innovate and improve learning space and library service efficient as well as effective. The opportunity for service design is to address to diversity of user needs enable understanding and access.

By the reasons stated, user are very complicated they have individual needs and expectations that is cannot be standardized. No computer system or machine that can cope with these individual needs of users sufficiently. Service is a big opportunity to offer a totally new concept of dimension for creative learning space of design and arts student. However, service design is not just the end up point of these questions but finally for the knowledge-base economy, technology also have an opportunity can deliver a service and enable a new kind of service but in case service provider have to find a right place right tools or technology for serving to the right people.

In order to using service design as a tools and application of design approaches and methods to immaterial products respectively to create solutions that are useful, useable and desirable from the user perspective and efficient, effective and different from the provider prospective (Mager & Moritz, 2005). Moreover, service design can use for innovate (crate new) and improve (existing) university library services to exploring new ways to engaging users for library service it is a holistic way and

multidisciplinary integrative field to seeking an appropriate balance point of Knowledge acquiring for Thai People.

When designing for people, we need insights into people's needs, motivations, and behaviours. Qualitative research can usually provide the data for these insights better than quantitative (Andy Polaine, 2013). The research procedure of service design will use effective research activity design in order to create participation among core stakeholders and in-depth synthesize the obtained data from the activity systematically and meaningful in order to create value to such service.

The service design process will allow the core stakeholders to participate in activities without getting bored and open doors for them to review their experiences and express those experiences in a form of story, opinion, emotion, and point of view. Participation will allow the researcher to acknowledge in-depth needs and emotions occurred among participants very well. The procedure of service design for arts and design learning space is not only a research that designs learning services but also covers the innovation and experience development and improvement in order to create learning process, leading to best learning. Where the result of the study of learners' needs will lead to the occurrence of the service of design arts learning space.

The gearing of change toward art and design learning process cannot be built from the set of thoughts or previous traditional tools, there should be an alternative choices of solution that encourage innovation, which is new technology of the set of thoughts that will unlock and make changes that have never been happened before to the learning process. However, the question, what direction should the balance point of the Creative 'Learning Space' for Thai Arts and Design, and which is the most appropriate point for this period of time and the near future.

However, regarding the learning process in order to obtain knowledge, the important thing of learning space management is to get to know the learners and find out what do they actually need from such learning process as well as how they would like as an ideal learning space, this instead might lead to the effective result for learning. The design of learning process in order to achieve the highest learning result, there should a consideration regarding learning space because learning space, especially creative design arts learning is not only about building learning experiences

temporary, but also building innovation and “chance” of a long term learning. This is one of the strategies that able to assist developmental processes for students themselves and the country. Thus, learning space service needs to be recognized and re-imagined to cope with these changes.

7. Scope of the research

The research scope is to identify how to the university library space transformation into creative learning space for design arts student through service design concept on knowledge acquiring of Thai people paradigm. Figure 6 demonstrate the relationship and scope of this research.

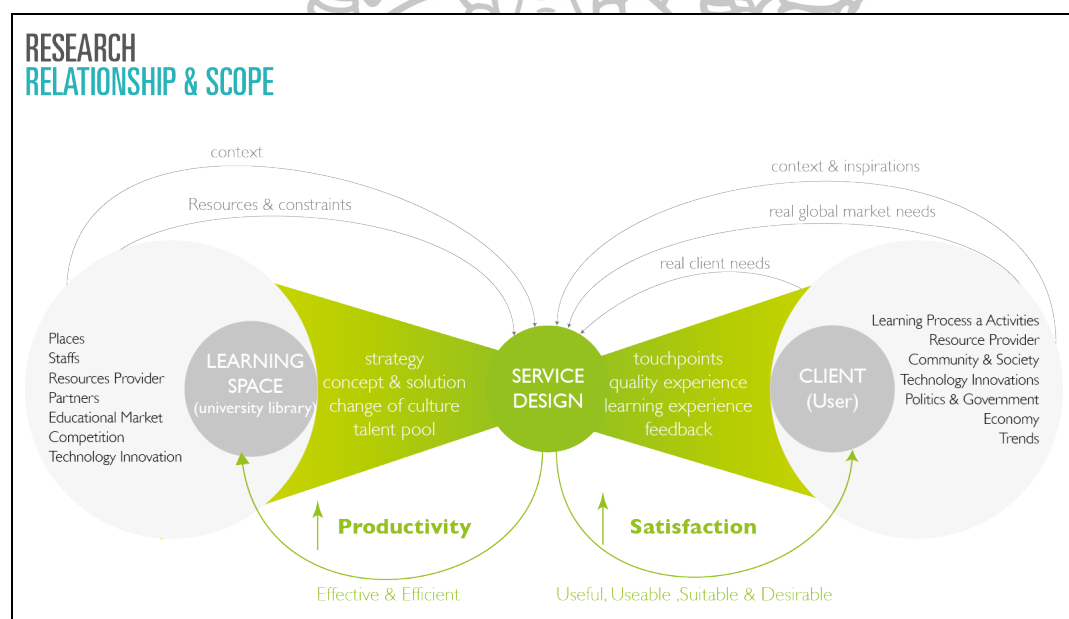


Figure 6 The research relations and scope

In order by used a case study and workshop activity to study arts and design creative learning space in the context of Silpakorn University, Wang Tha Phra campus, a mixed-research between action and qualitative research must placed an emphasis on corporation and understanding of learning space service providers’ work and reflection of space usage through experiences of the users.

The research also applied the theory of service design to investigate a needs of user and used as a research tools in this thesis. In addition, transcribing the data used a holistic information in order to understand the context of arts and design learning process, which details regarding scope on environment, society, culture, way of life, and participation experiences of learning space were collected during the research period and were analyzed in order to understand such context, which can be considered as the fundamental concept of qualitative research.

The data used in this research was collected from organizing the participatory workshop for the core stakeholders, which was held under the title “Co-Creation Workshop for Creative Learning Space” on January 27, 2015 at Design Arts Gallery, Faculty of Decorative Arts, Wang Tha Phra campus. A number of this research outcomes and the processes of service design were combined as a “Design Advisor Guideline”, creating a guideline criteria Arts and Design learning space services transformation framework with several possible ideation. Designers and learning space service providers who collaborated on the design of new creative learning space services. This type of information may not help in conducting research to all the stakeholder insights, but the guideline may suggest concept planning and generating process of new creative idea and help raised an awareness that these aspects played a role in creative learning space services for arts and design in the future.

The design advisor guideline combined with insights from the researchers and core stakeholder interviews an inspiring ideation and concept to create or arrange space design for future creative learning space. Post released testing to formulation and validation of guideline and theories about the phenomenon of service design with all its facets, as shown on figure 7 that arranged goals of the research.

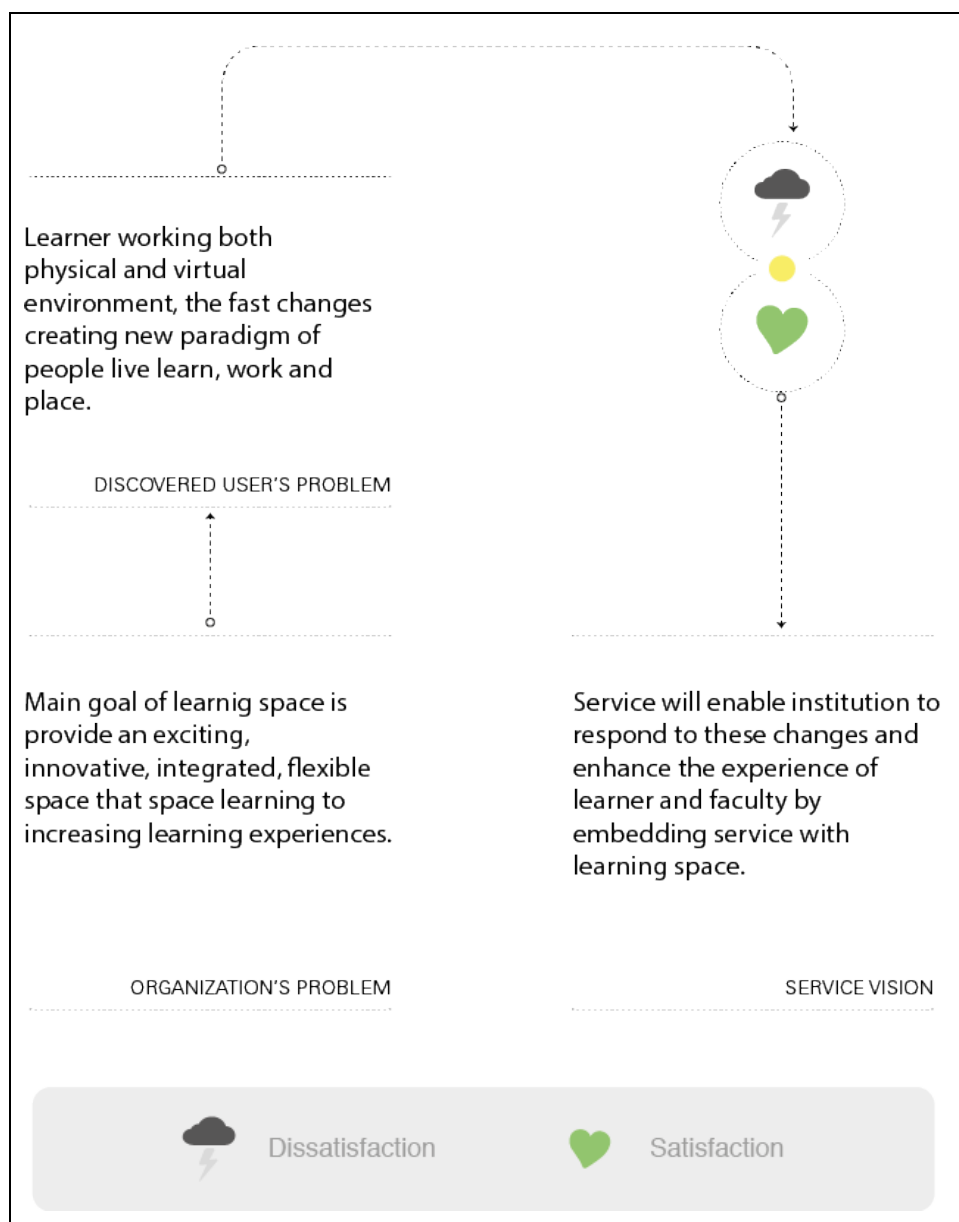
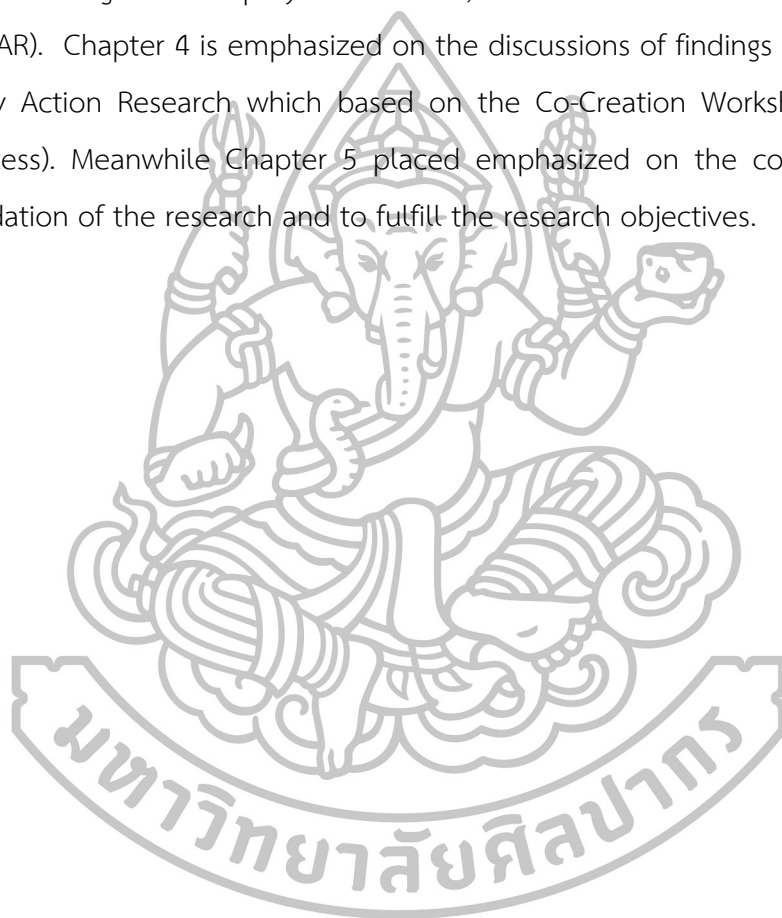


Figure 7 Research Goal

8. Dissertation Structure

The overall structure of this research comprised of 5 Chapters. Chapter 1 is focused on the introduction and backgrounds this research. This includes the introduction and backgrounds of the research, the statements of the problems,

objectives, keywords, limitations and delimitations and the significance of the research. Chapter 2 is focused on the Literature Review based on the key themes or terminology such as service design, learning, learning spaces, students, and users. Chapter 3 is focused on the Research Methodology that is employed in the process of collecting data or information. The overall research is employed Qualitative research approach. Three research designs are employed: Interview, Observation and Participatory Action Research (PAR). Chapter 4 is emphasized on the discussions of findings based on the Participatory Action Research which based on the Co-Creation Workshops (Service Design Process). Meanwhile Chapter 5 placed emphasized on the conclusion and recommendation of the research and to fulfill the research objectives.



Chapter 2

Literature Review

1. Introduction

Reaching the goal of this research as I mentioned in first chapter, having to understand users and offered participants chances in the design process in order to create a service experience and user engagement has been a creative process for this work. Service design applies science to deal with management area and adapts art to present designer's ideas and perspectives to stakeholder. In fact, service design is an abstract, untouchable and difficult to understand. However, theories of service design have their own ways to manage each factor accordingly.

For understand user's goals, motivations and desires users have to involve in a design process in service design theories called co-creation design. As designers, when we build services based on genuine insight into the people who will use them, we can be confident that we will deliver real value. When we make smart use of networks of technology and people, we can simplify complex services and make them more powerful for the customer.

When we build resilience into the design, services will adapt better to change and perform longer for the user. When we apply design consistency to all elements of a service, the human experience will be fulfilling and satisfying. When we measured service performance in the right way, we can prove that service design results in more effective employment of resources human, capital, and natural.

The diagram in figure 8 shows the chapter structure and guideline to make ease of reading through this chapter. As mentioned in chapter 1 Arts and Design Creative Learning Space need to be design. Basically, literature review is a first methodology that research lay out a schematic for initial data gathering process. However, the important factor is not how to choose a tools but it is a how to choose

the scope and area to focus, in order to get a foundational grasp of the literature related and correlated to arts and design process as well.

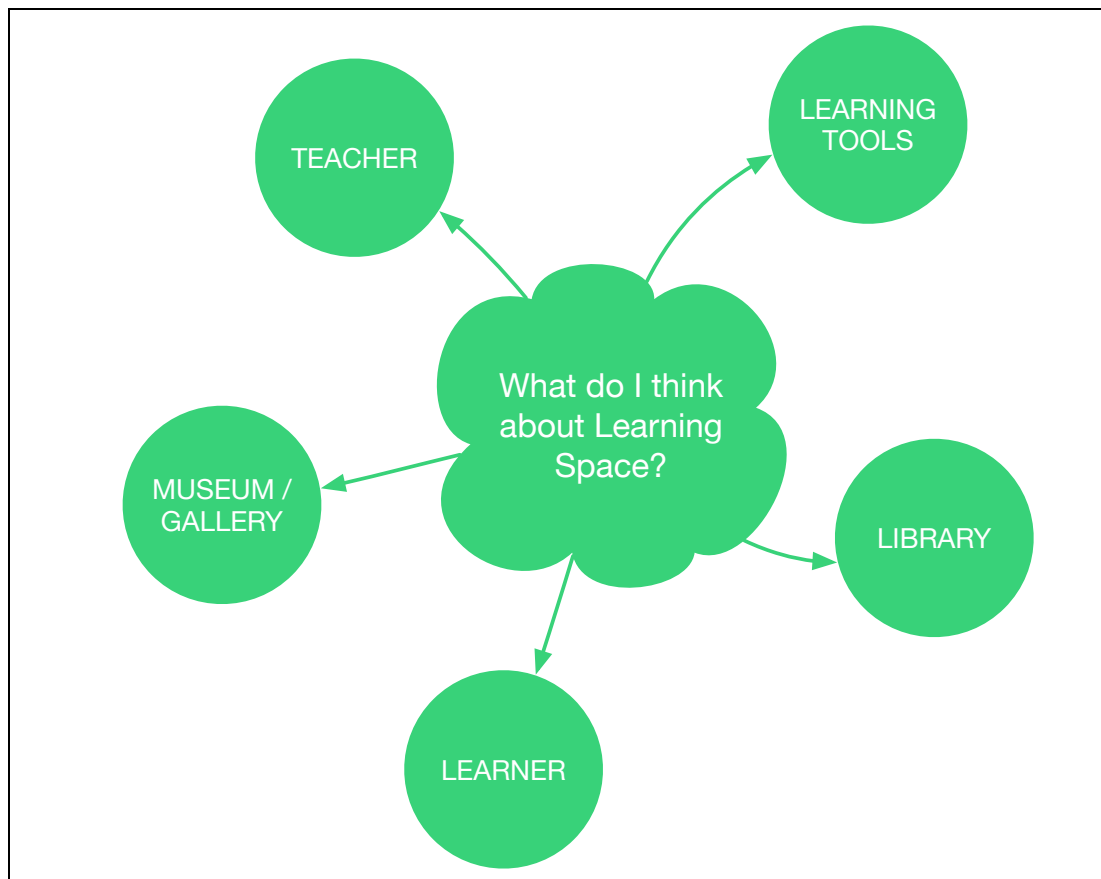


Figure 8 Mapping of Ideation.

The first step is an easy question, this study came up with context that would be interested which are, Learning Tools, Teacher, Museum, Gallery also means the place that can inspired the user to create some creative ideas; Learner and Library also including the place that provided a learning services factor to the user.

2. Service Design

2.1 What is service design

The first priority of approach is to understand the real core of people's needs, where the clients' needs and their experience of the service by for example:

getting staffs to film them before, during and after their visits. Service designers can step back and take a look at the whole picture," says Professor Birgit Mager (Mager & Sung, 2011). Service Design is an integration of research tools and design theories can deepen to understanding of user target, which is totally different from other branches of designs. In short, service design applies science to deal with management area and adapts art to present designer's ideas and perspectives to stakeholder. In fact, service design is intangible at first, organic in systematic approach and rather time consuming to understand. However, theories of service design have their own ways to manage each factor in order to complete the project.

Service Design integrates management, marketing, research, and design. It acts as an interface and connects organizations and customers in a new way. The service design approach is new thinking and required new ways of utilizing each tools to make the experience. When services are designed to be integral to a space, the result is often a great experience. Embracing learning space service design will be well worth it, as the services can engage people and build knowledge, skills, and community. They can provide for a more personalized experience that accommodates different learning styles and also enable better sharing of resources and ensure capable spaces that are well-utilized, even as the needs would change. Design is a straightforward and repeatable problem-solving process that incorporates the needs of customers, employees, and business stakeholders. It's also a way of working that focuses on making and refining tangible solutions. Everyone in an organization can learn and leverage design to meet or exceed their customers' needs and desires. That's key, because great customer experiences don't occur out from nonelemental design problem they need to be actively designed. There are some definitions of Service Design that provide a cohesive understanding of service design, the following definitions can be consulted:

Service design aims at designing services that are useful, usable and desirable from the user perspective, and efficient, effective and different from the provider perspective. It is a strategic approach that helps providers to develop a clear strategic positioning for their service offerings. Services are systems that involve many different influential factors, so service design takes a holistic approach in order to get

an understanding of the system and the different actors within the system. (Mager & Sung, 2011)

Nick Marsh said, Good service design is the process of deliberately crafting our experience and delivery of services, to make them more valuable for the people that use and provide them (Curedale, 2013).

Service design is relatively new field of expertise, which has been developed over past 20 years. Designer and design professionals have been doing service design without knowing it by the name of service design. The development of service design field has been connected by Design Thinking approach. In order of service design development history, the gripping times that interesting to history has been mentioned by Robert Curedale (Curedale, 2013) which are;

In 1982, G. Lynn Shostack proposed design that integrates material components (products) and immaterial components (services).

In 1991, Service Design was first introduced as a disciplinary field of design by Professor Dr. Michael Erlhoff at Koln International School of Design (KISD). Also in this year Mood board first used by Terence Conran.

In 2001, The first Service Design consultancy, live | work opened for the business in London.

In 2004, The Service Design Network was launched. Nowadays extended to service design professional worldwide as well as design consultancies who have started offering service design.

Summing up, Service design in brief, it is a method for inventing or improving services. It is a interdisciplinary method like product design to create use of design thinking. Service design helps with to design and redesign services from the perspective of the user. Not by guessing what these users might want, but by truly co-creating relevant, effective and efficient services in collaboration with them. The basic principles of service design are that the designed service should be user friendly and desired, and must respond to the needs and motivations of customers.

2.2 Why service design is important in the current situation?

Service designers broadly define what designer do as a collaborative process of researching, envisioning, and then orchestrating experiences that happen

over time and across multiple touch-points. Differently, from traditional design disciplines service designers typically examine and often redesign or created a new innovation of the strategy behind a service as well as the operational systems, processes, and service resources that deliver it as seen in figure 9 of each principles to service design.

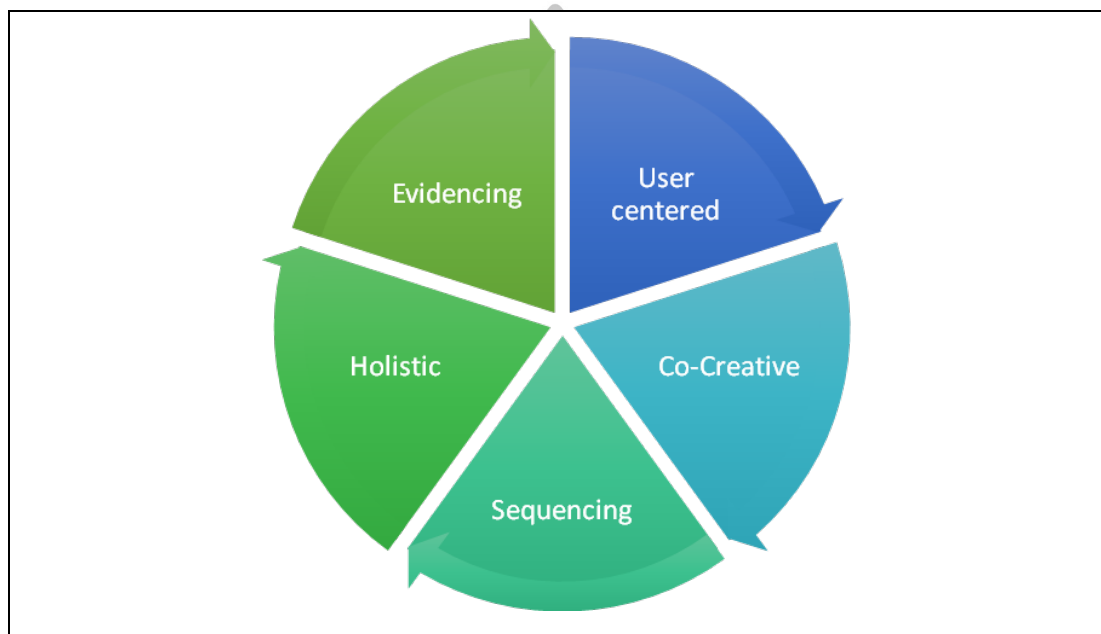


Figure 9 Service Design Principles

User Centered means services should be experienced through the eyes of the customer. It is not enough to just look at statistical data about your customers. As Stickdorn describes, "Think of 2 customers. Both were born in 1948, male, raised in England, married, successful and wealthy. Furthermore, both of them have at least 2 children, like dogs and love the Alps. One of them is Prince Charles and the other is Ozzie Osbourne." But they both look alike if you just look at the statistics.

As a User centered, one must go ways beyond just statistical data. Co-Creative means working with all stakeholders to explore needs and new processes. And the most important stakeholder is the Customer. Yes, Co-Creation means bringing Customers under your tent to work with you on creating better, more customer centric processes.

Sequencing is focusing on how the rhythm of the service impacts the mood of the customer. Think of service as a movie with multiple scenes. If the service is too fast, it might make customers anxious, too slow (think waiting in a check out line) and customers get bored or even lost interest.

Evidencing is something we don't commonly think of with services. It means making customers aware of intangible, sometimes "behind the scenes" services. It is the chocolates on your pillow at a fine hotel. The hotel maid service may have been fairly inconspicuous, but the chocolate on the pillow reminds you they were there. All services should provide some form of artifact to remind they customer a service took place you don't want the bill to be their first reminder.

Lastly, Holistic means keeping the mood and feelings of the customer in mind throughout the service journey. How do all the service "touch-points" add up? How do the customer's senses react to the physical environment? Everything matters in the final customer experience.

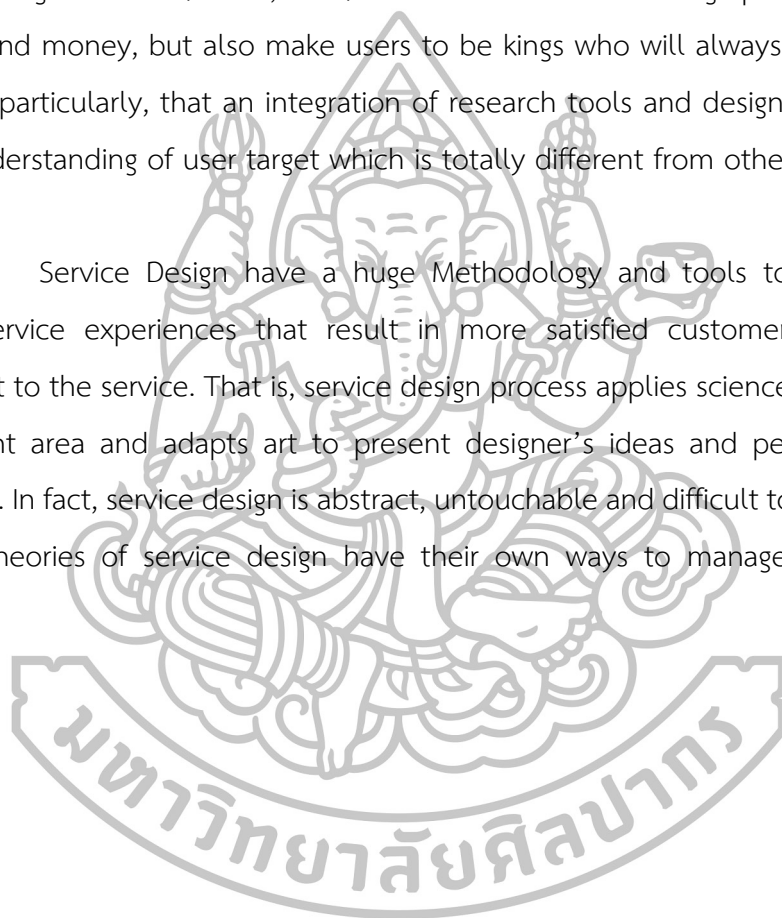
Elliot Felix the director of Brightspot Strategy, which is strategy consultancy that partners with leading universities, cultural institutions, non-profits, and companies said that, when services are designed to be integral to a space, the result is often a great experience. This practice of designing services that are integral to spaces is a shift for higher education. Institutions must make this shift to adapt the changing landscape: economic and environmental conditions mandate that learning spaces be effective and well-utilized and learning is more mobile, collaborative, personal, and blended. This shift will require a new mindset in the design and operation of spaces; new staff knowledge, new skills and roles; and a new balance of capital and operational budgeting. Embracing learning space service design will be rewarding because services can engage people and build knowledge, skills, and community. They can provide for a more personalized experience that accommodates different learning styles. They can enable better sharing of resources and ensure spaces are active and well-utilized, even as needs change (Felix, 2011).

2.3 What are the benefits of a service design approach?

Everything is more connected and complex than ever it's made customers expectations arise and cross boundaries. Today's design is not only usability but also emotions and experiences.

Stefan Moritz said, Service Design help to innovate or improve services to make them more useful, useable, desirable for clients and efficient as well as effective for organizations (Moritz, 2005). The benefit of service design process not only save time and money, but also make users to be kings who will always stay loyal to services. In particularly, that an integration of research tools and design theories can deepen understanding of user target which is totally different from other branches of designs.

Service Design have a huge Methodology and tools to improve or innovate service experiences that result in more satisfied customers and more engagement to the service. That is, service design process applies science to deal with management area and adapts art to present designer's ideas and perspectives to stakeholder. In fact, service design is abstract, untouchable and difficult to understand. However, theories of service design have their own ways to manage each factor perfectly.



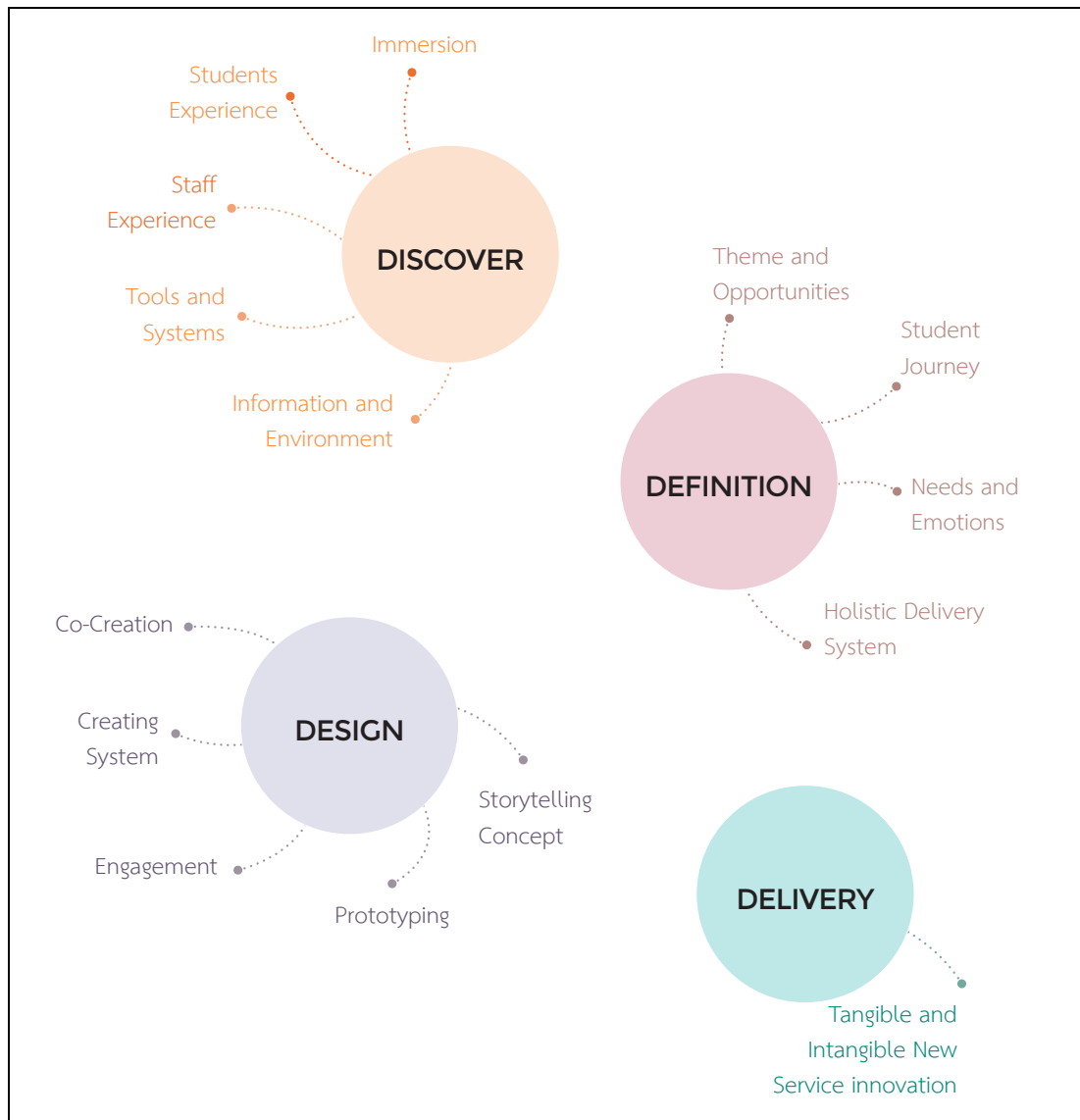


Figure 10 What is service design do.

Making a huge improvement of customer experience does not necessarily include a big investment. Very often it rather takes a bit of creativity to make a difference. Service Design is all about creating a space to come up with such new ideas, Mark Stickdom, co-author of This is service design thinking said. Service design aims to design services that first and foremost meet the needs of the users and stakeholders. Service design takes a people centric approach by seeks to uncover unmet needs and desires and respond with innovative design. These elements of

service design principle by Marc Stickdorn in This is service design thinking lays out principles for Service Design Thinking (Marc Stickdorn, 2012). Service Design process is a multi-disciplinary approach has a 5 main featured.

2.4 How is the process of service design.

What can designer bring design to improving service experience? This is a some part of research goal that this paper have to considered during design a design process methodology and methods.

Service design methodology is focusing on problems, questions, and context that face and drive into creative and innovation a new way of thinking about the problems and questions we face in our world. It steps outside of the traditional boxes with visual thinking, creativity and innovation in order to find new solutions to the same old issues.

The research procedure of service design will use effective research activity design in order to create participation among core stakeholders and systematically in-depth synthesize the obtained data from the activity as that procedure lead to creating value to such service process. Qualitative research can usually provide the data for these insights better than quantitative research (Andy Polaine, 2013). The research procedure of the service design will allow the core stakeholders to participate in activities without getting bored and open doors for them to review their experiences and express those experiences in a form of story, opinion, emotion, and point of view. Participation will allow this paper to acknowledge in-depth needs and emotions occurred among participants very well.

The procedure of service design for arts and design learning space is not only the research that designs learning service but also covers the innovation and experience development and improvement in order to create learning process, leading to best learning. It is hoped that the result of the study of learners' needs will lead to the occurrence of the service of arts and design learning space. In addition, the service is not just temporary learning experience creation but will have to create innovation and chance to learn in a long term. Thus, learning space service needs to be designed. Service design process in this research each step includes its own sheet and a set of tools to help this paper gather information.

This paper used service design as a design process and design tools. The service design process helped this study to capturing what users does over time during used university learning space.

The user that this research aims it enable to use service design was specified in the goal. To find out their context, needs and goals several interview and observation have been conducted. Desk research into existing tools has helped to gain a list of design tools and methods that can be used in service design as such or that can be adopted to the specific needs of service design process.

This process also helps to capturing user needs, ideations, and insights through practice. In addition, this is an essentially a philosophy where a learning space service is constantly being improved.

Exploration is a survey and data collection, which the data will be collected in depth, especially in the field of ethnographic research as it will indicate actual needs (user insights) of the studied population. Data obtained during this period is the data that will guide to new chances for the most appropriate service design. During the exploration process, the population group will be selected from the analysis result of stakeholder mapping. There are two types of tools used in this process which are empathy map for the learning space service provider group and emotional customer journey map for the learning space service user group. The obtained result is the actual needs or user insights including in the dimension of learning space usage experience, vision of problems, depth demand, or even the participants' attitudes.

During the exploration process, the population group will be selected from the analysis result of stakeholder mapping. There are two types of tools used in this process which are empathy map for the learning space service provider group and emotional customer journey map for the learning space service user group. The obtained result is the actual needs or user insights including in the dimension of learning space usage experience, vision of problems, depth demand, or even the participants' attitudes.

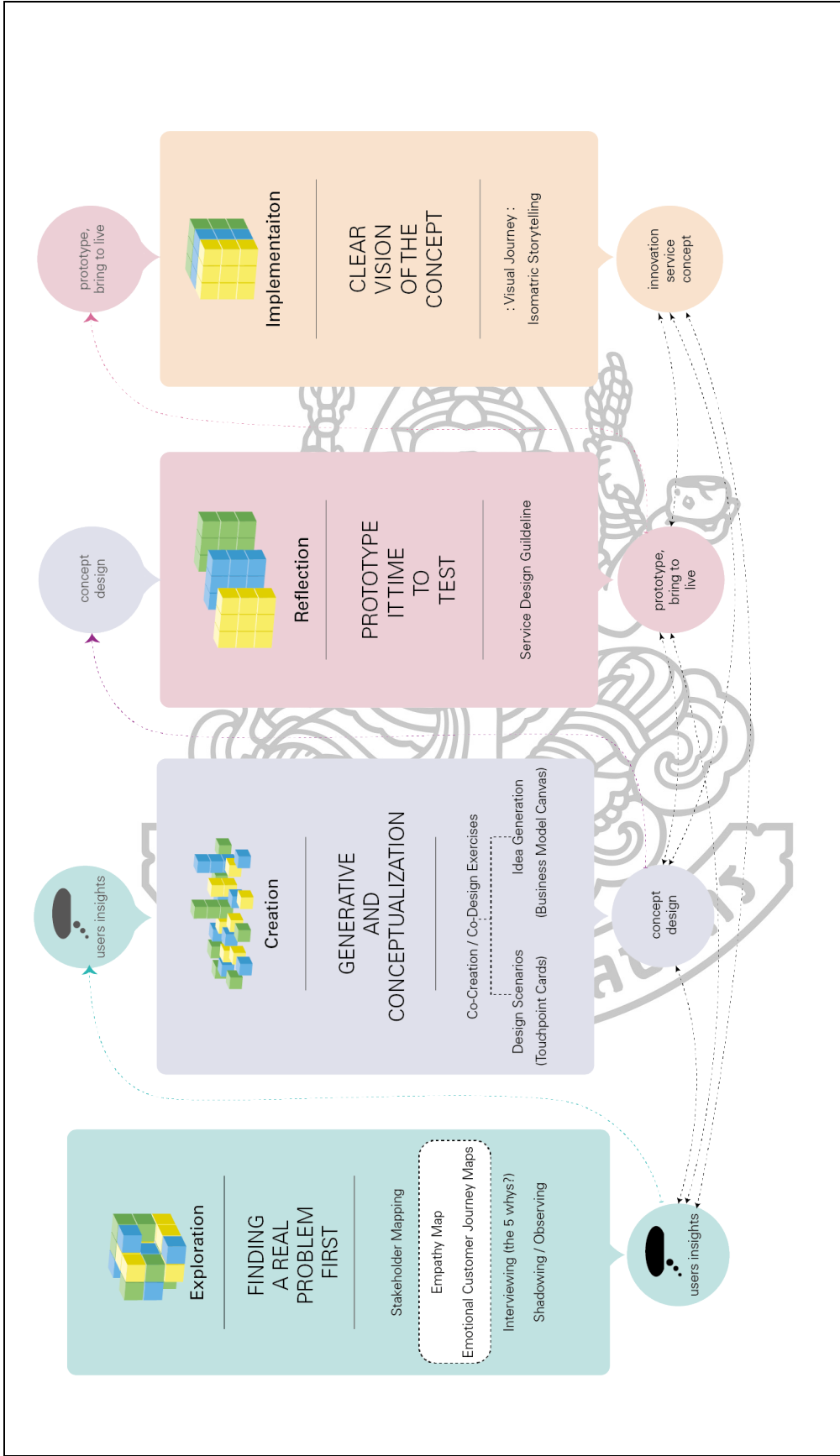


Figure 11 Service Design Process

After the exploration process is done, the research and participants will be able to see an overall image of the real needs of themselves and their friends. During the empathy map and emotional customer journey maps activity, the research will interview and shadow or observe by listening and asking questions which will lead the research to be able to understand forms of thinking process that the participants expressed clearer and more concrete. When the research understands the real needs in every aspect, after that the research will move into the process of brainstorming in order to create new ideas and innovations for the service.

From the process of the first step of exploration, the research and the participants saw an overall image of the real needs of themselves and their friends; in addition, the paper understands the form of thinking process that the participants want to express in more concrete. After the understanding of the real needs in every aspect, the next step is the process of brainstorming in order to obtain new concepts and innovations for the service. The second process of this research is called Creation. It is the step of building service concepts, meaning to apply the obtained data from the first process of exploration in order to design service concepts. This process will focus on the core stakeholders in participating in the design, in order to help creating change and improvement of new service experiences, which is called Co-Creation. The tools that will be used in this process are the same for both sample groups, but the sample groups will be divided into six small groups; the group of the library officers will be divided into two small groups and the group of students will be divided into four small groups according to faculties. There are two set of tools.

The first set of tool is Touchpoint Cards. The result of this research will be Design Scenario or the model of thinking that shows all the pictures of the system of the idealistic arts and design learning space service, which contains details as follows; things that the participants need such as service, place, space, facilities, technology, and innovation, etc. and another element that will obtain from using this tool is the picture of touchpoints that should have at the arts and design learning space and it will point out the model of creative ideas expression from brainstorming, especially in the manner of space management and needs as the main point.

The second set of tool is the Business Model Canvas, the result of this research will be Idea Generation, or brainstorming participation. The study will obtain various concepts depending on the context of the participants in each small group. These concepts will be guidelines that the study will use to improve arts and design learning space service as well as for further research.

The study worked and collected data through the participatory workshop of the core stakeholders under the project entitled Co-Creation Workshop for Creative Learning Space.

3. Learning Process

Learning Space elements are important for design a learning space but learning process management and learning inquiry are also important too. The building of change toward art learning process cannot be built from the set of thoughts or traditional tools that have been used, there should be something new that is called innovation, which is new technology of the set of thoughts that will unlock and make changes that have never been happened before to the learning process. However, the question, what direction should the balance point of the Creative 'Learning Space' for Thai Arts and Design be, and which is the most appropriate point for this period of time and the near future.

Bandura Social Learning Theory (Bandura, 1971) has mentioned, Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling; from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action.

Contemporary learning process experiences are based in an ecology of physical, digital and virtual interactions that occur across a rang of space in a variety of locations. One important process of learning art is to provide students a chance to learn their inside world; having a chance to think about emotion and feeling or behavior in their everyday life that affects others and environment. This kind of learning

is the learning that needs to use heart to consider, it is the learning that takes students back to use their heart as a human again.

Once the heart is ready to learn, students learning process will communicate with themselves, open their mind, and ready to listen and accept everything that will come or things that they choose to learn, that is called freedom to learn. Good learning process will have to give students a chance to choose how they want to grow up and in which direction, and they themselves should see that chance and step across limitations in order to achieve such learning goal.



Figure 12 Student working at Silpakorn University

But at the same time, there is another kind of learning process and learning place that the space of freedom; learning space that opens for every comment,

respects others as human being and their varieties, and it is the space that let everyone to be themselves naturally and learn together. Universities should allow students to try to live their life in order to find various ways to improve their identities, and instruct them to live their life according to social standards (Dirksen, 2011).



Figure 13 Students Life

The old process and way of thinking might not be enough to make arts and design students in the present to be interested in learning and reach their goals as they are many distractions. However, regarding the learning process in order to obtain knowledge, the important thing of learning space management is to get to know the learners and find out what do they actually need from such learning process as well as how they would like their learning space, this might lead to the effective result for learning nowadays.

The design of learning process in order to achieve the highest learning result, there should a consideration regarding learning space because learning space, especially creative arts and design learning is not only about building learning experiences temporary, but also building innovation and “chance” of a long term

learning. This is one of the strategies that is able to move forward students themselves and the country.

4. Learning Space

4.1 Learning Space

From the last ten years we can say classroom is a world of learning, but today the word has changed it must say world is a classroom. Currently, learning space is not limited only in classrooms, rather everyone can learn anywhere at any time. Often classrooms try to push and produce students to have the same ways of thinking and qualifications, which is not how it should be, especially, the study of arts and design that should allow learners to express their opinions freely and flee with their imaginations.

The world has changed severely with shorter time and distance or time-space compression (Oke, 2009), and according to the change factors in any context, it is now the time that education providers should review and re-design the structure of arts and design learning space. The education should be set to concern about the differences of students and help them to fully use their abilities effectively. There is no need for everyone to be the same but they all have a chance to develop themselves to the direction that they want and at the level that can go with their best

For learning spaces to be purposeful and appealing, they should be designed around the things that are fundamental to all humans our experiences and motivations. In addition, they should consider the unique culture of students and faculty on each campus. Within these spaces, the surroundings, furnishings, and tools should work in concert to provide an optimal experience of learning and teaching, and should fluidly change as the needs of students and faculty evolve.

This study tried to divided learning space taxonomy into group. Which can be used to describe the learning gap that exists in the future and more systematically to ensure that all aspects of learning spaces that have been clearly determined.

According to Herman Miller which is the founder of Herman Miller Inc. Company in United state a company that has a long experience on design the

environment, community service, and the health and well-being. (Miller, 2015). He has offer examples of learning spaces that allow students and faculty the freedom to learn and teach in ways that feel natural and comfortable, ultimately allowing all to do their best.

4.2 Formal Learning Spaces

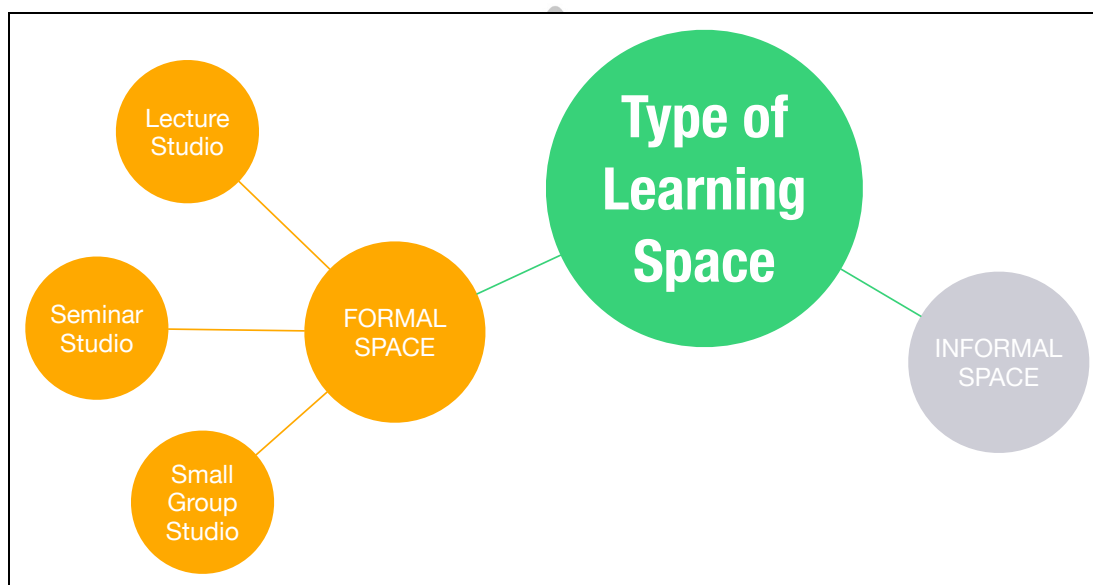


Figure 14 Type of Learning Space: Formal Learning Space

Herman miller (Miller, 2015) mentioned, the first category of learning space is formal space. As pedagogies evolve, and teaching and learning styles change, classrooms are becoming more flexible and supportive of collaboration. In these spaces, students and faculty can easily work together in the ways that suit them best both virtually and in person.

Small group studio is a well suited to small groups; this learning studio quickly adapts to a variety of collaborative activities. Mobile work chairs and height adjustable tables can be wheeled into pods for breakout sessions, support various postures and enable comfort and focus. Movable digital display and whiteboards make it easy to share information from anywhere in the room while storage contains personal belongings and shared supplies. Ample circulation space encourages students to

engage with all the available tools and one another and allows instructors to move freely around the room. Benches and small round tables at the room's periphery support casual side conversations.

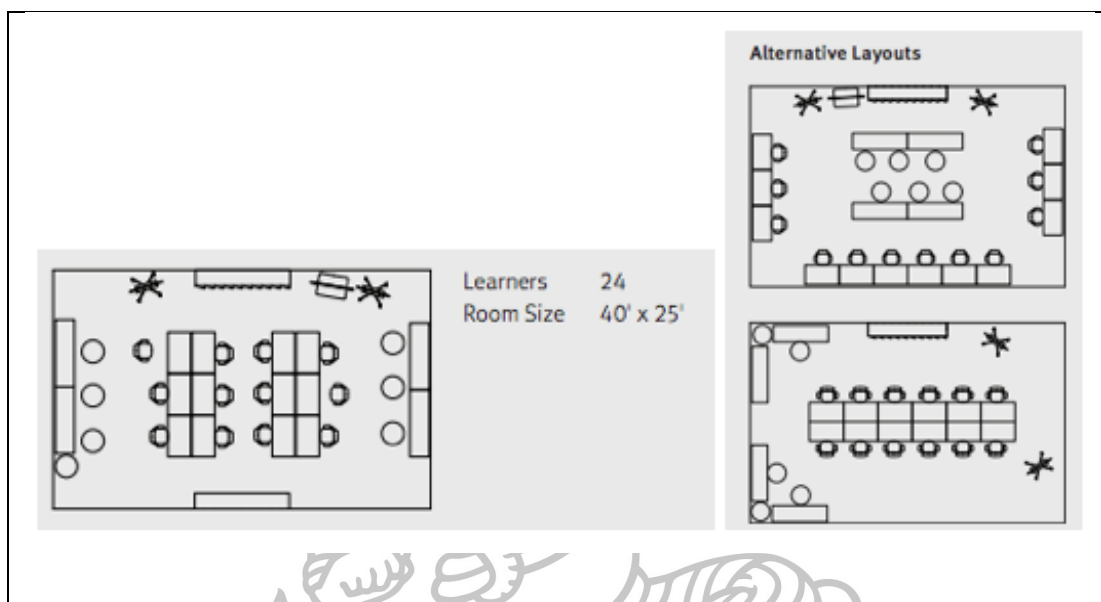


Figure 15 Sample Layout of small group by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf



Figure 16 Learning Space, North Carolina State University Libraries, D. H. Hill Library
 Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015,
 available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf



Figure 17 Sample space design of small group by Herman Miller
 Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015,
 available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf

When the space is bigger than small group studio Herman Miller called seminar Studio. This learning studio is designed to enhance collaboration in medium-sized groups. It's furnished with tables and lightweight chairs that can be rearranged according to the needs and requirements of the activity, as well as whiteboards for capturing and sharing information. A credenza stores personal belongings and doubles as a surface for mobile technology or digital displays. Bar-height tables and chairs, as well as a trio of lounge chairs, offer seating variety within the studio.

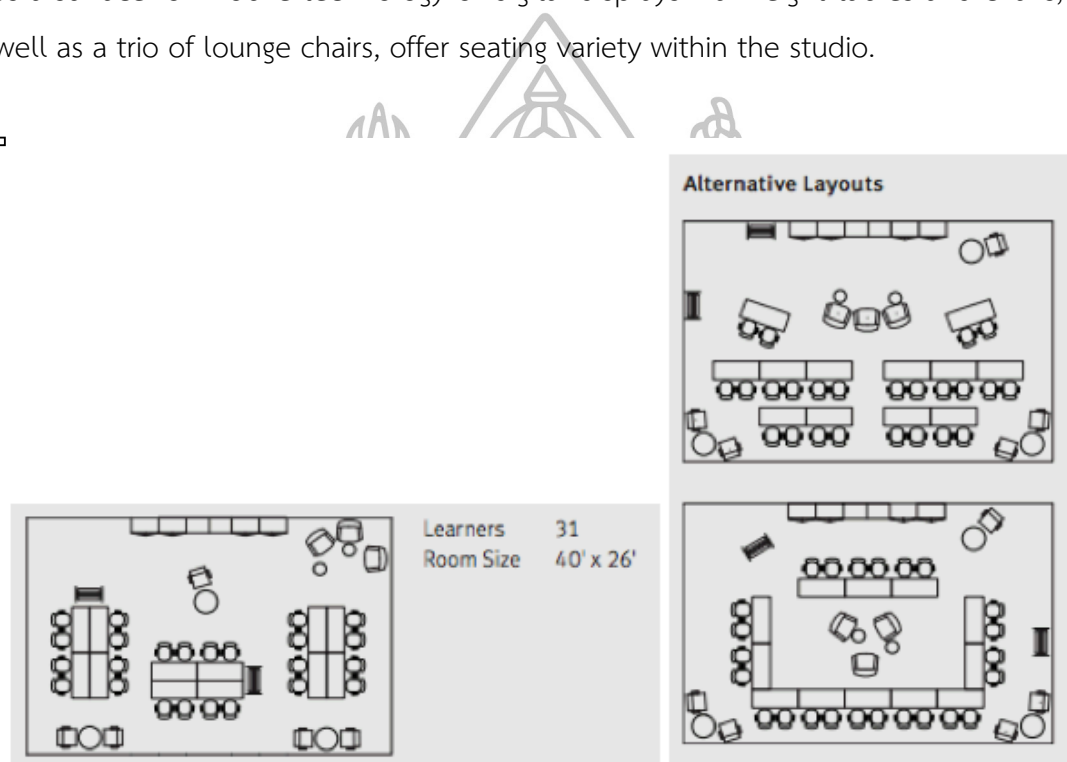


Figure 18 Sample Layout of seminar studio by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf



Figure 19 Sample space design of lecturer studio by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf

Designed to support the presentation and discussion of content, this learning studio has a clearly defined point of focus. Critical elements are clear lines of sight to the speaker, digital displays, and whiteboards for everyone (including remote participants); good acoustics and lighting; and a way for students to join for part of the class without being obtrusive. Moveable furnishings allow the space to be tailored to the requirements of the class, and to be rearranged as needs change.

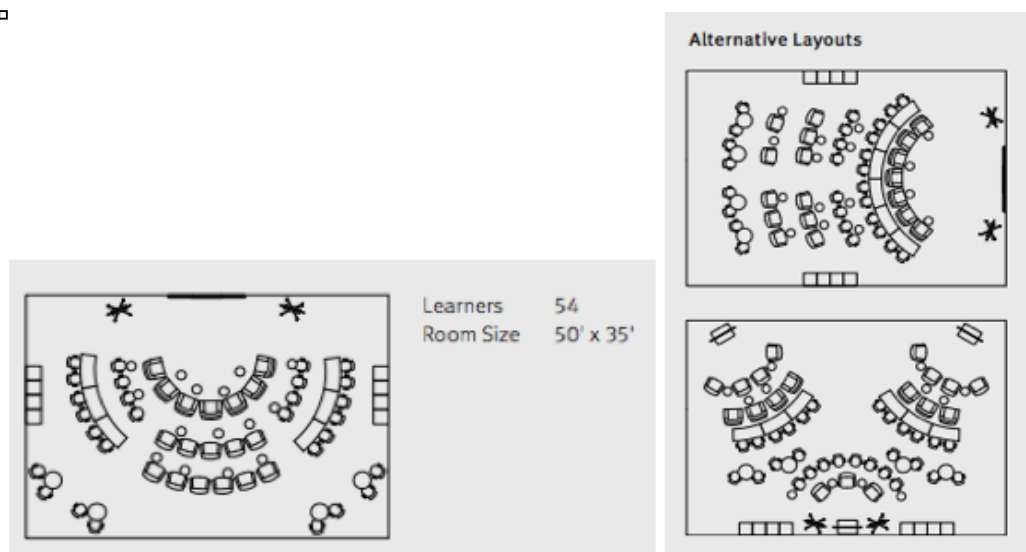


Figure 20 Sample Layout of lecturer studio by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf

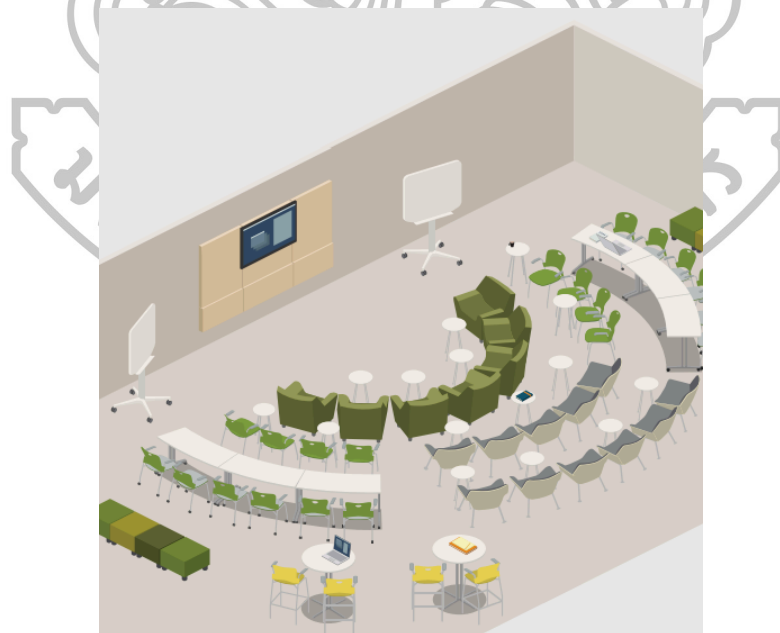


Figure 21 Sample space design of lecturer studio by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf

4.3 Informal Learning Spaces

Learning can happen anywhere, from the transition spaces in between classrooms to student workshops to outdoor settings. These spaces, outfitted with purposefully arranged furnishings and tools, offer students and faculty the freedom to learn and teach in ways that feel natural and comfortable allowing everyone to do their best.

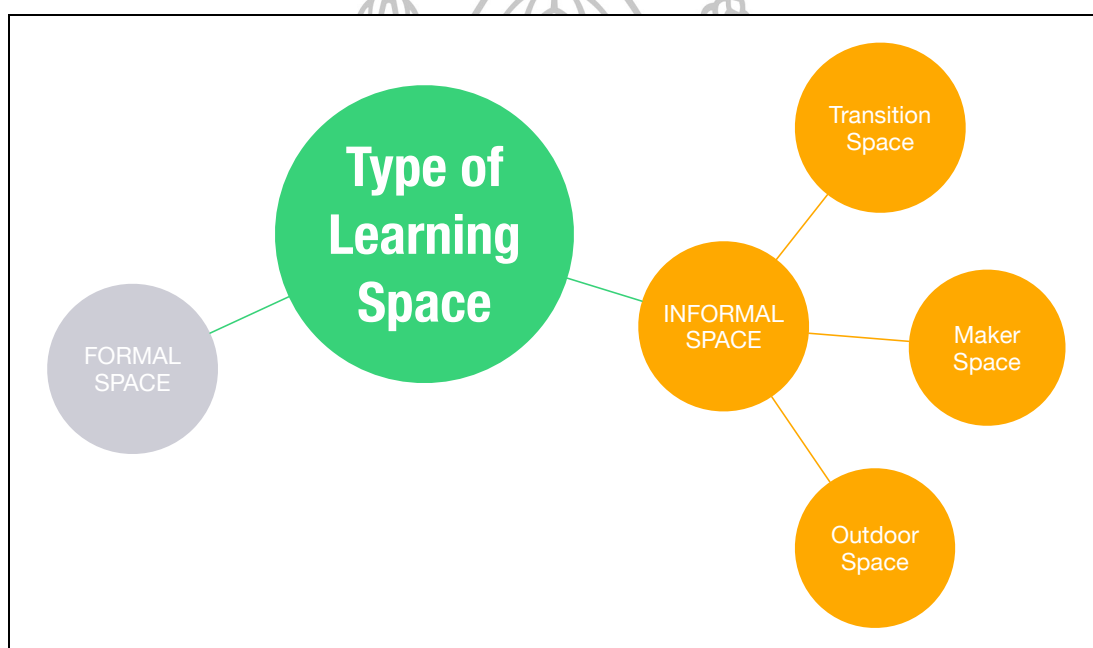


Figure 22 Type of Learning Space: Informal Learning Space (Herman Miller)

Transition Space Composed of comfortable seating in diverse arrangements that support a range of activities and postures, this transition space takes advantage of its primary purpose as a pathway to connect people, particularly through impromptu encounters. Students and faculty can perch in this space between classes to text, recharge their devices, or socialize, or they can settle into more comfortable seating to study for a few hours. Curved benching adds an element of fun and encourages students to relax. Whiteboards and monitors that display class and campus information round out the functionality of this space.

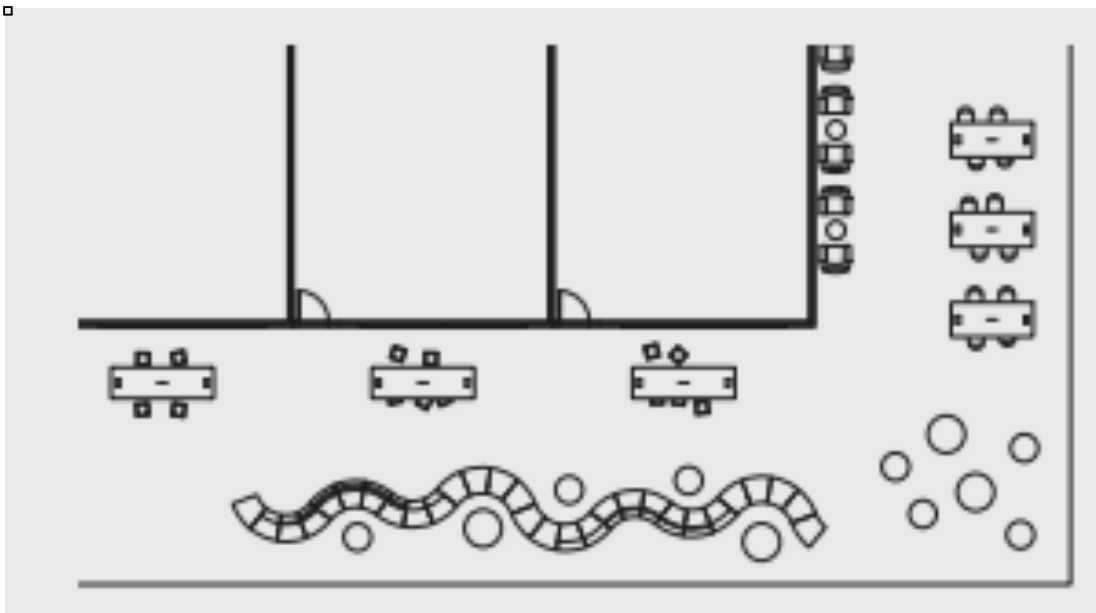


Figure 23 Sample layout design of Transition Space by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf



Figure 24 Sample design of Transition Space by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf



Figure 25 Sample design of Transition Space by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf

Maker Space Centrally located on campus and accessible to everyone, a maker space supports students as they tinker, deconstruct, and innovate either individually or with other students and faculty. A purposeful variety of furniture groupings supports different activities and postures. Digital and analog tools such as 3-D printers, laser cutters, and mobile whiteboards enable co-creation and display, while ample storage houses personal items and shared tools and supplies. Mobile furnishings allow students to easily adapt the space to their work in the moment, while adequate circulation space encourages movement.

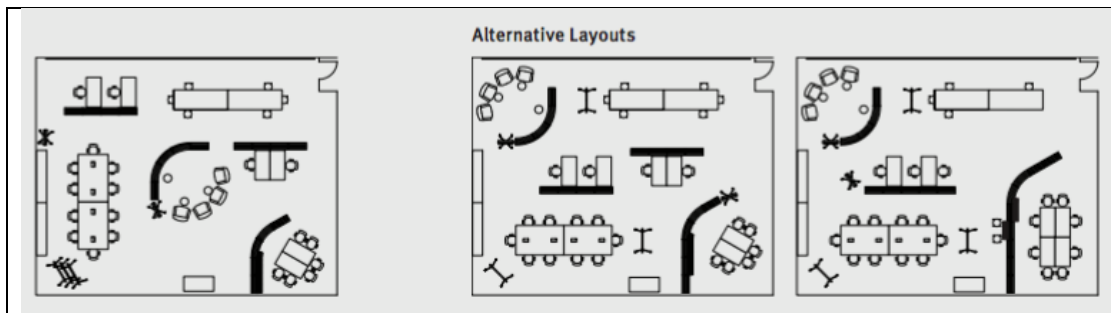


Figure 26 Sample layout design of Marker Space by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf

The environment is the tried teacher, outdoor learning space is designed to support presentation and discussion while taking advantage of the benefits of nature, such as reducing stress and refreshing the mind. Diverse seating options and accompanying tables can be easily moved, allowing students to choose the furnishings that best support their activities and to rearrange them as the class progresses. With clear views to the presenter and to the content being presented, this outdoor space enhances learning in a restorative, energizing outdoor setting.

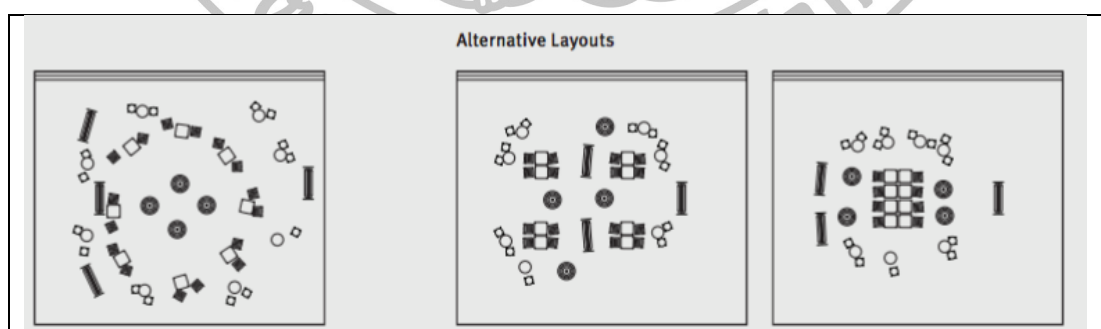


Figure 27 Sample layout design of Marker Space by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf



Figure 28 Sample design of Marker Space by Herman Miller

Source: Herman Miller., **Learning Spaces Sketchbook**, accessed August 18, 2015, available from http://www.hermanmiller.com/content/dam/hermanmiller/documents/education/Learning_Spaces_Sketchbook.pdf

4.4 The important of Learning Space for users

Because of the study of the real need of arts and design study, it cannot be studied from the collection of thoughts or traditional tools that have been used because art students have various needs and interests and they are different depending on skills and majors of studying. So, there should be the innovation, which is the collection of thoughts or new technology that will unlock and create changes that never happened before in designing of learning space. The application of service design tools which are the study of humanity and social science, even though the study acknowledges the actual need of the target groups from an interview or a traditional way of data collection. The basic skills of the traditional research such as

conversation, listening, observation and test are not enough be a tool that use to design efficiency service, especially art learning space which its users have various needs.

The important of learning space is, when university create the arts and design creative learning space the development of new service strategy for creative learning space for arts and design students that would support learner with personal development, inspiration and and new way of learning art and design.

These constant changes resulted in significantly changed of tendency of the learners' behavior in response to their needs and the paradigm of the study of arts and design, which explained that the study of arts and design should allow learners to express opinions freely and imagination, as well as learner should have a special learning space in order to fulfill imaginations, enhance creativity and fully show abilities of the learners.

Learning space also learning infrastructure or learning tools is an important and indispensable thing that can not abandon. Nowadays, technology has moving fast and effected to how people live learn and place. Technology and innovation is not the main thing that makes learner be successful if it has. Actually, that technology is a key component that will encourage the learners achieved their goal with an easy faster and more convenient.

From the Cretaceous agriculture in the 18th century transition to industry society in the early 19th century and the 20th in the current phase are transformed into knowledge society of the 21st century, with a power of digital

The significant of Creative Learning Space is have to prepared students to constantly learn in a changing world because of now everyone have their own personalized learning. The basic of education is learn to be able to maintain human life in the modern society with quality. When social change and Paradigm shift in education has moved. Many study agree that If you hang on to old things that have worked in the past. Will inevitably result in learning It does not match the real world, both now and in the future it will be even more intense.

5. Behaviors of learners of Arts and Design Students

Nowadays, a huge knowledge ran up to the students, teacher and learning space service provider a lot. In particularly, often the content in the classroom is interested less than content outside. Learning should not develop students to learn surfing or memorization the. However, this study believe that learner should have their knowledge curiosity and can bring that knowledge to develop them. As well as teacher or learning space service provider is also important elements when designing space for learning in order if learning is receiver the teacher or learning space provider will be a sender.

Learning should make user want to learn the new passive and learn how to learn, called Learning Skill. Moreover, also, students should have the skills to live well with what is called a Life Skill. From the point of view, this study believes in the teaching style that delivered knowledge straight to the learner is not appropriate for this century, we should Teach Less, Learn More, change the learning objective from knowing into knowledge inquiry skills.

One important process of learning art is to provide students a chance to learn their inside world, having a chance to think about emotion and feeling or behavior in their everyday life that affects others and environment. This kind of learning is the learning that needs to use heart to consider, it is the learning that takes students back to use their heart as a human again. Once the heart is ready to learn, students will communicate with themselves, open their mind, and ready to listen and accept everything that will come or things that they choose to learn, that is called freedom to learn. Good learning will have to give students a chance to choose how they want to grow up and in which direction, and they themselves should see that chance and step across limitations in order to achieve such learning goal.

But at the same time, there is another kind of space that the space of freedom; learning space that opens for every comment, respects others as human being and their varieties, and it is the space that let everyone to be themselves naturally and learn together. Universities should allow students to try to live their life in order to find various ways to improve their identities, and instruct them to live their

Within the past ten years, digital plagiarism has obviously become more and more prominent in our society of people in a many ways. This paper came into the context of learner for the purpose to understanding learning styles of the learners in order to gain the information about user experiences. As well as, today context make a student change the way how they learn. Online colleges have mentioned type of learner style in the way that interesting which are visual learners, auditory learners, read and write learners and kinesthetic learners.

Firstly, the student who have a visual learners style should have characteristics like tend to be fast talkers which may interrupt, learn by seeing charts and diagrams, need Quiet study time, may think in picture, take detailed notes and like to sit at the front of the class. But, if learner always record lecture and watch video also like to participate in a group discussion this learner should be have a characteristic like tend to speak slowly which explain things well, tend to be natural listeners, tend to repeat things aloud, think linearly, read slowly and Prefer to hear, rather that read. At last, learner who always go on field trips and study with others should be a kinesthetic learners style. In addition, kinesthetic also tend to speak slowest talkers, learn by doing and loving real life problems, like hands on approaches, can not sit still for long, get fidgety, take breaks when studying and suffer from short attention spans. As well as elearninginfographics.com also illustrated learner style as in images

An idealistic learning space should allow learners to decide which learning space is the best for them. Thus, the important thing of learning space management is to get to know learners in order to find out what they actually need from learning and what kind of learning space they want. “Understanding your learners is part of designing good learning experiences. If you don’t understand your learners, unfortunate things can happen” (Dirksen, 2011). Education should realize the differences between learners and help them to use their abilities as much as they can.

There is no need for everyone to be the same but they all have a chance to develop themselves to the direction that they want and at the level that can go with their best, if not, how can an idealistic learning space will become a reality?

6. Sample of Learning Space for Arts and Design Students

6.1 Bangkok University, Thailand

Recent years, it has been trying to brand itself as a creative university. The students are free to change and reconfigure the space according to how they want it to be. Bangkok University is one of the oldest and most famous private universities in Thailand. The University has operated since 1962 with to found a non profit private university as a center of knowledge to develop modern graduates with knowledge and practical skills to serve the country in the future. Bangkok University undergone a major revamp of its campus, to encourage students to enjoy studying in school. Additions include a game zone, Karaoke hut and a 6.5-metre-high panda statue that students can play inside called imagine lounge.



Figure 29 BU Landmark, Bangkok University

University has made use of modern technology in teaching, as well as integrated new and appropriate theories and practices in courses so that students can benefit and apply them in their work. All these technologies, teaching media and

capabilities of both Thai and foreign faculty make the University an institution of education of academic excellence and all the knowledge from various branches of research.



Figure 30 imagine lounge

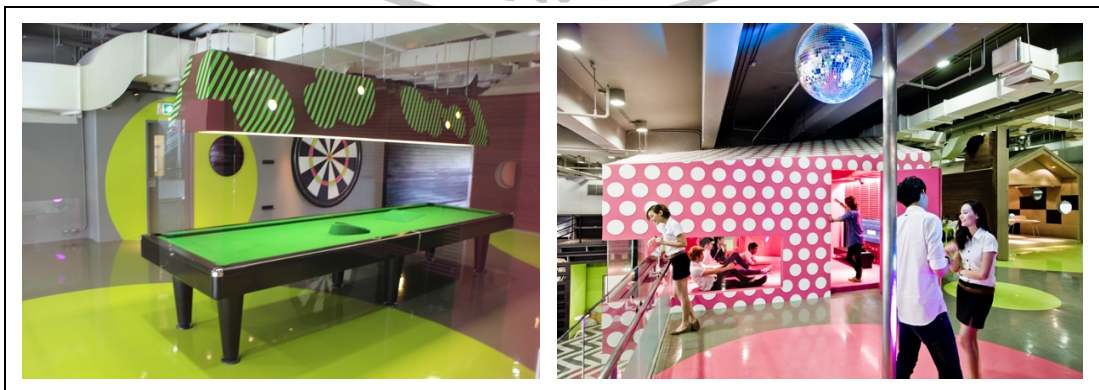


Figure 31 imagine lounge.

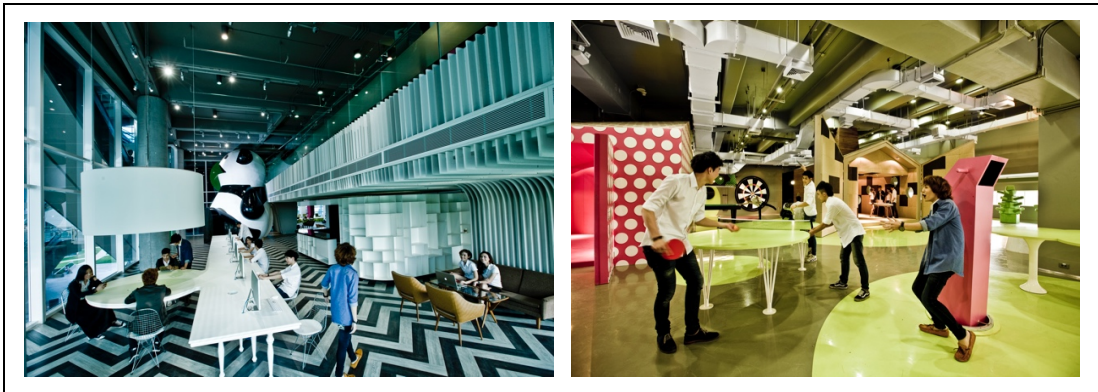


Figure 32 Imagine lounge.



Figure 33 Bangkok University Creative Centre

Another space in Bangkok University that very interesting for student to get a creativity and gain more learning inspiration is Bangkok University Creative Center. By the way, Bangkok University is central to creative university vision, and the Bangkok University Creative Centre (BUCC) designed by Supermachine Studio, has been conceived as a place where the country's next generation of creative thinkers can come together, pool their talents and inspire one another.

BUCC Located on the first two floors of Bangkok University's Rangsit campus, new four storey BU Landmark Complex, the centre provides a workshop, library, exhibition space, viewing room and office for use by students from across all of the university's creative faculties. In addition, the wall is used by students to create colour patterns or write messages. A green pod in the student's workshop shelters the internet center. The colourful design facilitates communication, expands the creativity and encourages flexible experimentation.

Pitupong Chaowakul, one of Supermachine Studio's four architects this space designed said, he facility by meant to be very open, playful and expressive, to encourage students to communicate within a creative environment.



Figure 34 Bangkok University Creative Centre

According to Chaowakul, the facility for students to alter the look and function of the centre is crucial to its role as a creative space, and many of the other elements in the BUCC have been designed to support this principle. Also, most of the furniture for the workshop and the BUCC office, including curved bookshelves made of oriented strand board, and the designers were keen to give the space as much flexibility of usage as possible.

The way that perspective student come to university is also important to Bangkok university too. University designed Admissions office as an café that perspective students, their parent and university staffs filling more relax with relaxing corner, a cafe where high school students can be less stressful in choosing what they want to pursue for the next 4 years.

Bangkok University Student Lounge which is a project next from Imagine Lounge. The lounge is located underneath the multi-story lecture rooms and auditoriums in the brand new Bangkok University Landmark compound. When the university board has decided that the compound should be mainly for students, the space that used to be professor office is reprogramed to be the lounge that accommodates a variety of student activities. This will be where students spend a lot of time in. It is a “youngsters’ ecology.” Big portion of the lower floor of the lounge is what called the “Reading cave”.

In front of the cave is the “Big sofa” where the pixel units can be formed in several configurations for large or small crowd, formal or relaxing use. Almost all items in the lounge are designed to be highly flexible and hinting creative manipulations. The space on the upper level is for more dynamic activities. It is a village for a break from study. There are 2 huts on this floor, the polka-dot pink one protruding from the edge of deck is a karaoke house and the wooden one is the music rehearsal room that can be opened in case the students would like to organize small events.

Around the huts are play areas filled up with re-invented items like a super-long pool table (with adjustable holes), giant dart (which no one can miss the target), rounded pingpong table, pole dance corner, girls’ make up counter and Kungfu style stress release area. Students on both floors are connected by network of holes. There is one hole with glass for visual connection, one open able for drink and beverage ordering, one with fireman pole in the center for circulation and one with periscope goggle for observation.

Physically these 2 decks are connected with 2 staircases; one is the step Manga (Japanese comics) shelves and the spiral staircase in the giant bear shell. Using the same principle, “it is meant to be re-invented”, the bear sculpture is graphically

decorated as a panda for the moment but planned to be creatively changed to different characters every semester by students.

6.2 Thailand Creative and Design Centre or TCDC

One of the world's best design centres, the Thailand Creative & Design Centre . Thailand Creative and Design Centre or TCDC is the first design resource and learning facility in the continent. It was started in order to foster the creative potential of the country and inspire the growth of innovative ideas among entrepreneurs and design professionals.

The TCDC Bangkok is a part of the government's attempt at building Thailand as a knowledge centric society. It is supervised by the Office of Knowledge Management and Development. To capitalize in the global market, there is a growing need to stay competitive and capitalize on the ability to design products and services for meeting the market requirements better.

The Mission of TCDC is position them self as a source of knowledge, the Thailand Creative and Design Center stimulates creativity and imagination. TCDC, continuing to expand opportunities for learning about design in Thailand, TCDC reaches out to entrepreneurs, designers, students, people in Chiang Mai and the upper north and offering them the knowledge and tools to turn original, innovative ideas into real economic returns.

According to TCDC, tcdc provided more type of learning space services within TCDC such as Reading Space, Seminar activities & Design and product development workshop space. In order to give the local designers and entrepreneurs opportunities to acquire knowledge and skills, including news center service, publishing media and website.

Moreover, Design and Educational Exhibitions space ignite the audiences' imagination and inspiration by organizing design and creative contests continually. Space for creative showcase, give the emerging designers and entrepreneurs chances to test their market potential and build their quality business network.

7. Selected Research Location

To get the user insight this research was research including onsite research and desk research as well. This research defined a selected space criterion as show in diagram 2.7 which have a 4 criteria, clear stakeholder, specific space for arts and design, easy to access and not increase work load to service provider.

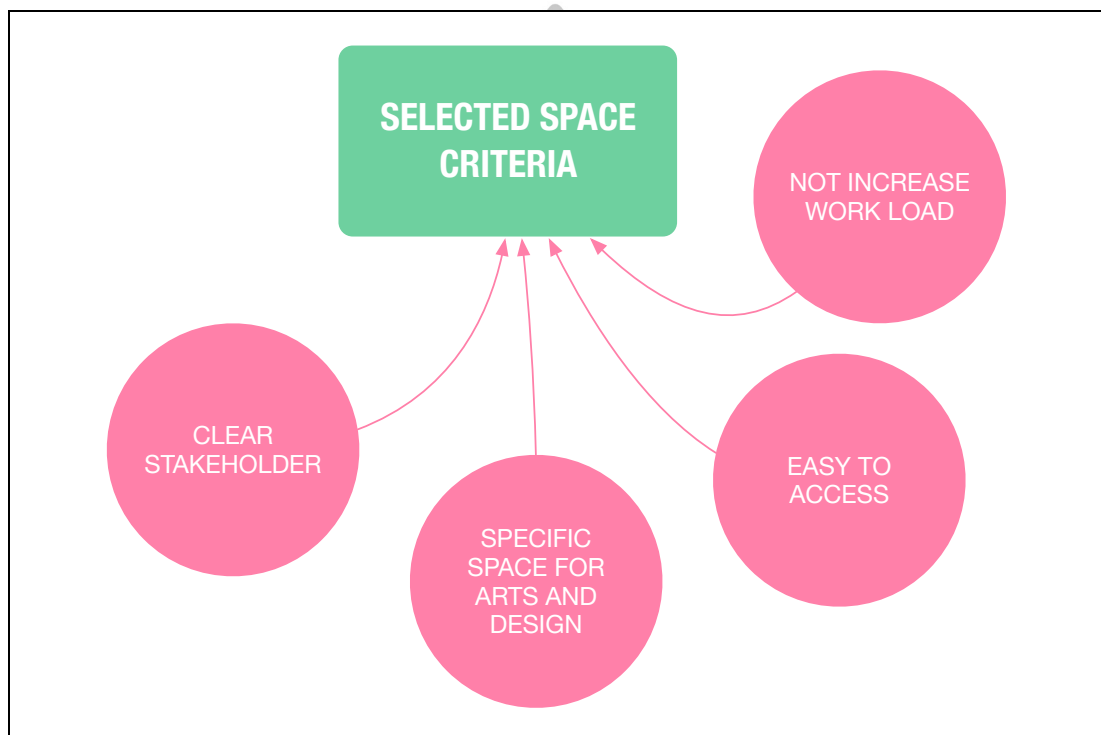


Figure 35 Selected space criteria

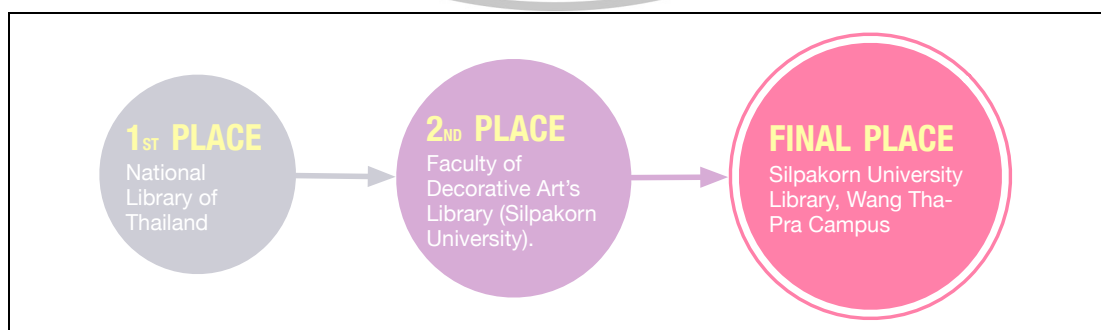


Figure 36 Step of selection research place

Firstly, this research selected National Library of Thailand by the reason that this is a big learning space in Thailand and well know and a knowledge warehouse of the country. But founded this space is unclear stakeholder, not have a Specific Space for Arts and Design. Importantly, it hard to access because this library has a huge organization chart.

Second space, is a Faculty of Decorative Art's Library (Silpakorn University). In addition, this place has been collect the information of learning space, traffic of users during using this learning space. The problems issue that founded form research are More than 60% of the books were donated to area particular attention to the thesis only do students find books in the library. While no new book collected into a library. So, that why students chose the internet to finding the information of their needs.

To sum up, this place is having a clear stakeholder because of this place is a small organization. But the problem is the co-creation of stakeholder and service provider is unclear if this paper used this place for design process will add more workload to service provider.



Figure 37 Faculty of Decorative Art's Library, Silpakorn University

Finally, this research is end up at Silpakorn University Library, Wang Tha Phra Campus. Silpakorn University is a well-known university for its reputation of education and the service of arts and design which ranked in the top rank of Thailand, having Wang Tha Phra campus as a place to captivate and manage the study of arts and design for students and Wang Tha Phra main library that supports learning service including resources and space.

Regarding changed factors above and the role of being a campus of arts and design, therefore, the emphasis of the university's learning space is considered as one of the top priority factors that will support learning. Learning space should not be only a place to study but a creative learning space that reflects the context of society, environment, and learners of that space, especially arts and design learning, should provide learning style that develops both thinking and imagination skills. By the reason that;

1. Clear Stakeholder because of this library having front stage staffs who have a jobs to take care students directly. It staffs covering a backend library service. Moreover, head of Wang Tha Phra campus Library has more attention to co-creation with this research
2. Space for arts and design by the reason that, All the faculties in Wang Tha Phra campus are the faculty that teaching in Arts and Design area.
3. Wang Tha Phra campus Library unit have a KPI that to support the learning process of students.
4. As the paper is one of a research in faculty of decorative arts, Silpakorn University, so it is easy to access on the learning space services and relative information.

Chapter 3

Research Methodology

1. Introduction

After selected the University Library Wang Tha Phra Campus as a research site the next step of this research is designing a research process for this dissertation. To explain why service provider find it so difficult to conduct exceptional design services, we need to study the nature of services and the way they are delivered.

As the result this research has a major objective that needs to understand the real insight of arts and design learning space, its core stakeholder and also create a new creative and innovative arts and design learning space services.

This research intent to use two main research types 1) research on design, which aims to develop a detailed and unified understanding of human activity and needs, and 2) research for design, which aims to provides supportive theories to improve service value under the Design Thinking Process framework where it is a core research framework.

Design Thinking Process framework the methods are related to process of study in each step to create a new learning space services insight from the research. Furthermore, using a combination of research approaches through employing a Qualitative Research and Action Research Methodological Approaches, is also emphasized to help the method concentrated deeply into user insight.

All the Approach under the Design Thinking Process Framework are divided into 2 phases. The first phase (1st phase) is Exploration used Observation method and Interview Method all the themes that gathered from 1st phase has used for Second Phase (2nd phase) called Data Collection phase by used a Contextual Design Research Methodology and Participatory Action Research and collect all the information form Co-Creation Workshops belong the Service Design Processes. The important aspect in regard with the 2nd Phase of Data Collection becomes a major discussion for the research Conclusions and Recommendations. All the research structures as mentioned

above showed in Figure 38, allowed the work flows to conceive into a research structure.

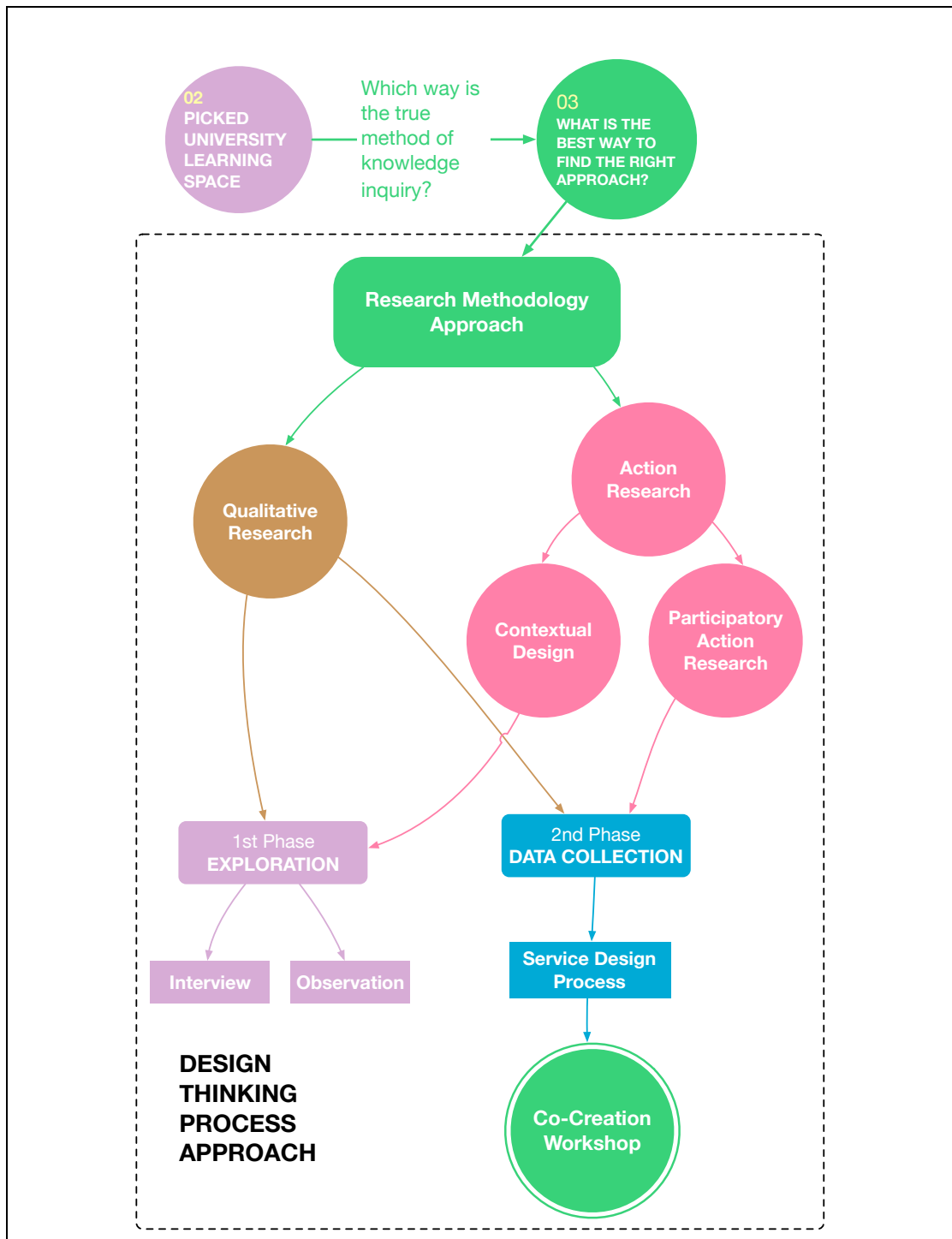


Figure 38 Research Methodology Approach

2. Research Methodology Framework: Design Thinking Framework

Tim Brown, president and CEO assert that, Design Thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success (IDEO, 2015).

On other perspective, Design Thinking has four principles as Christoph Meinel and Larry Leifer mentioned that: 1) The human rules all design activities is ultimately social in nature; 2) The ambiguity rule design thinkers must preserve ambiguity; 3) The redesign rule all design is re-design; and 4) The tangibility rule making ideas tangible always facilitates communication (Plattner, Meinel, & Leifer , 2011).

The benefit of Design Thinking is that Design thinking is a process for problem solving. Design Thinking is a sentimental human process that taps into abilities that all have but was not able to acknowledge by more conventional problem solving practices. It relies on user ability to be intuitive, to recognize patterns, to construct ideas that are emotionally meaningful as well as functional, and to express ourselves through means beyond words or symbols. Nobody wants to run an organization on feeling, intuition, and inspiration, but an over-reliance on the rational and the analytical can be just as risky.

The reason that this paper used Design Thinking Approach. Because of as designers, when build services based on genuine insight into the people who will use them, designer can be confident that we will deliver real value. When designer make smart use of networks of technology and people, we can simplify complex services and make them more powerful for the customer. When designer build resilience into the design, services will adapt better to change and perform longer for the user. When we apply design consistency to all elements of a service, the human experience will be fulfilling and satisfying. When we measure service performance in the right way, we can prove that service design results in more effective employment of resources human, capital and natural.

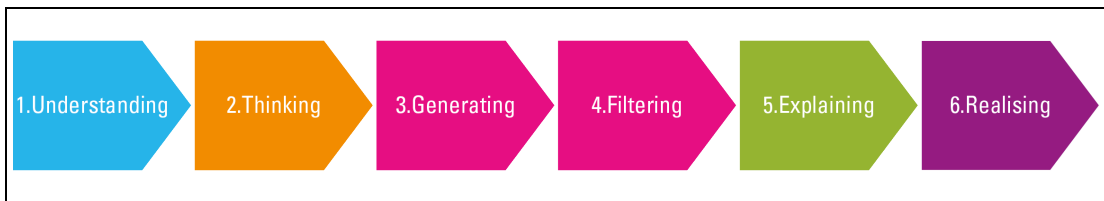


Figure 39 Design Research Process

Finally, this research was created with the Research Methodology Approach based on Design Thinking Approach by Stefan Moritz (Moritz, 2005) served as a common platform for research process as show in figure 39, then separated into 6 following steps.

1. Method for understanding the system uses tools such as: context analysis, contextual interviews, ecology map, expert Interviews, reading, observation, user journey, focus groups, gap analysis.

2. Method for thinking and identifying the service uses tools such as; mind map, touch-points, visual thinking, user personality Matrix.

3. Method for generating the ideas scenarios uses tools such as; body storming, sketching, brainstorm, Idea Interview.

4. Method for filtering in analysis and synthesizing research finding uses tools such as; evaluation review, focus groups, expert evaluation

5. Method for Explaining the image the future also visual thinking uses tools such as; mood board, persona, scenario.

6. Method for Releasing the idea and create a new service blueprint uses tools such as; service prototype, model, guidelines, line of balance.

In conclusion, the method follows a six step of research process, beginning with the collection of data on customer work practices through interviews and observation (contextual inquiry), followed by modeling of the co-creation workflow (work modeling) and the analysis of results using affinity diagramming (consolidation). The system is then redesigned.

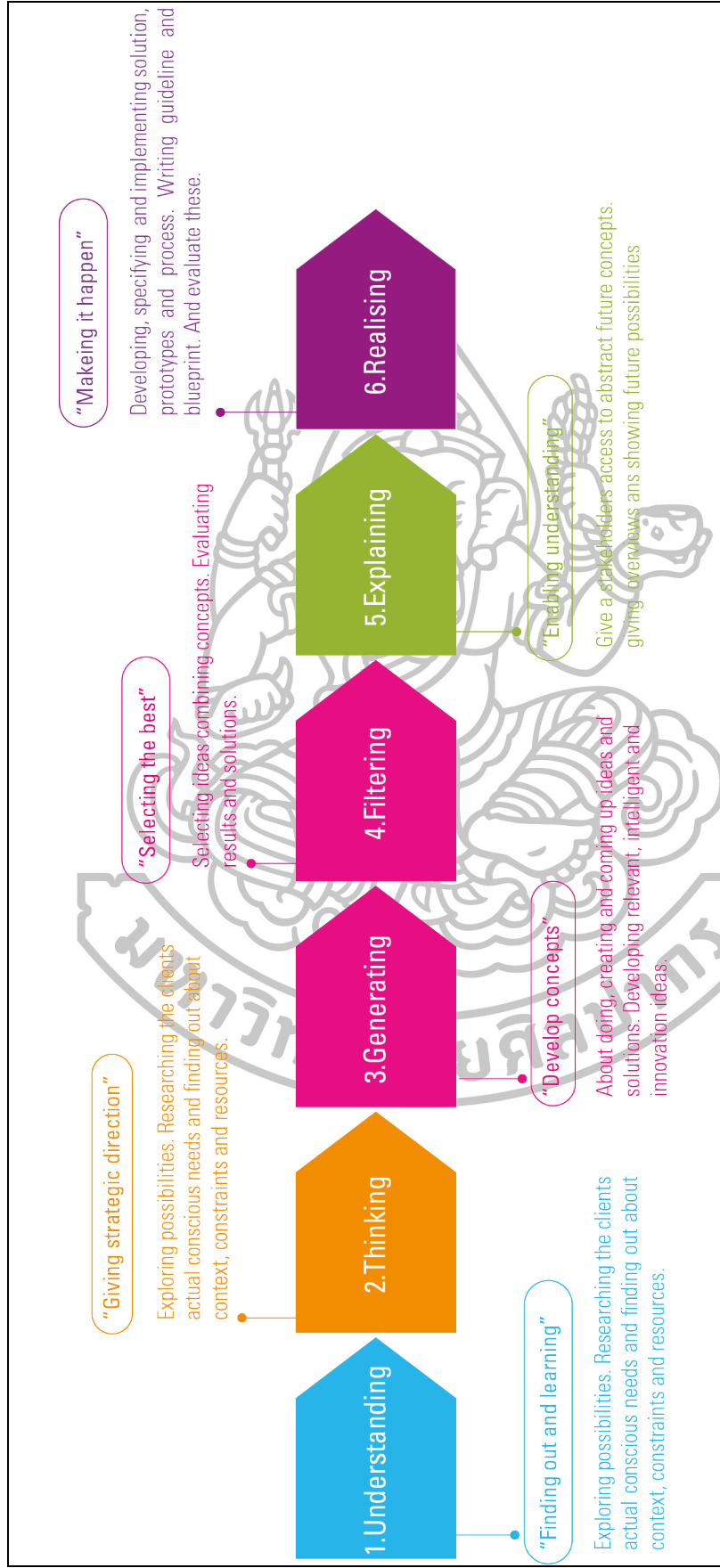


Figure 40 Design Research Process in detail

3. The Research Methodology Approach

Design Thinking is focusing on problems, questions, and context that transfer into creative and innovative way of thinking about the problems and questions we are facing in our world. It steps outside of the traditional boxes with visual thinking, creativity and innovation in order to find new solutions to the same old issues. This thesis used the combination of methodology of qualitative research and action research as show in figure 41.

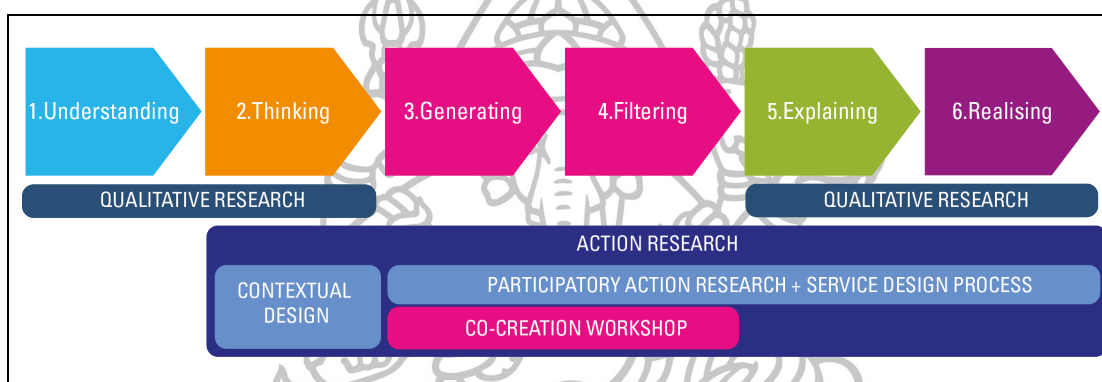


Figure 41 Research Methodology Approach

3.1 Qualitative Research

This approach suits the aims of the research, which wishes to gather information on the ways people use digital objects and their behavior and activities within a particular context. Qualitative research tool helps research to gain engagement with the target audience in an open-ended, exploratory discussion by used tools like focus groups, observation and in-depth interviews. Qualitative research explores a keys of the “what, why and how” questions and provides directional data about the target audience. It is commonly used to explore the perceptions and values that influence behavior, identify unmet needs, understand how people perceive a marketing message or ad, or to inform a subsequent phase of quantitative research.

Although, the qualitative approach provides a sound basis for research. Contextual Design (Lucienne T.M. Blessing, 2009) uses a variety of methods depending on the information needed, but prefers a combination of background interviews and in situation observation.

3.2 Action Research: Contextual Design Methodological Framework

In part of action research this research applied the concept of Zuber-Skerritt (Zuber-Skerritt, 1992) which is famous for using Action research as a Framework. Zuber-Skerritt has given the definition of Action Research that is in a form of The CRASP Model as follows;

1. Corporate the investigation of problems critically (critical collaborative enquiry)
2. Reflect the performance by the practitioner (Reflective practitioner)
3. Explain the findings and disseminate (Accountable to public)
4. Evaluate self performance (Self evaluation)
5. Participate in problem solving (Participative problem- Solving)

This research needed holistic information in order to understand the context of arts and designs learning process, which details regarding environment, society, culture, way of life, and participation experiences of learning space were collected during the research period and were analyzed in order to understand such context, which this is considered as the fundamental concept of qualitative research.

Contextual Design Framework is one type of Action Research; it is a methodological framework the methods are related to process of study in each step to create an insight from the research. Finally, the Methodology for collect select analysis and suggestion use a Service Design Tools.

Although, the qualitative approach provides a sound basis for research, the amount of interpretation to sustain the result is still required. Contextual Design (Lucienne T.M. Blessing, 2009) uses a variety of methods depending on the information needed, but prefers a combination of background interviews and in observation. Other techniques such as focus groups can also be used. The method follows a six step process, beginning with the collection of data on customer work practices through interviews and observation (Contextual Inquiry), followed by modeling of the workflow

(Work Modeling) and the analysis of results using affinity diagramming (Consolidation). The system is then redesigned (Work Redesign and User Environment Design) and tested with users before implementation (Test with Users). Thus, Contextual Design handles a qualitative research approach with the intention of building a software-based product.

3.3 Participatory Action Research

Participatory action research (PAR) is an approach to research in communities that emphasizes participation and action. It seeks to understand the world by trying to change it, collaboratively and following reflection. PAR emphasizes collective inquiry and experimentation grounded in experience and social history. Within a PAR process, "communities of inquiry and action evolve and address questions and issues that are significant for those who participate as co-researchers" (Reason & Bradbury-Huang, 2008) PAR contrasts with many research methods, which emphasize disinterested researchers and reproducibility of findings.

Participatory research requires a great willingness on the part of participants to disclose their personal views of the situation, their own opinions and experiences. In everyday life, such openness is displayed towards good and trusted friends, but hardly in institutional settings or towards strangers.

However, participatory research specifically seeks these dissenting views; they are essential for the process of knowledge production because they promise a new and different take on the subject under study, and thereby enable the discovery of new aspects.

PAR practitioners make a concerted effort to integrate three basic aspects of their work 1) participation (life in society and democracy) as show in figure 15. 2) Action (engagement with experience and history), and 3) research (soundness in thought and the growth of knowledge). Action unites, organically, with research and collective processes of self-investigation. The way each component is actually understood and the relative emphasis it receives varies nonetheless from one PAR theory and practice to another. This means that PAR is not a monolithic body of ideas and methods but rather a pluralistic orientation to knowledge making and social change (Chevalier & Buckles, 2013).

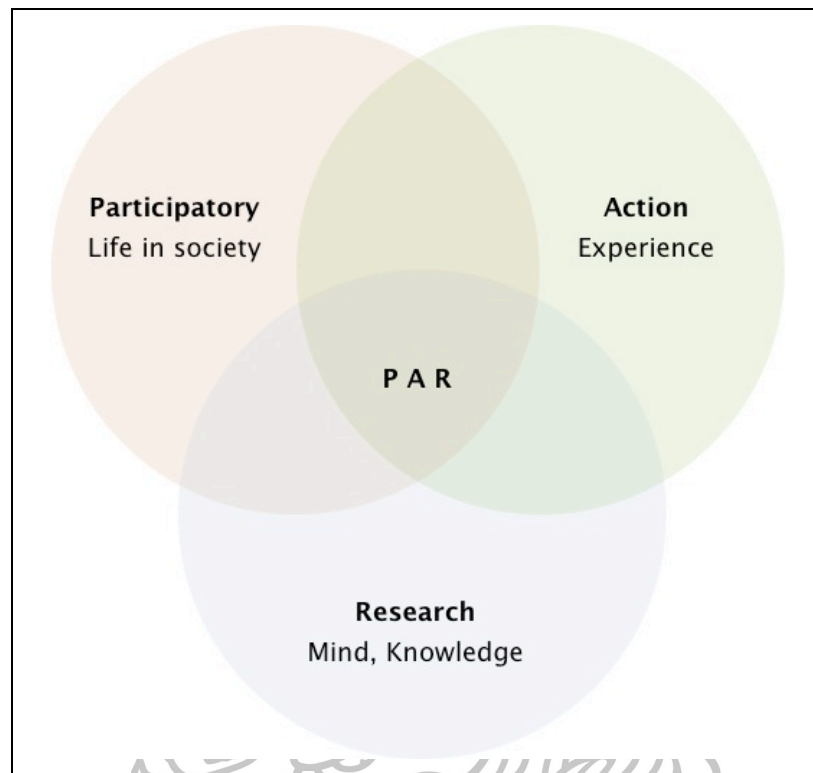


Figure 42 Participatory Action Research model

Source: Chevalier and Buckles, **Participatory Action Research**, accessed May 20, 2014, available from https://upload.wikimedia.org/wikipedia/en/thumb/0/0a/Participatory_Action_Research_in_a_Venn_Diagram.jpg

4. Research Methods in a Design Thinking Process Approach

As mentioned, this paper divided research methods into 2 phases. First is Exploration with the purpose to develop concepts more clearly, establish priorities, develop operational definitions, and improve the final research design. Moreover, in exploration is needed studying new phenomena or situations. Exploration is often, however, given less attention than it deserves.

The first phase (1st phase): Exploration The exploratory phase search strategy usually comprises such as discovery analysis of secondary sources such as published studies, document analysis, and retrieval of information from organizations' databases. As well as expert Interviews with those knowledgeable about the problem

or its possible for the purpose to encourage the participant to talk extensively, sharing as much information as possible.

Second Phase (2nd phase): Data Collection The second phase was very important to this research called Data Collection Phase. Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The data collection component of this research is common to fields of study including physical and social sciences, humanities, business by used Service Design. While methods vary by discipline, the emphasis on ensuring accurate and honest collection remains the same.

Belong the two phase this paper has insinuate into Research Methodology Approach follow the IDEO (IDEO, 2015). Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success. Thinking like a designer can transform the way organizations develop products, services, processes, and strategy. This approach brings together what is desirable from a human point of view with what is technologically feasible and economically viable. It also allows people who aren't trained as designers to use creative tools to address a vast range of challenges. All the 6 steps of Design Thinking Process Approach of this paper will explain below.

4.1 Understanding

Understanding is the first step of the design thinking process. During this phase, researcher immerses themselves in learning, talk to experts and conduct research. Set up the research goal is to develop researcher background knowledge through these experiences. The developing understandings as a springboard as this paper begin to address design challenges.

Also, this stage used several qualitative frameworks to obtain the goal of this phase. The researcher went to observe with concentrated in learning space context at the university library, student's life, learning behavior, learning space design, and used of space.

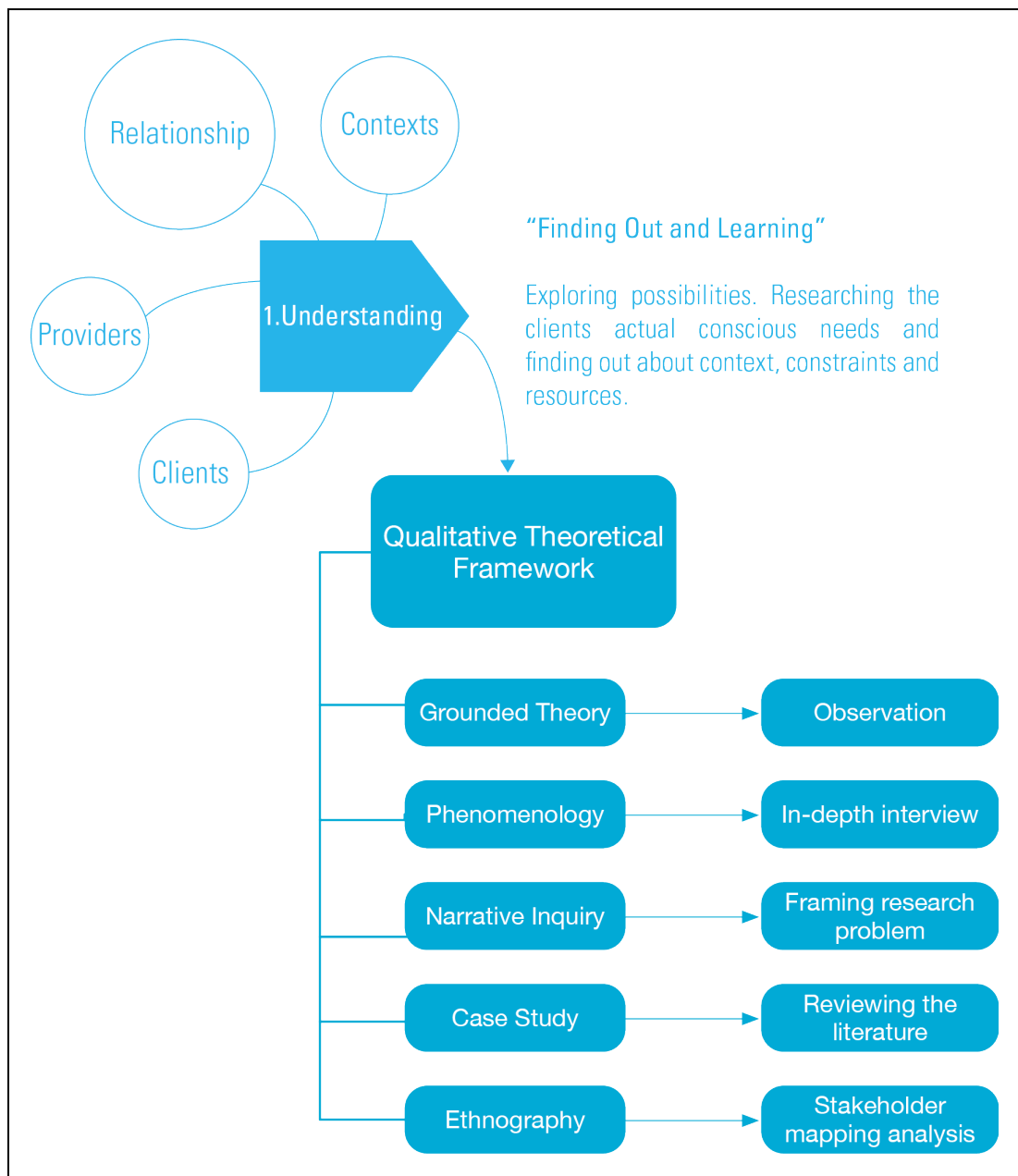


Figure 43 Understanding Step Framework

This paper used Observation as a ground theory as a way of gathering data by watching user behavior, events, or noting physical characteristics in their natural setting. Moreover, observation allows this paper to directly see what people do rather than relying on what people say they did. Observational research is

particularly prevalent in the social sciences and in marketing. It is a social research technique that involves the direct observation of phenomena in their natural setting. Furthermore, the information from observation were collection from 5 locations which is 1) Central Library, Silpakorn University Sanamchan Campus 2) The Self Learning Centre, Faculty of Decorative Arts, Silpakorn University Sanamchan Campus 3) Thailand Creative Design Center or TCDC 4) Central Library, Silpakorn University Wang Thra Phra Campus and 5) Bangkok University.

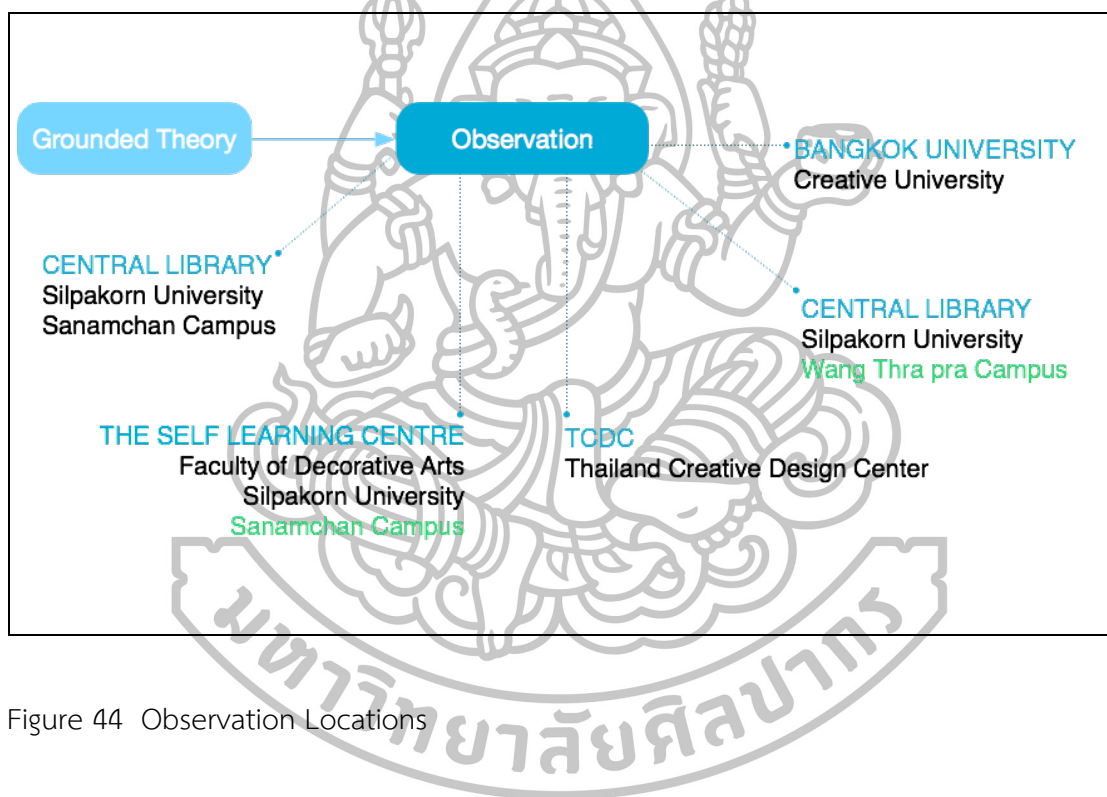


Figure 44 Observation Locations

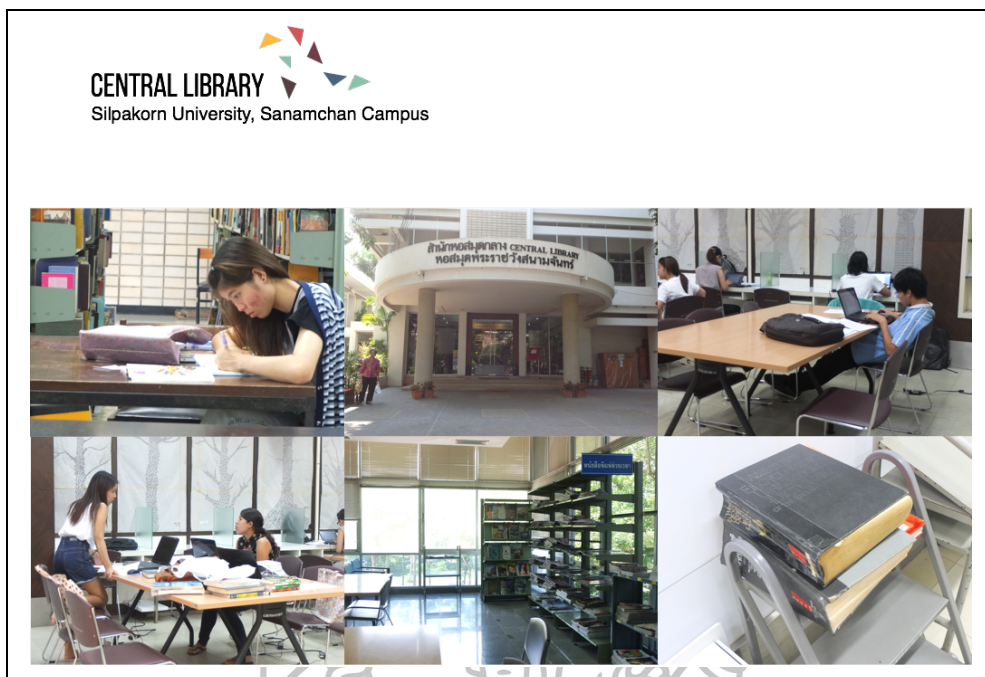


Figure 45 During Observation at Central Library, Slipakorn University Sanamchan Campus



Figure 46 During Observation at The Self Learning Centre, Faculty of Decorative Arts, Silpakorn University Sanamchan Campus

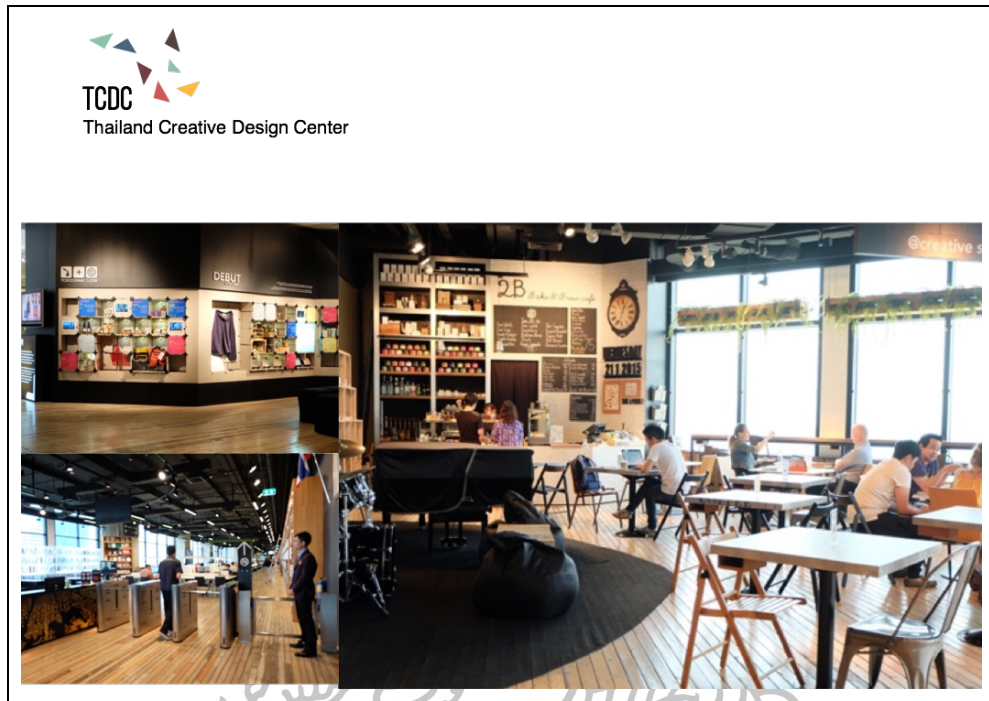


Figure 47 During Observation at Thailand Creative Design Center or TCDC



Figure 48 During Observation at Central Library, Slipakorn University Wang Thra Pra Campus

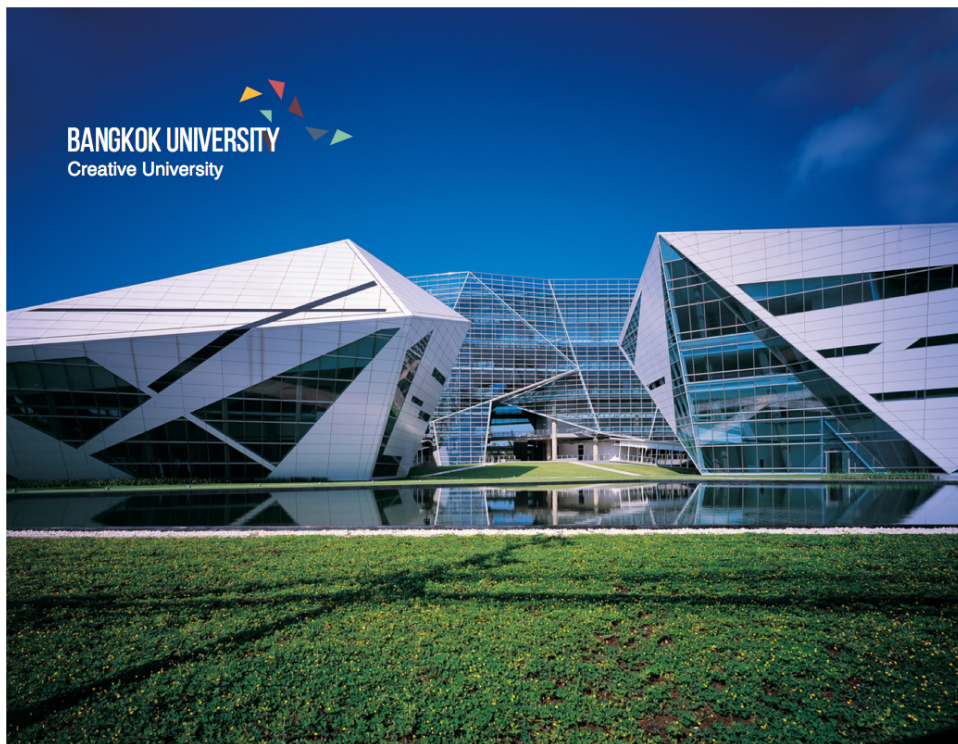


Figure 49 During Observation at Bangkok University



Figure 50 During Observation at Imagine Lounge, Bangkok University



Figure 51 During Observation at Imagine Lounge, Bangkok University



Figure 52 During Observation at Creative Center, Bangkok University



Figure 53 During Observation at Library, Bangkok University



Figure 54 Observation at School of fine and applied arts, Bangkok University



Figure 55 Observation at Studio, School of Architec , Bangkok Univeristy



Figure 56 During Observation at Green Zone, Bangkok University



Figure 57 During Observation at Museum, Bangkok University

The information from observation found that, the social context has affected to student's behavior. The old process and way of thinking might not be enough to make arts and design students in the present to be interested in learning and reach their goals as they are many distractions. Also, The Space and Environment atmosphere are affected the learning process. Universities should allow students to try to live their life in order to find various ways to improve their identities, and instruct them to live their life according to social standards (Dirksen, 2011).

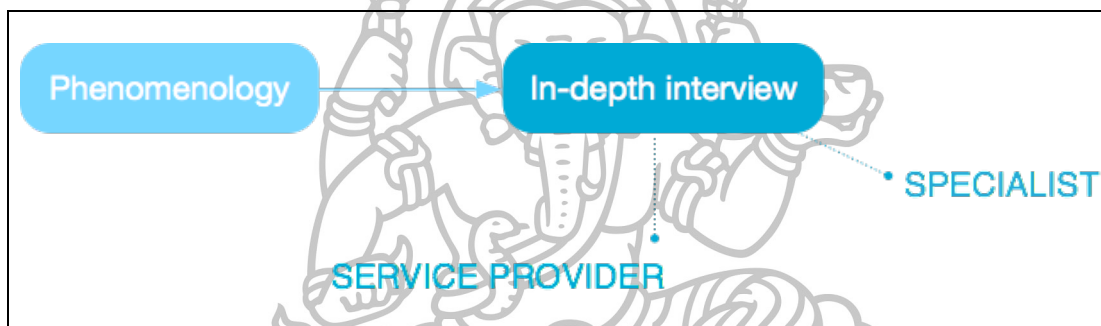


Figure 58 Indepth Interview method

Moreover, Phenomenology tools is In-depth Interview with the also used for the interview the 5 peoples who are related to learning space services and can be divided into 2 group;

2 First peoples are from learning space service provider 1) Miss. Jarin kidmai she is a head of Central Library, Wang Tha Phra Campus, Silpakorn University 2) Miss Panadda Charoennitikul she is staff of Self Learning centre, School of Decorative Arts, Silpakorn University.

Another 2 people are from Specialist from various areas 1) Mr.Aot he is Lecturer of faculty of architecture Silpakorn University 3) Miss.Tanatta koshihadej she is Service Design specialist from Thailand Creative Design Center tcdc and 4) Mr.Narathip Amtiengtrong he is Business and Marketing Specialist.

After consider the importance context this paper used narrative Inquiry to framing research problems. To sum up before moving to next stage this stage also

concludes with ethnography by created Stakeholder mapping analysis diagram content will find at end of this chapter.

4.2 Thinking

At this Thinking stage the information gathered from the first and this stages are collected together, analyzed and used to help to define the problems that have identified up to this point. The results are interpreted in terms of the services innovation, to help the researcher establish features, functions, and any other elements that solve the problems or, at the very least, allow to rectify issues themselves with the minimum of difficulty.

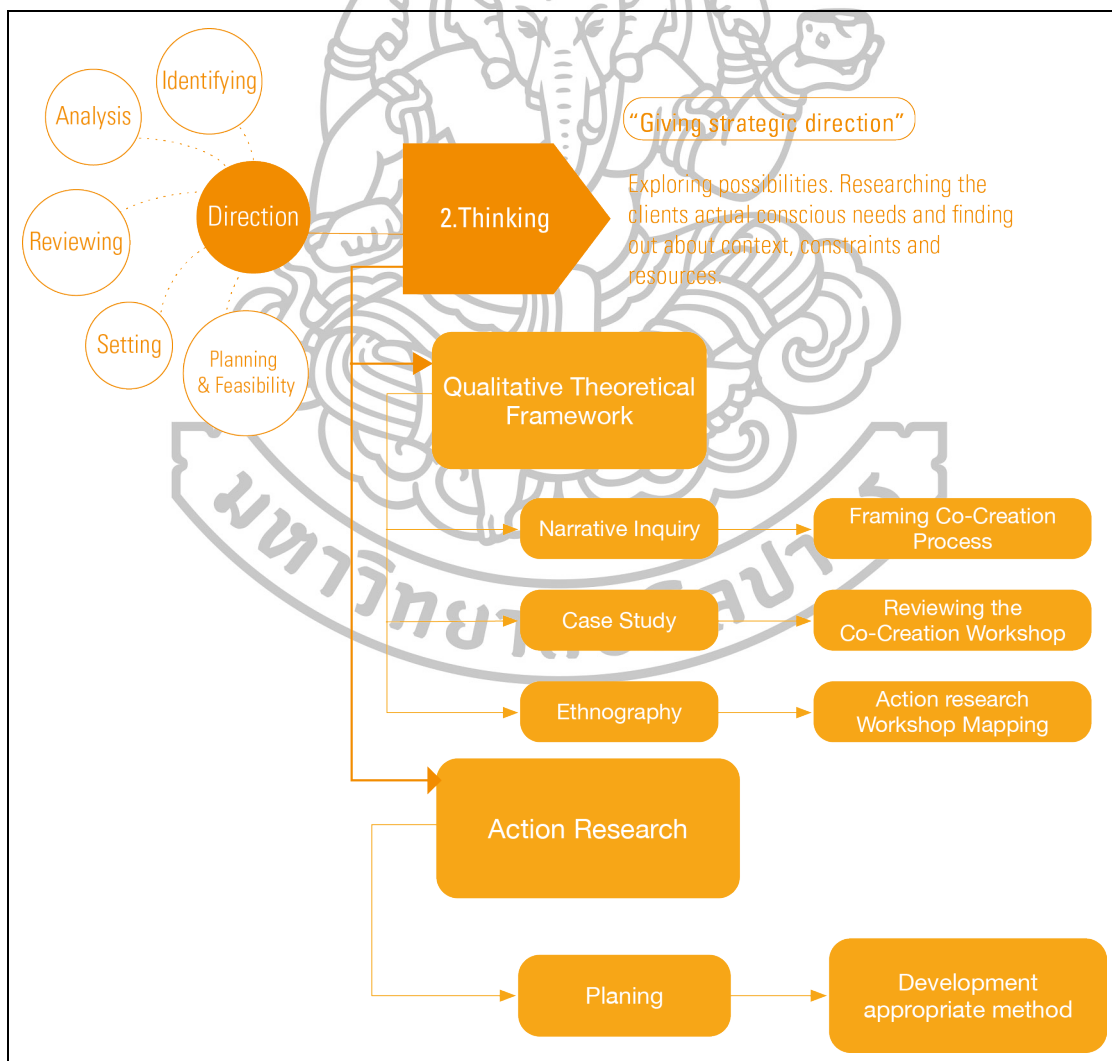


Figure 59 Thinking Step Framework

Moreover, one of research goal is finding the real stakeholder insights so, this stage used both of research methodology which are qualitative and action research.

Qualitative used for framing Co-Creation process. Reviewing the existing co-creation workshop that helped researcher to clearly to set up the workshop procedure. Action research workshop mapping is integrated tools with Action Research methodology to matching and planning service design tools with participants each group.

4.3 Generating and Filtering

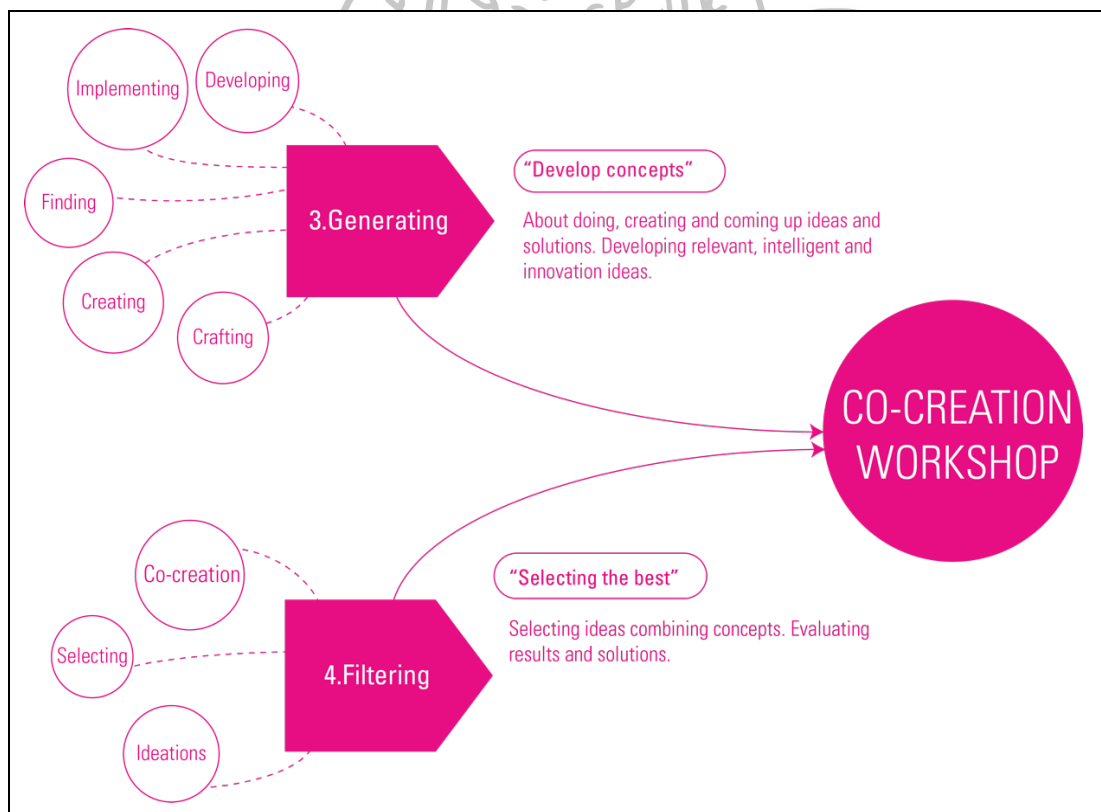


Figure 60 Generating and Filtering Step Framework

Generating Idea is the mode of the research process on idea generation. Mentally it represents a process of going wide in terms of concepts and outcomes. Ideation provides both the fuel and also the source material for building prototypes

scenario and getting innovative solutions into the hands of learning space service. In order to avoid losing all of the innovation potential this paper generated through ideation, the process of considered selection, by which you bring multiple ideas forward into prototyping, thus maintaining the innovation potential.

Moreover, before start and during designing a co-creation workshop there are key value that have to consider and keep balance as show in figure 61 During workshop research have to Ask with all of participants to get the qualitative and unique user insight that what are they say and do with learning space.

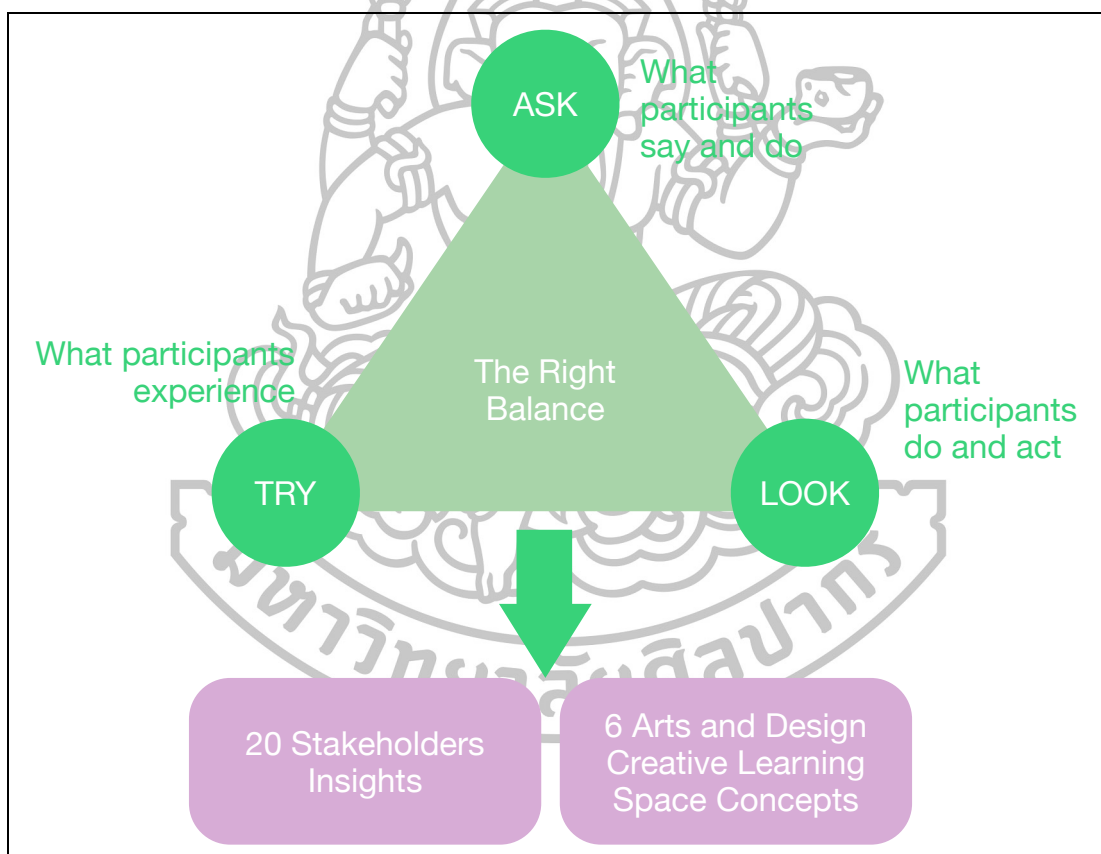


Figure 61 Key value to be consider for Co-Creation Workshop

In addition, look at participants to get the hidden behavior and ethnography what people do. Also, this value can be called observation method in qualitative research approach. Lastly, try to get the context of what participants experiences with the co-creation process and service design tools. The context of all

3 keys value also come up with the information from 20 stakeholder's insights and 6 creative ideas for arts and design creative learning space which base on the participant background. After that, all of information from this stage sent into next stage for analysis and implementation.

4.4 Explaining

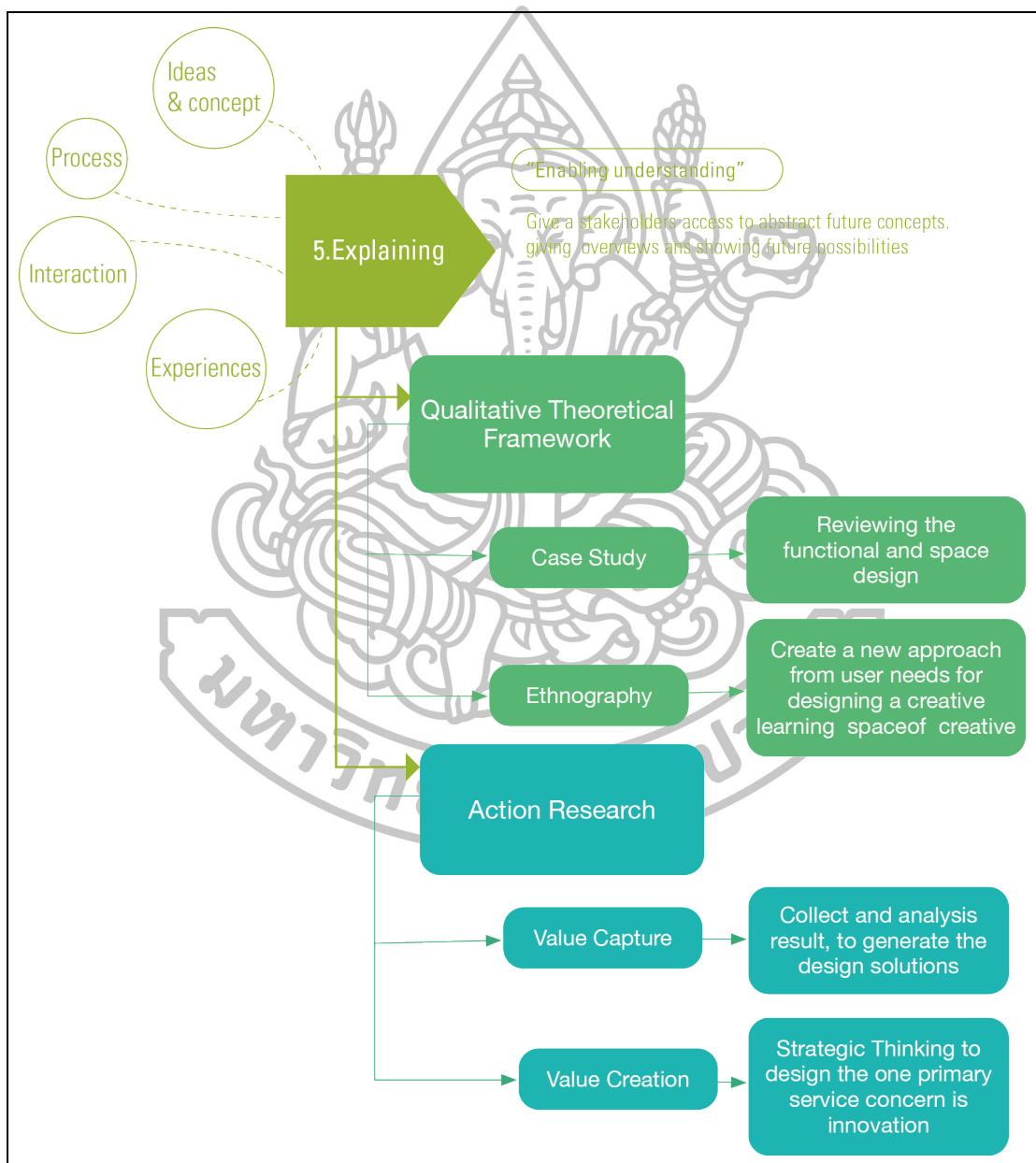


Figure 62 Explaining Generating and Filtering

This is an experimental phase, where the aim is to identify the best possible solution for each of the problems identified in the first three phases. The solutions are implemented within the explaining and one-by-one they are investigated and either accepted or rejected on the basis of the user's experiences. By the end of this stage, the designer will have a better idea of the constraints inherent within the product, the problems that are present, and have a better or more informed perspective of how real users would behave, think, and feel when interacting with the end product.

4.5 Realizing

Designers test the complete product, with the best solutions identified during the prototyping phase. This is the last stage of the model, but in an iterative process the results collected from the testing phase are used to redefine one or more problems and inform the understanding of the users, the conditions of use, how people think, behave, and feel, and to empathize. Even within this phase, alterations and refinements are made to falsify problem solutions and derive as deep understanding of the service and its users as possible.

We may have outlined a direct and linear Design Thinking process, with one stage seemingly leading to the next with a logical conclusion at user testing, but in practice the process is carried out in a more flexible and non-linear fashion. More than one stage might be carried out at the same time by different groups within the design team or the designers might collect information and prototype all the way through the project to help them bring their ideas to life and visualize the problem solutions. Design Thinking should not be seen as a concrete and inflexible approach to design, the component stages identified in the image above serve as a guide of the activities you would typically find, but to gain the purest and most informative insights for your particular project, these stages might be switched, conducted concurrently and repeated a number of times in order to expand the solution space then narrow down on the best possible solutions.

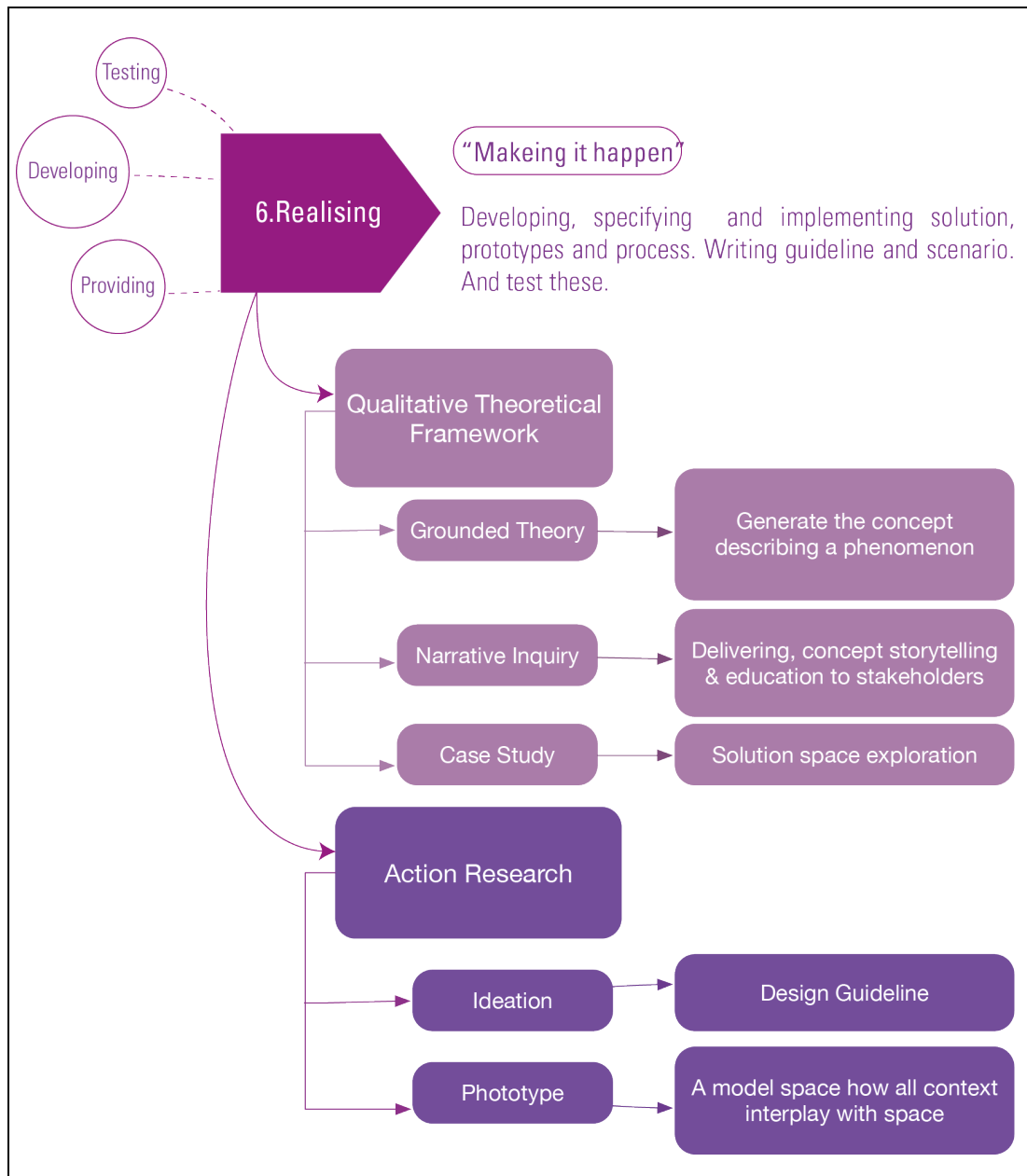


Figure 63 Realizing Generating and Filtering framework

5. Target Population and Sampling

The research procedure for service design will use effective research activity design, in order to gather participation among core stakeholders and systematically in-depth synthesize of data obtained from the activity as that procedure lead to creating value to such services.

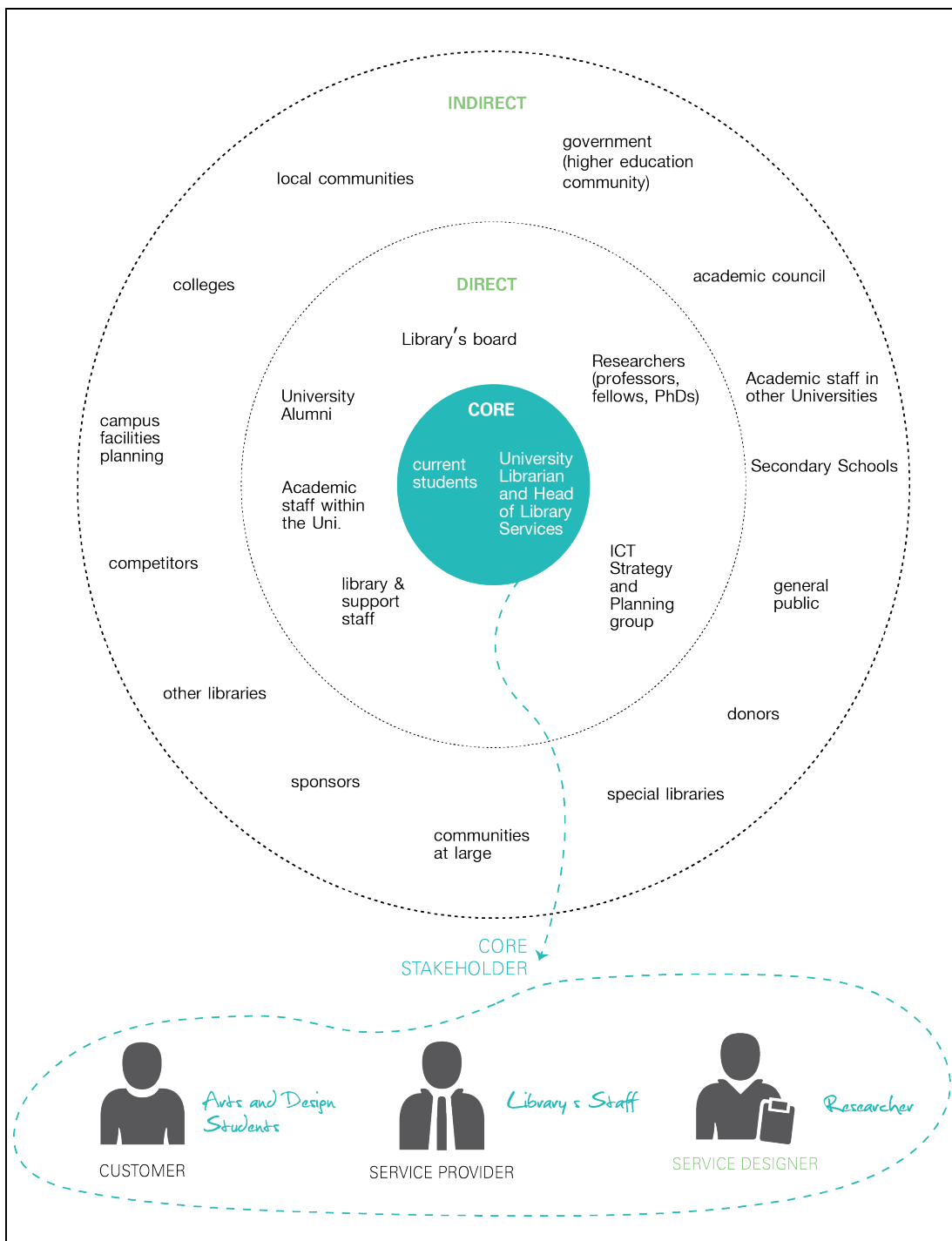


Figure 64 Core stakeholders of learning space at Silpakorn University, Wang Tha Phra campus

From figure 64 this research selected the population that will be used in the research from the group of core stakeholders, which included current students, main library officers, and academic officers, however, there was a time limit for this workshop research, so the researcher cut down the group of academic officers. Hence, the population for this research was divided into two groups including; the group of learning space service users who are current students at Silpakorn University, Wang Tha Phra campus, and another group was the learning space providers, who are the main library officers, Silpakorn University, Wang Tha Phra campus. There were 29 participants total in this study.

The first group, the group of current students who are service users or people who use the learning space, there were 20 people participated which consisted of 9 students from Faculty of Painting Sculpture and Graphic Arts, 2 students from Faculty of Architecture, 4 students from Faculty of Archaeology, and 5 students from Faculty of Decorative Arts.

The reason that these four faculties was selected is because they are faculties that provided learning session and classes at Silpakorn University, Wang Tha Phra campus, moreover, these students always use the space in the university including outside classroom spaces, and near-by public areas.

The second group, which is the group of service providers, the researcher selected this targeted group as it is clearly seen that the main library plays an important role as a service provider that supports and develops learning process regarding art study and other majors, as well as provides resources and contributes to innovation creation. There were also 9 staff officers from Wang Tha Phra main library that participated in this study.

6. Conclusion

Obviously the advantage of Qualitative research helped provided depth and detail looks deeper into user attitudes feelings and behaviors. Qualitative research has also encouraged people to expand on their responses, which can open up new innovative service ideas not initially considered. Nevertheless, Qualitative difficulties make systematic comparisons such as: when people give widely different responses

that are highly subjective a concrete solution. Therefore, Action Research methodology approach can fulfill this gap because this approach helped researcher to solve problems by placing core stakeholder at the center of the process, which also gathered many voices in regard to the research to the table.

Service Design process form is one kind of Action Research Approach and also Service Design Process Approach that helped involves and engages each user directly with service developments through action research. This synthesis of methods also provides by Participatory Action Research Methodology Framework and human dimension to services development, leading to increased desirability, usability and efficiency. In conclusion at this juncture, the result helped to explain how Service Design processes integrated into this research and how to engage users in participatory action research by Service Design process. Accordingly, contents discuss and explain in chapter 4, will focus on how the researcher worked and collected and discussed data through the participatory workshop of core stakeholders under the project entitled Co-Creation Workshop for Arts and Deign Creative Learning Space.



Chapter 4

Designing an appropriate learning space for arts and design students.

1. Introduction

This chapter intended to fulfill the objective 2 and 3 of this dissertation; to evaluate the correlation of requirements between the learning space and the users on the learning space of Silpakorn University, Wang Tha Phra Campus, and to create a suitable model of learning space services that are suitable for Arts and Design students at Silpakorn University's Library, Wang Tha Phra.

The content in this chapter focused on the discussion of findings from the outcomes of Participatory Action Research through Workshops that has been conducted at the Silpakorn University, Wang Tha-Phra Campus. This is a participatory action research where numbers of peoples including students as a users and service providers are involved 29 participants were involved and several experts on service design and Library. This workshop was carried out with the flow methods of service design process. This workshop helped to provide a platform that select and validate the relevant and appropriateness of learning spaces for Arts and Design students as users.

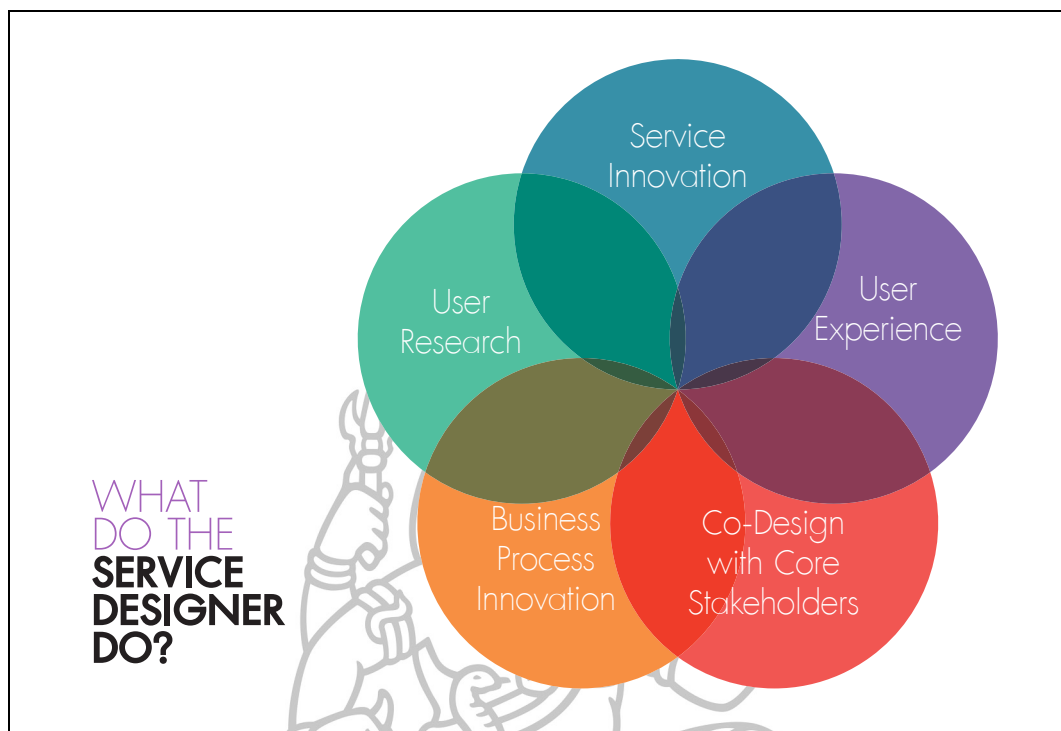


Figure 65 What do the service designer do?

2. Service Design Process

What can designer brings design to improve service experiences? This is some part of research goal that this chapter allowed the researcher to consider during designing a process methodology and methods for the workshop.

Service design methodology is focusing on problems, questions, and context that face and drive into creative and innovation on new approach of thinking to the problems and questions we faced in our world. The idea helps to steps outside of the traditional boxes with visual thinking, creativity and innovation in order to find new solutions to the same old issues or problems that reoccurred.

The research procedure of service design will use effective research activity design in order to create participation among core stakeholders and systematically in-depth synthesize of the obtained data from the activity as that procedure lead to create value to such service processes. Qualitative research can usually provide the data for these insights better than quantitative research (Andy Polaine, 2013). The

research procedure of the service design will allow the core stakeholders to participate in activities without getting bored and open doors for them to review their experiences and express those experiences in a form of story, opinion, emotion, and point of view. Participation will allow the researcher to best acknowledge numerous in-depth needs and emotions occurred among participants.

The procedure of service design for arts and design learning space is not only the research that designs learning service but also covers the innovation and experience development and improvement in order to create learning process, leading to best learning result. It is hoped that the result of the study of learners' needs will lead to the occurrence of the service of arts and design learning space. In addition, the service is not just temporary learning experience creation but will have to create innovation and chance to learn in a long term. Thus, learning space service needs to be designed. Service design process in this research each step includes its own sheet and a set of tools to help researcher gather information.

This chapter then used service design as a process and tools in achieving design solution. The service design process helped researcher to capture what users does over time during our used university learning space.



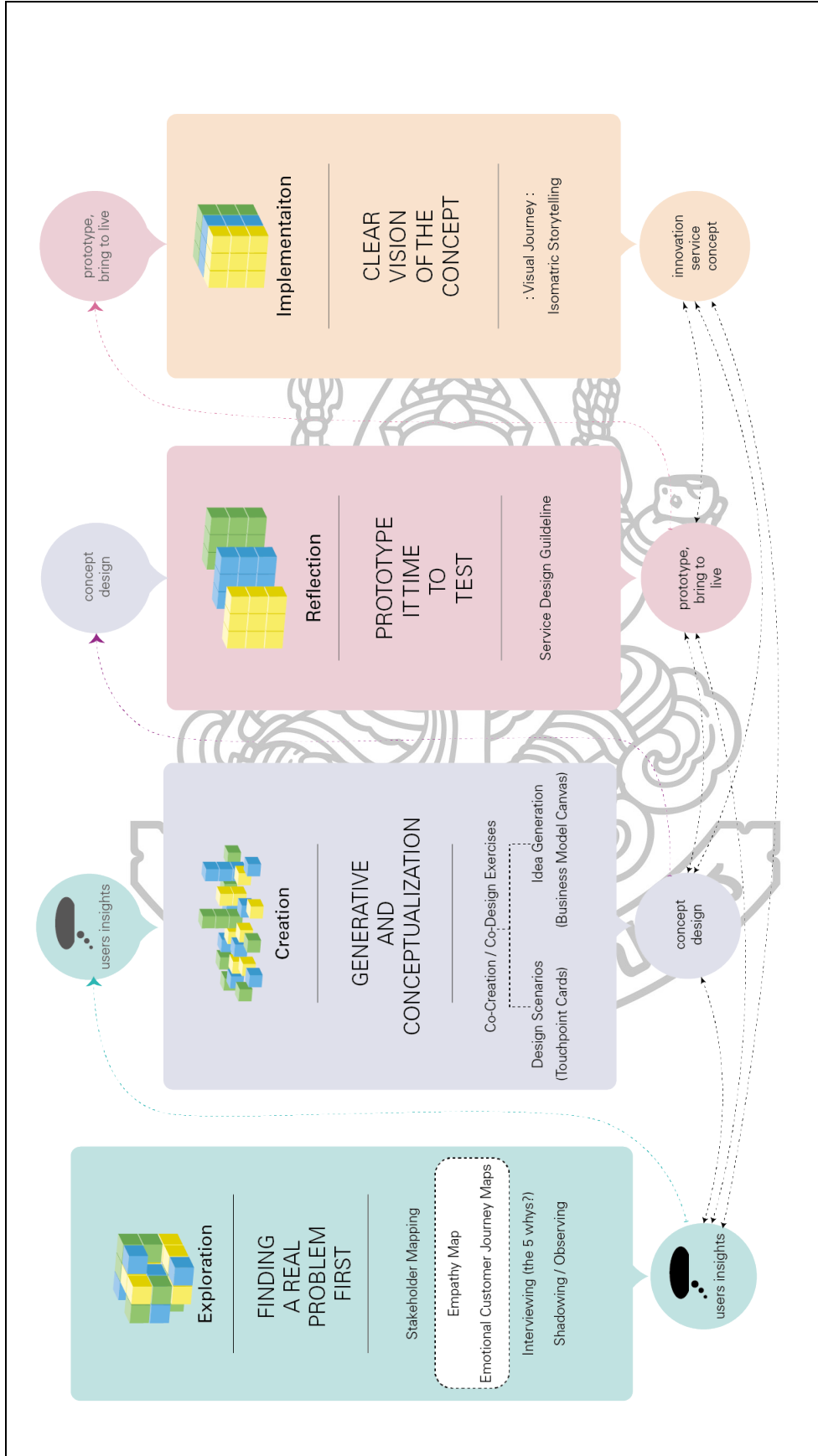


Figure 66 Service Design Process

The user that the research aims to use service design was specified in the goal. Discovering their context, needs and goals several interview and observation have been conducted. Desk research into existing tools has helped to gain a list of design tools and methods that can be used in service design or possible solution to adopt with the specific needs of service design process.

This process also helps to capturing user needs, ideations, and insights through practice. In addition, this is an essential philosophical approach where a learning space service is constantly being improved.

Exploration is a survey and data collection, which the data will be collected in depth, especially in the field of ethnographic research as it will indicate “actual needs” (user insights) of the studied population. Data obtained during this period is the data that will guide to new opportunities for the most appropriate service design. During the exploration process, the population group will be selected from the analysis result of stakeholder mapping. There are two types of tools used in this process, which are empathy map for the learning space service provider group and emotional customer journey map for the learning space service user group. The obtained result is the actual needs or user insights including in the dimension of learning space usage experience, vision of problems, depth demand, or even the participants’ attitudes.

During the exploration process, the population group will be selected from the analysis result of stakeholder mapping. There are two types of tools used in this process, which are empathy map for the learning space service provider group and emotional customer journey map for the learning space service user group. The obtained result is the actual needs or user insights including in the dimension of learning space usage experience, vision of problems, depth demand, or even the participants’ attitudes.

After the exploration process is completed, the researcher and participants will be able to see an overall image of the real needs of themselves and their friends. During the empathy map and emotional customer journey maps activity, the researcher will interview and shadow or observe by listening and asking questions, which will lead the researcher gained ability to understand forms of thinking process that the participants expressed clearer and more concrete. When the researcher

understands the real needs in every aspect, after that the research will move into the process of brainstorming in order to create new ideas and innovations for the service.

From the process of the first step of exploration, the researcher and the participants saw an overall image of the real needs of themselves and their friends; in addition, the researcher understands the form of thinking process that the participants want to express in more concrete. After the understanding of the real needs in every aspect, the next step is the process of brainstorming in order to obtain new concepts and innovations for the service.

The second process of this research is called Creation; it is the step of building service concepts, meaning to apply the obtained data from the first process of exploration in order to design service concepts. This process will focus on the core stakeholders in participating in the design, in order to help creating change and improvement of new service experiences, which is called Co-Creation. The tools that will be used in this process are the same for both sample groups, but the sample groups will be divided into six small groups; the group of the library officers will be divided into two small groups and the group of students will be divided into four small groups according to faculties. There are two set of tools;

The first set of tool is Touch-point Cards; The result of this research will be Design Scenario or the model of thinking that shows all the pictures of the system of the idealistic arts and design learning space service, which contains details as follows; things that the participants need (under-needs) such as service, place, space, facilities, technology, and innovation, and another element that will obtain from using this tool is the picture of touch-points that should have at the arts and design learning space and it will point out the model of creative ideas expression from brainstorming, especially in the manner of space management and needs as the main point.

The second set of tool is the Business Model Canvas, the result of this research will be Idea Generation, or brainstorming participation. The researcher will obtain various concepts depending on the context of the participants in each small group. These concepts will be guidelines that the researcher will use to improve arts and design learning space service as well as for further research

The researcher worked and collected data through the participatory workshop of the core stakeholders under the project entitled “Co-Creation Workshop for Arts and Design Creative Learning Space.”

3. Selected Tools for Co-Creation Workshop (Participatory Action Research)

Also, the selected tools are means for research to analyze stakeholder and researcher thoughts. Most important of service design process is a steps to try and co-creation new service ideas with the right customers as early as possible and before large investments have been made. Furthermore, It takes some courage to asked for the user's opinion before the new service innovation is done. This will reduce investment risks considerably. On the other hand, service is never actually finished

In many forms, designing for people should emphasized on insights of people's needs, motivations, and behaviors. Service design can usually provide the data for these insights better than quantitative research. Service design will allow the core stakeholders to participate in activities without getting bored and open doors for them to review their experiences and express those experiences in a form of story, opinion, emotion, and point of view.

Tools used in this research are the tools from the theory of Service Design, which is the concept of the combination between participatory design and User-Centered Design and connecting to the science of product, environment, experience and interaction (Marc Stickdom, 2012). There are two types of tools that will be used in order to find user insights as seen in figure 67;

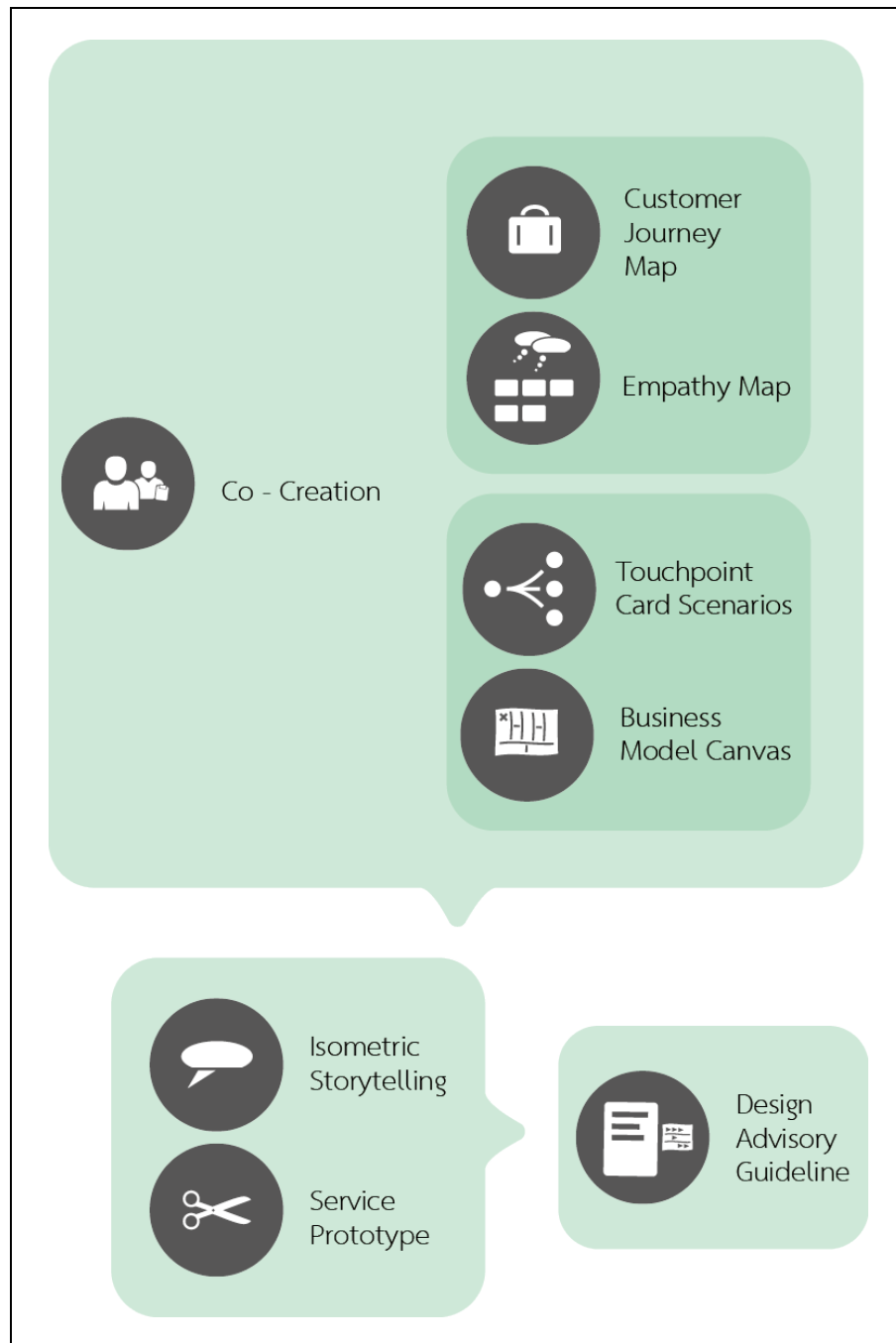


Figure 67 Selected Tools

4. Designing the Co-Creation Workshop

As service are process and experience based and service has become a key component in research methodology for transition to creative learning space innovation. The development of new service strategy for creative learning space for

arts and design students would need to support learner with personal development, inspiration and new way of learning art and design.

This research used service design as a design process and design tools. The service design process helped designer to capturing what a user does over time during used existing space. As well as the need of the users, this process also helps to capture user needs, user ideations, and user insights through practice. In addition, this process is an essentially a philosophy where a learning service is constantly being improved. Also, the selected tools are means for researcher to analyze stakeholder and researcher thoughts.



Figure 68 Prepared Workshop flow

Most important of service design process is a steps to try new service ideas with the right customers as early as possible and before large investments have been made. Furthermore, It takes some courage to asked for the user's opinion before the new service innovation is done. This will reduce investment risks considerably. On the other hand, service is never actually finished. The benefit of service design process not only save time and money, but also makes users to always stay loyal to their service received from the supporting team.

Co-creation workshop is a part inside of service design process, which mentioned in previous chapter, to get the real user insight. The purpose of a Co-Creation Session is to convene a group of arts and design learning space people for and then bring them into the design process. In addition, this workshop not just hearing the participant's voices, but empowering them to make alongside co-creation process. Also this activity also adopted a practice or service that it helped create, but users would also gain valuable insight into all facets of your solution.

4.1 Co-Creation as a framework

This research needed holistic information in order to understand the context of arts and design learning process, which details regarding environment, society, culture, way of life, and participation experiences of learning space were collected during the research period and were analyzed in order to understand such context, which reflected the understanding that considered the process and the results as a fundamental concept of qualitative research.

In the context of co-creation framework, knowledge creation and transfer have to be understood as an iterative process involving the construction and deconstruction of experience. This research context of this guideline is about the study of arts and design creative learning space in the context of Silpakorn University, Wang Tha Phra campus; it is mixed-research between action research and qualitative research by emphasizing on corporation and understanding of learning space service providers' work and reflection of space usage experience of space users.

4.2 Co-Creation Workshop Objectives

Beginning with the study and analyze learner's learning behavior, who are the core stakeholders of the learning space at Silpakorn University, Wang Tha Phra campus, that then first aimed to:

Evaluate the situation regarding learning process of design arts students;

To understanding the process of support and relationships between service providers and users within the learning space at Silpakorn University, Wang Tha Phra campus.

To study and analyze the need of space usage and learning service of the students who are the core stakeholders of design arts learning space,

To understand and analyze concepts and point of views of the core stakeholders of design arts learning space,

To suggest guidelines to design in order to design learning space service that suits the learning process of arts and design students.

4.3 Testimonial of workshop Ideation

Before running a co-creation workshop the research has been launched the exhibition named 4 lines and in-between at Exhibition Galley, Faculty of Decorative Arts, Silpakorn University. Exhibition was exhibit during 17-28 March 2014. Moreover, this exhibition has the purpose to release the conceptual framework of a research idea and design methodology.



Figure 69 Exhibition Panorama View



Figure 70 Research Exhibition to released research conceptual model

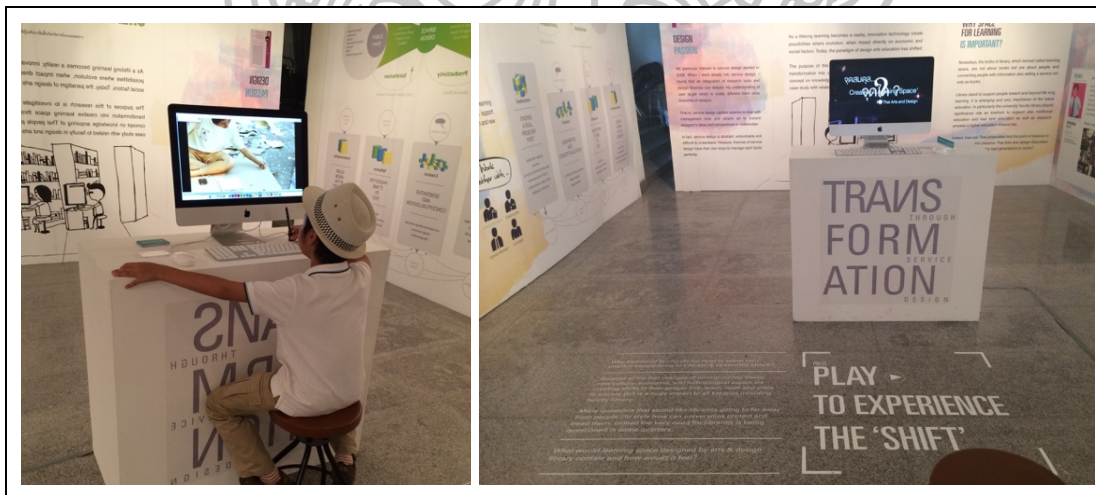


Figure 71 Research Movie, expanding each patronage understanding for this research topic



Figure 72 Research Movie: captures short of movie



Figure 73 Ideation Blossom

The Ideation Blossom is a zoning portion that helped clarify user insight and needs, along with user opinions of arts and design creative learning.

4.4 Contact and consulted with expert

After the released the research ideation on exhibition next step is setting the workshop structure by consulted with expert. Researcher was contact and interview with staff from Miss.Tanatta Koshihadej, she is an expert in Design and Creative Business Development of Thailand Creative and Design Center (TCDC). She advised the process of how to run a service design workshop and the best way to get the good co-creation with participant and take the researcher look around the learning space of TCDC too.



Figure 74 Miss.Tanatta Koshihadej



Figure 75 Learning Space of Thailand Creative Design Center (TCDC)

4.5 Recruited Participants

The first step is identified the participants Co-Creation Session. The researcher selected the population that will be used in the research from the group of core stakeholders, which included current students, main library officers, and academic officers. Hence, the population for this research was divided into two groups including; the group of learning space service users who are current students at Silpakorn University, Wang Tha Phra campus, and another group was the learning space providers, who are the main library officers, Silpakorn University, Wang Tha Phra campus. There were 29 participants total in this study.

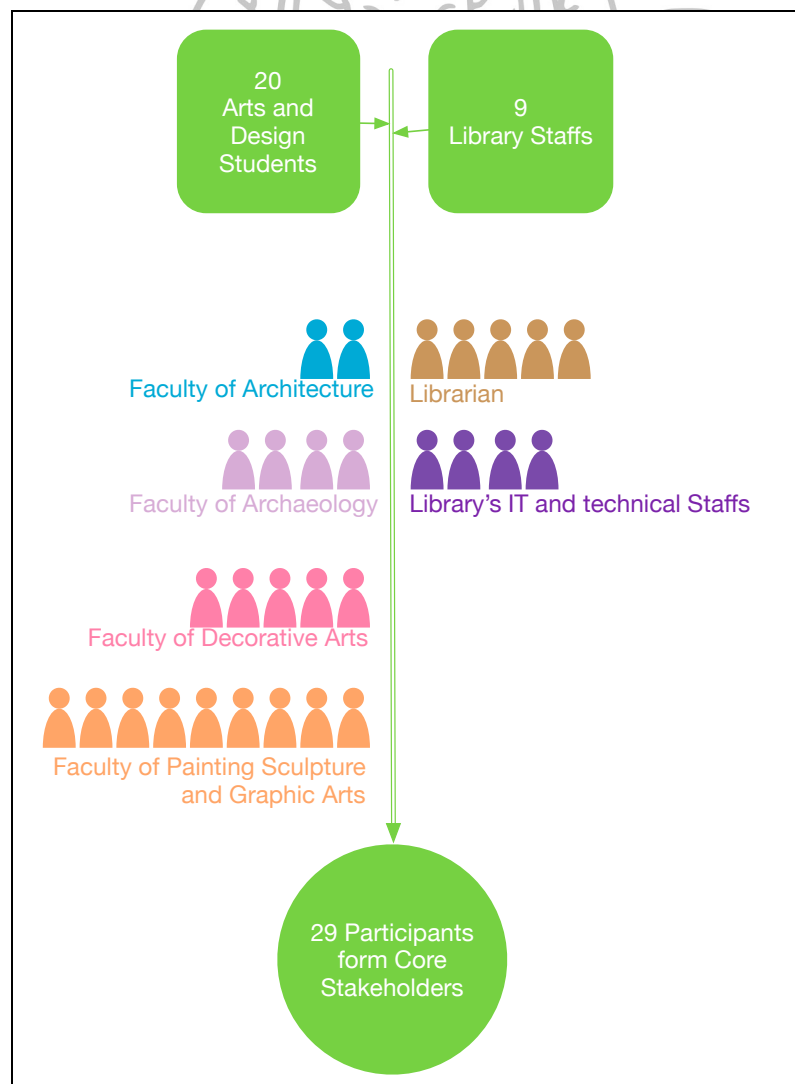


Figure 76 Workshop Participants

The first group, the group of current students who are service users or people who use the learning space, there were 20 people participated, which consisted of 9 students from Faculty of Painting Sculpture and Graphic Arts, 2 students from Faculty of Architecture, 4 students from Faculty of Archaeology, and 5 students from Faculty of Decorative Arts. The reason that the researcher selected students from these four faculties is because they are the faculties that provide classes at Silpakorn University, Wang Tha Phra campus. Moreover, these students always use space in the university, outside and inside classrooms, especially the main library of Wang Tha Phra campus.



Figure 77 Group Photo of the workshop participants

The second group, which is the group of service providers, the researcher selected this targeted group as it is clearly seen that the main library plays an important role as a service provider that supports and develops learning process regarding art study and other majors, as well as provides resources and contributes to innovation creation. There were 9 officer staffs from Wang Tha Phra main library that participated in this study.

รับสมัคร!!
นักศึกษา
เข้าร่วมกิจกรรม

WORKSHOP:
Co-Creation Workshop
for Creative
Learning Space

สถานที่: ณ หอศิลปะและการออกแบบ
คณะมัณฑนศิลป์ วิทยาเขตวังท่าพระ

วันอังคารที่ 27 มกราคม 2558
เวลา 9.00 น. – 16.00 น.

คุณสมบัติง่ายๆ :

- 01 | เป็นนักศึกษามหาวิทยาลัยศิลปากร
วิทยาเขตวังท่าพระ
- 02 | มีการใช้บริการพื้นที่ภายในมหาวิทยาลัย
หรือหอสมุดบ่อยครั้ง เช่น การคุยงานกับเพื่อน
การทำกิจกรรม การทำรายงาน เป็นต้น

สนใจเข้าร่วม ติดต่อได้ที่ :
คณบดีเตอร์บริการหอสมุด วังท่าพระ
ข้อมูลเพิ่มเติม โทร 0811733536

ทั้งนี้ผู้เข้าร่วมกิจกรรม
จะได้รับเบี้ยเลี้ยงวันละ 350 บาท

(พร้อมอาหารว่างและอาหารกลางวัน)

*Workshop นี้เป็นส่วนหนึ่งของงานวิจัยของนักศึกษาปริญญาเอก คณะมัณฑนศิลป์ เป็นการศึกษาข้อมูลเชิงลึกของพฤติกรรม ความคิด
มุมมองใหม่ๆ จากผู้มีส่วนได้ส่วนเสียของระบบการให้บริการพื้นที่การเรียนรู้ ระหว่างการจัด Workshop จะมีกิจกรรมต่างๆ เพื่อให้ได้มา
ซึ่งผลของการวิจัย เช่น Insight ของผู้เข้าร่วม, แผนการพัฒนาระบบบริการพื้นที่การเรียนรู้ซึ่งสร้างสรรค์บนรับของนักศึกษา
ที่เรียนด้านศิลปะ: โดยจะมีการใช้เครื่องมือ อาทิ Business Model Canvas, User Journey Map, Story Telling เป็นต้น

Figure 78 Poster for recruited the students to participate in the workshop.

As the reason that service design approach has co-creation field with business strategy so in fact of researcher background unrelated with this field so the professional business expert was important for running the process. The workshop invited 2 experts, firstly Mr.Nisit Manotangworapan who specialist in user empathy mapping field and Mr.Narathip Amtiengtrong the expertist on business strategy to conduct the business model canvas tool.



Figure 79 From Left to right: Mr.Nisit Manotangworapan, Researcher and Mr.Narathip Amtiengtrong

4.6 Prepare workshop stuffs

Once the concept of creating co-creation was completed, arrangement of a space and pinpointing the necessary supplies is also the next important aspect to conduct.

Stationary is very important to all workshop activity researcher already prepared all the thing that have to do in all activity such as: colors pen post-it, glue, stickers, etc.

As well as the activity, equipments are also important for the workshop. For example a paper A2 size is needed for participant to draw their journey also “post-it” used for create chart-map arranged from the service provider insight.

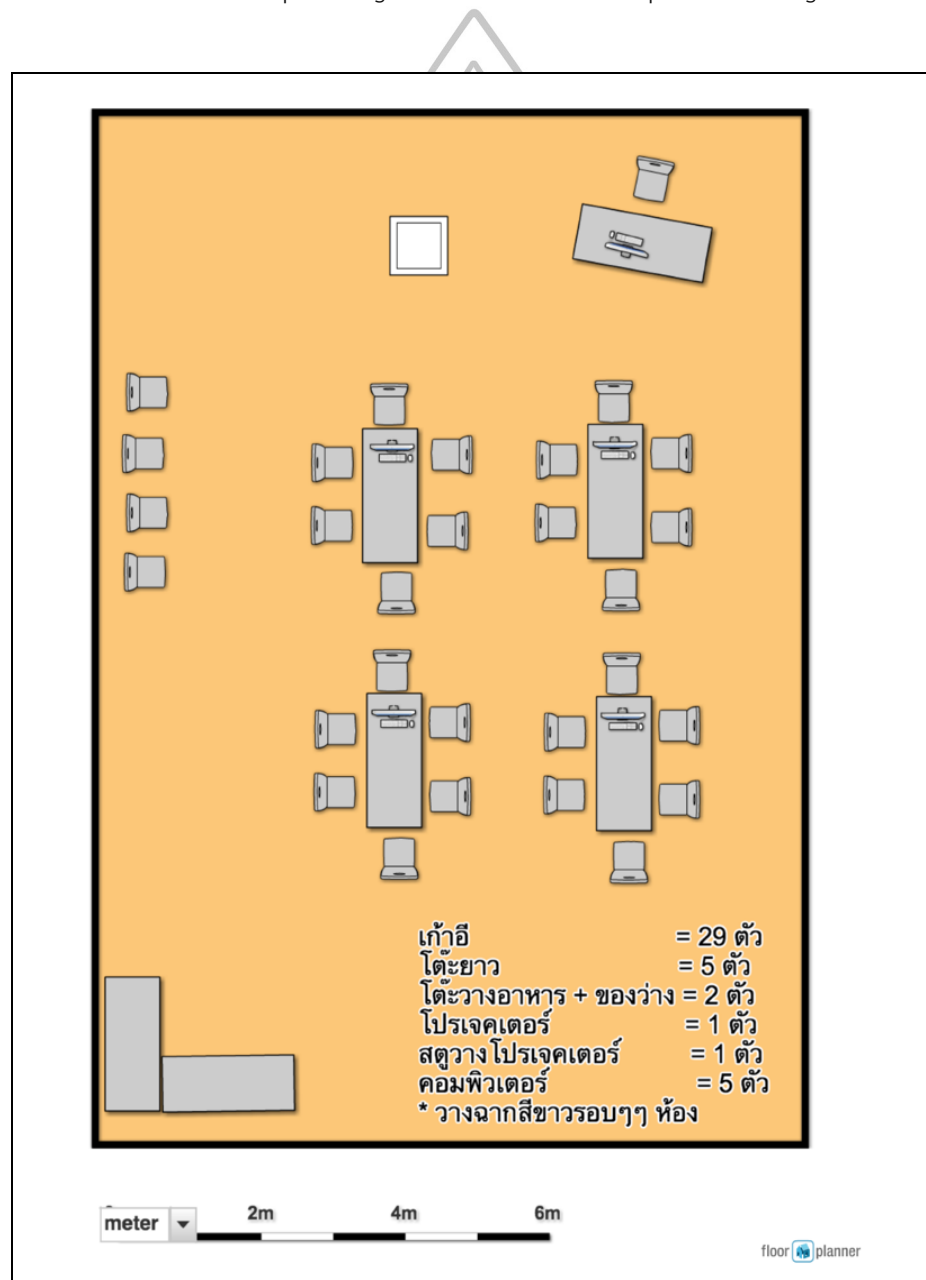


Figure 80 Workshop Floor Plan



Figure 81 Many pieces of post-it used for workshop



Figure 82 Many pieces of stationary used for workshop



Figure 83 Big paper used for workshop



Figure 84 Many pieces of touchpoint cards used for workshop

5. The Co-Creation Workshop for Arts and Design Creative Learning Space process

As this paper mentioned before that the co-creation workshop is used Co-Creation as a framework and Service Design Process as methodology of workshop. Furthermore, the process, the finding and discussion of the Co-Creation Workshop by will be explain belong the Phase one and Phase 2 of Service Design Process.

5.1 Service Design Process Phase 1st: Exploration

There are two types of tools used in this process which are empathy map for the learning space service provider group and emotional customer journey map for the learning space service user group.

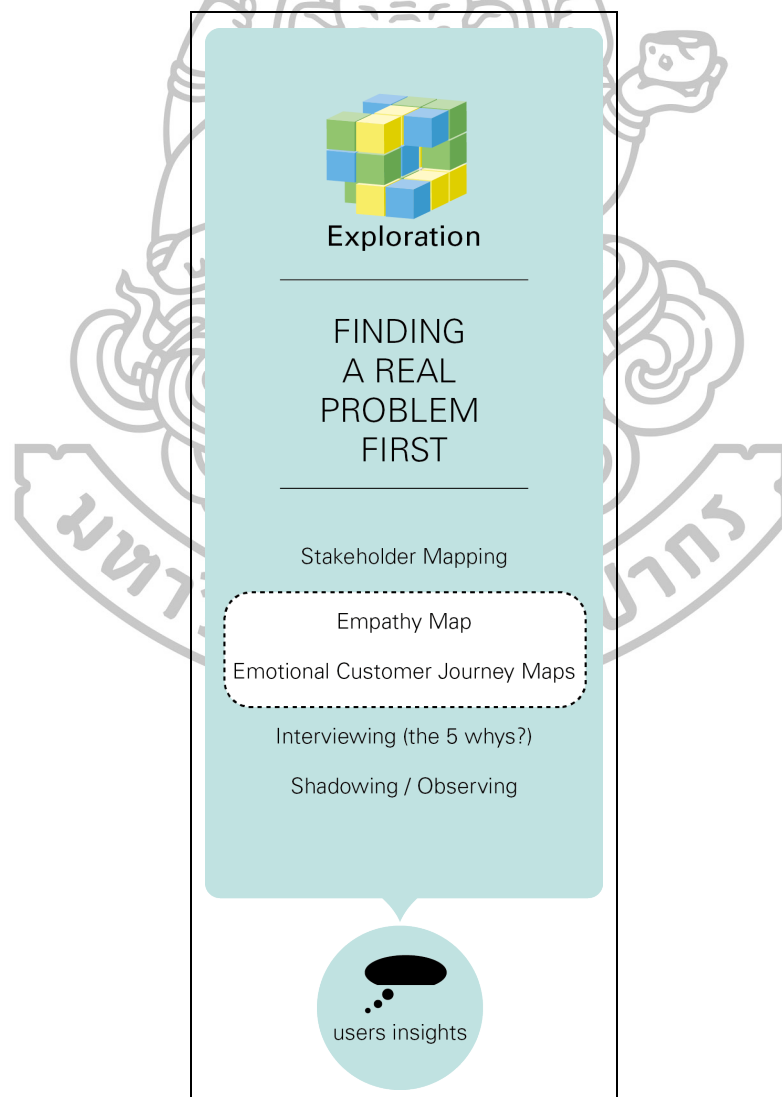


Figure 85 Exploration Phase

The obtained result is the actual needs or user insights including in the dimension of learning space usage experience, vision of problems, depth demand, or even the participants' attitudes.

Also used a many of acting exercise which are; who are the stakeholders? Does it address the considerations? What's going on in the front & back of service? What are the touch points? What is magical? And how does it deal with failure?

As the purpose of the exploration phase is to engage with service ideas in new way and Identify further ideas and discover potential limitations by used Empathy Map and Customer Journey Map as a research tools for the purpose to open mind, open your body form the participants.

5.2 Service Design Process Phase 2nd: Creation

From the process of the first step of exploration, the researcher and the participants saw an overall image of the real needs of themselves and their friends; in addition, the researcher understands the form of thinking process that the participants want to express in more concrete. After the understanding of the real needs in every aspect, the next step is the process of brainstorming in order to obtain new concepts and innovations for the service. The second process of this research is called creation; it is the step of building service concepts, meaning to apply the obtained data from the first process of exploration in order to design service concepts.



Figure 86 Co-creation with other participants

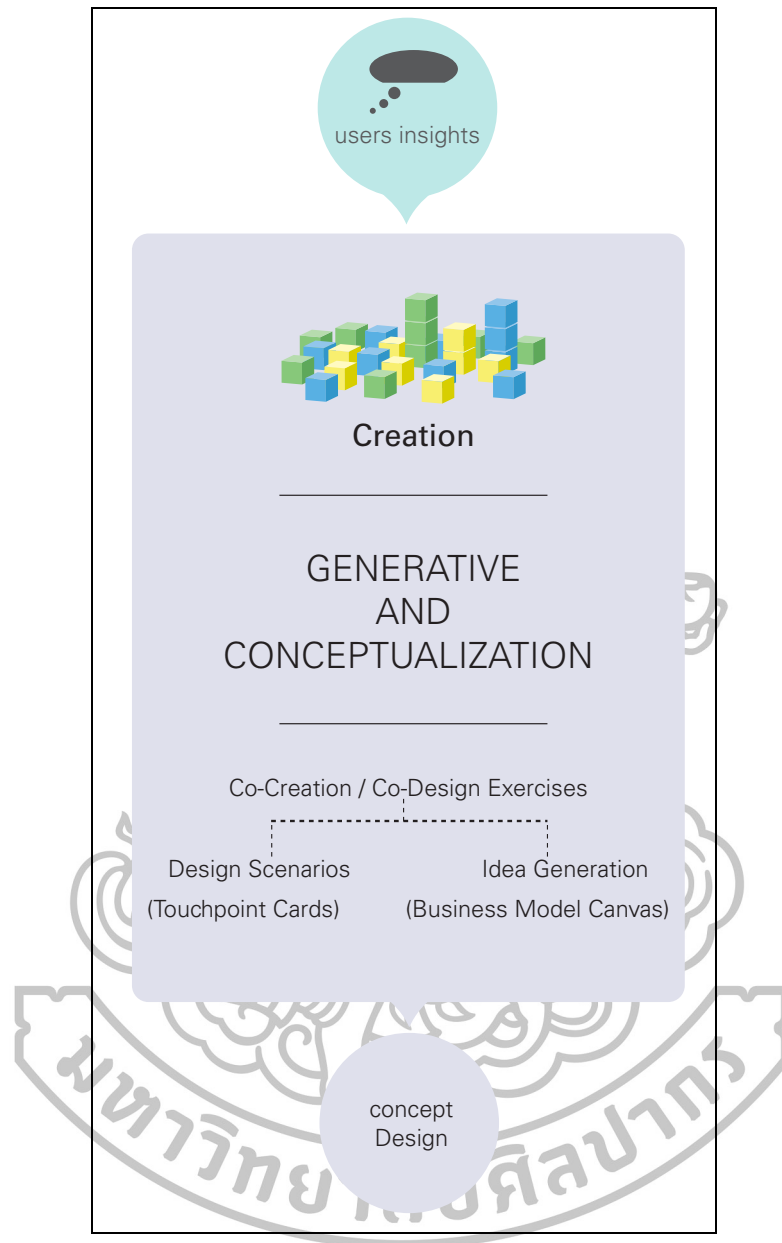


Figure 87 The Creation step

The purpose of using this tool is that the service designer wanted the atmosphere that accommodates brainstorming session in order to gather concepts that emphasizes the quantity as the main issue. Thus, it is necessary to create the atmosphere that offers everyone to be able to express their opinions without limitations. The advantage of this tool is that it provides fresh and new concepts without limitations and full of creative ideas.



Figure 88 Idea sharing with other moderator

In addition, the brainstorming using the Touch-point Cards scenarios does not emphasize practical steps, but allows participants to think freely and response to the concentrated question. This process will focus on the core stakeholders in participating in the design, in order to help create changes and improvement of new service experiences, which is called Co-Creation.



Figure 89 Touchpoint Card Tools co-creation with other participants

The tools that will be used in this process are the same for both sample groups, but the sample groups will be divided into six small groups; the group of the library officers will be divided into two small groups and the group of students will be divided into four small groups according to faculties. There are two set of tools;

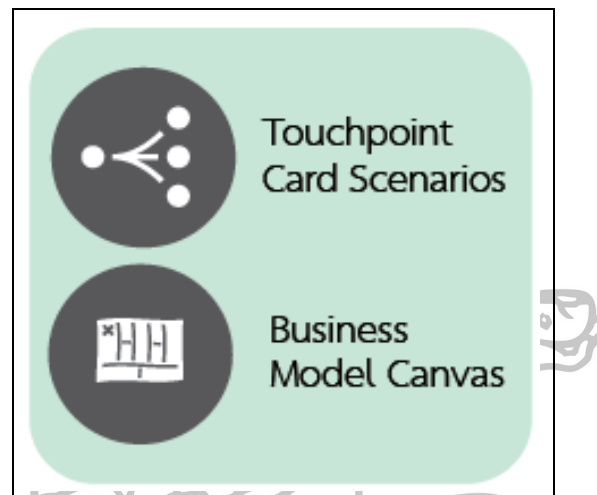


Figure 90 Creation tools

The first set of tool is Touch-point Cards; the result of this research will be Design Scenario or the model of thinking that shows all the pictures of the system of the idealistic arts and design learning space service, which contains details as follows; things that the participants need such as service, place, space, facilities, technology, and innovation, etc. and another element that will obtain from using this tool is the picture of touch-points that should have at the arts and design learning space and it will point out the model of creative ideas expression from brainstorming, especially in the manner of space management and needs as the main point.



Figure 91 Touch-point Card

The second set of tool is the Business Model Canvas, the result of this research will be Idea Generation, or brainstorming participation. The researcher will obtain various concepts depending on the context of the participants in each small group. These concepts will be guidelines that the researcher will use to improve arts and design learning space service as well as for further research

Tools used in creation step id use a combination theory between participatory design and user-centered design and connecting to the science of product, environment, experience and interaction (Marc Stickdorn, 2012). There are two types of tools

6. Co-Creation Workshop Tools, Finding and Discussions

The Co-Creation Workshop contained two phase of Service Design Process; 1) Exploration Phase and 2) Creation Phase by used 4 type of Service Design tools.

6.1 Empathy Map

Using emotional design research methodology. Researcher exposed people to real consumer needs and deliver key insight about consumer's drivers and aspirations.

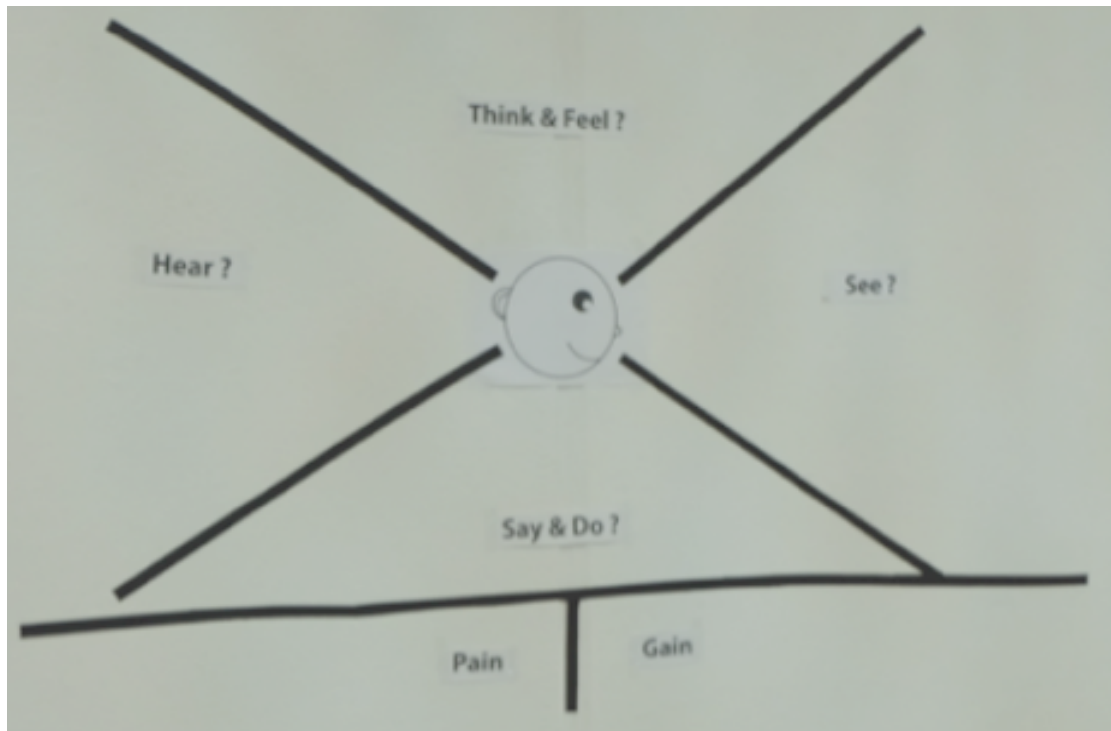


Figure 92 The big chart of empathy map for the participants to place post-it note

Making empathy map will help the researcher to understand the targeted groups rapidly in every aspect (Osterwalder & Pigneur, 2013) Connecting with true customer needs and desires becomes the driving force for culture change. Moreover, empathy map is important because it leads to the development of correct and suitable concept for those targeted group, which is considered as the first step of the development of new concepts and innovations.



Figure 93 Main board to stick the post-it for Empathy Map activity



Figure 94 The Brainstorming of Service Provider in Empathy Map Activity



Figure 95 The overall participations insights from Empathy Map Activity

The map of understanding, which will be used with the learning space service provider group, is the application using the concept of putting yourself in someone else's shoes or to try to understand the others as much as possible. The structure of empathy map can be divided into six parts as follows;

1. See or things that can be seen. This part of research will let the participants to think back to what they have seen in the environment of the space that used in order to see who were they with? What events they saw? What was the environment? and who was the important person in that environment?

2. Hear or things that can be heard. What did the participants here during the activity? What are things that influence participant? such as, what did their friend say? Which participants have influence on others? Which media have influence on participants and explain things that the users have heard?

3. Think and feel. Let the participants tell what they think and how they feel? What is the important thing for them and what affects their emotions? as well as let the participants think what is their dreams and inspirations or even their anxiety

4. Say and do. Let the participants think of what they have said or done in public? What are the current attitudes of participants? and what are stories that the participants told others.

5. Pain -What are problems or obstacles currently? What are things that make the participants confused? What are things that obstruct their needs? and what risks are they afraid of?

6. Gain -What are things that the participants obtain from the activity? What they need or what do they want to succeed? How can they measure such success, and what are strategies to reach such target?

The researcher prepared big chart, post-it notes and pens so that the participants can use in the activity. The post-it notes were divided by colors in order to avoid confusion.

The Finding and Discussion of Empathy Map

The participants wrote their opinions from their experiences, attitudes and point of views on papers and put them on the board as shown in figure 5, it can be seen that the opinion was expressed in 178 issues.

To be able to understand and analyze the research results clearer, the researcher has divided the data into six groups; 1) User refers to data concerning the main library space and service users 2) Service Provider refers to data of the main library officers and the service 3) Facilities refer to data about resources facilities and information technologies 4) Space refers to data concerning service space 5) Service refers to data about the main library service and 7) Others refer to data concerning other issues that are not relevant to leaning space but occurred during the service such as general conversation between coworkers as soon.

After analyzed the obtained data and group it according to frequency of activities, the researcher noticed the real needs of participants clearer.



Figure 96 Empathy map information from workshop

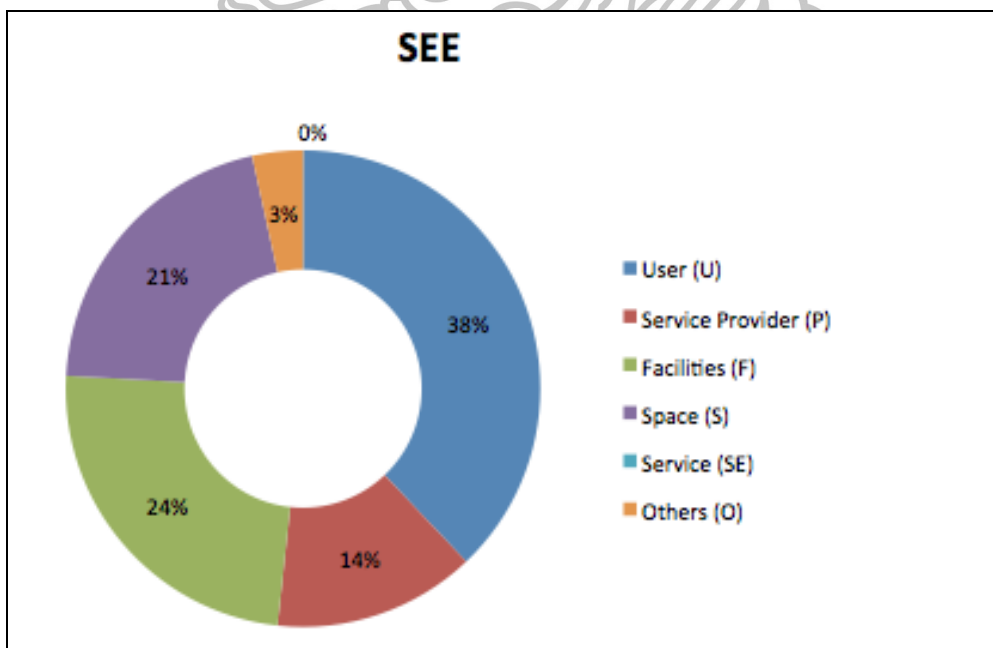


Figure 97 Show the ratio of things that the participants saw during the service of learning space

In the service space of Wang Tha Phra main library, large amount of students (users) use the service from the library, can be seen from Chart 1, which 38% of the participants informed that during the service, they saw different behaviors of users. Most of the students brought their laptops to use in the library and used the electricity from the library. Furthermore, most of the students did not use the computers that the library has prepared and most of the users spent their time in the library all day as well as used other resources such as books and magazines.

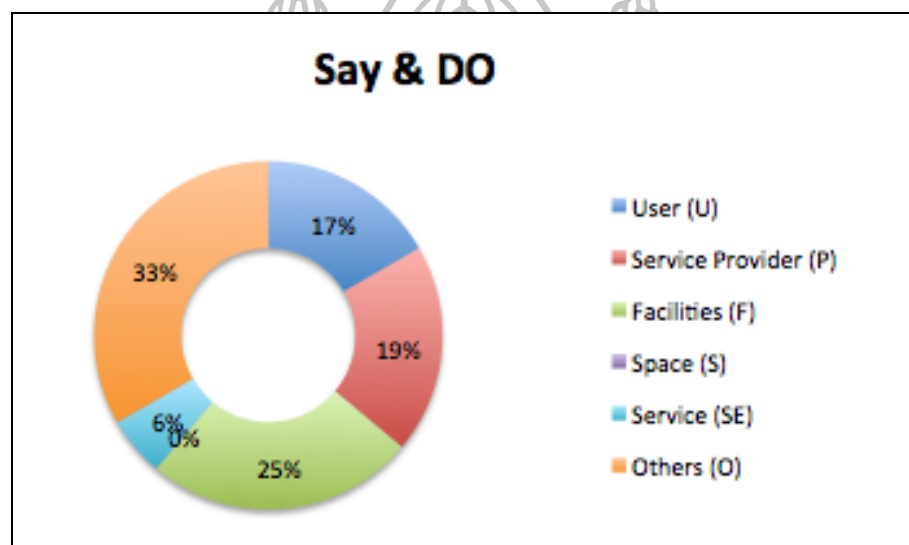


Figure 98 Show the ratio of what the participants said and did during the service of learning space

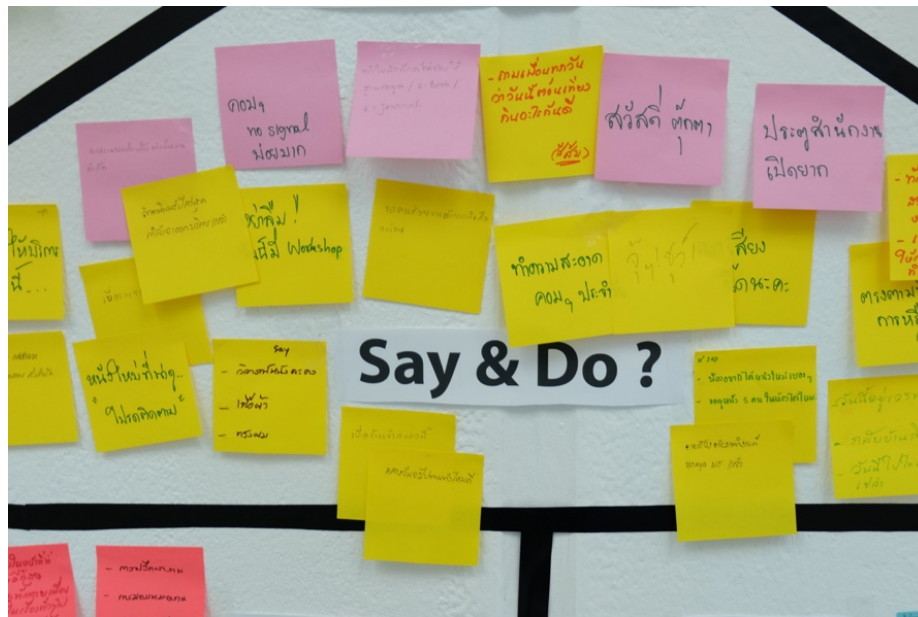


Figure 99 Empathy map information from workshop

Say & Do are what the participants have said and done often in each day. These data revealed that they are not about the service but other work or daily conversation. In addition, it was also about the service provider, referring to coworkers, and the percentages of these two issues are 33% and 19% respectively. This points out that the communication between the service provider and the users are in the low efficiency of the communication that occurred only whenever there were special events or when help is needed.

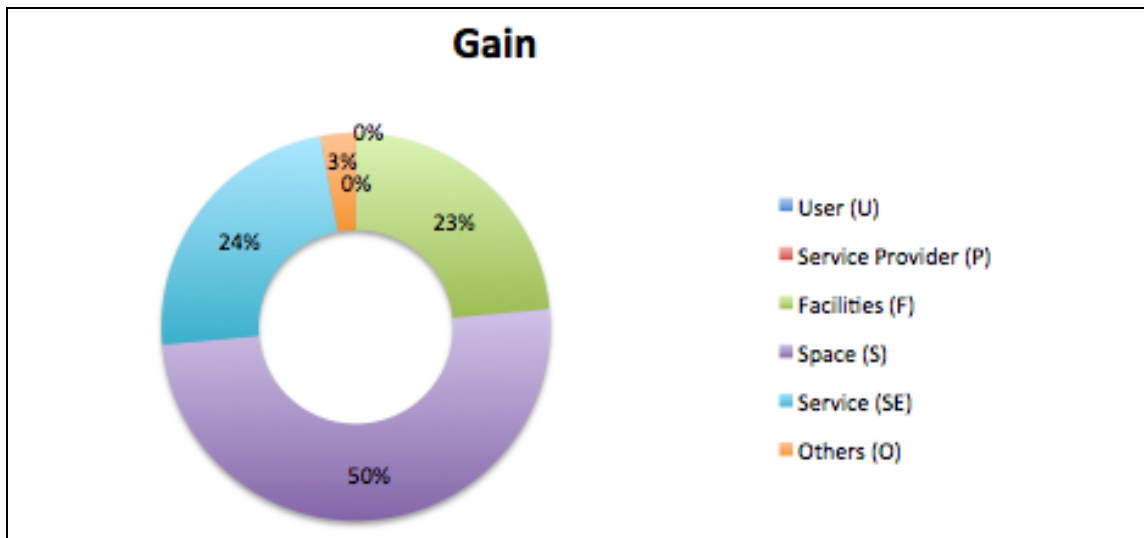


Figure 100 Show the ratio of what participants said and did during the service of learning space

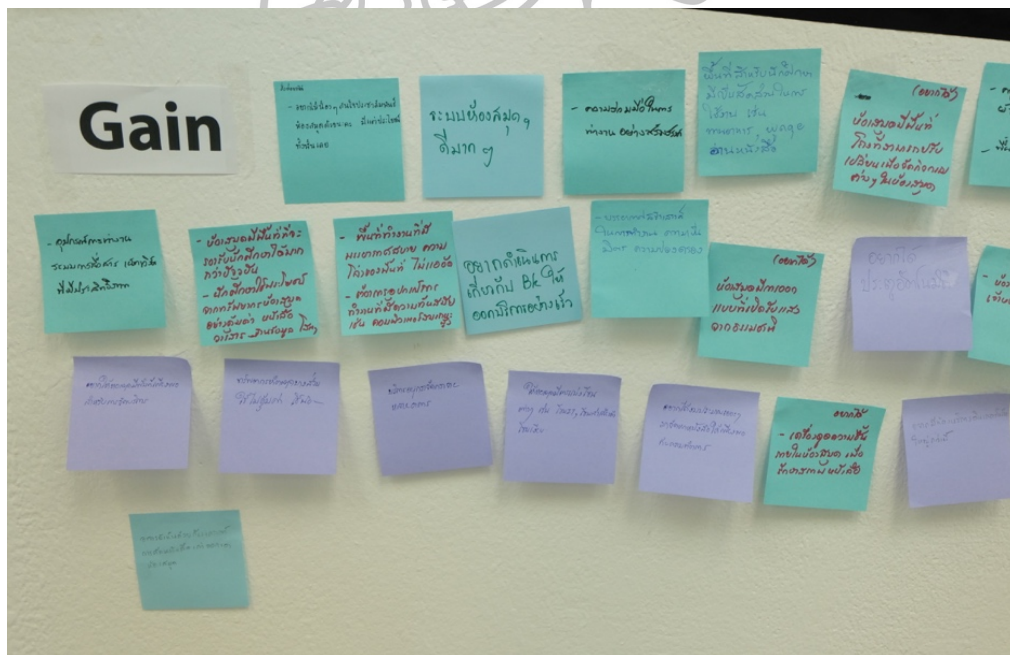


Figure 101 Empathy map information from workshop

Gain refers to issues that the participants think that there should be some development. It can be seen that the issue about service users or coworkers were not discussed at all. On the contrary, the need to develop service space is at 50

%, followed by the need of facilities and service development at 23.5 %. The need of development included having enough space to service in the library, study rooms for students, separate zones such as IT, loud zone, and quiet zone, more space to service students, more budgets to purchase more books.

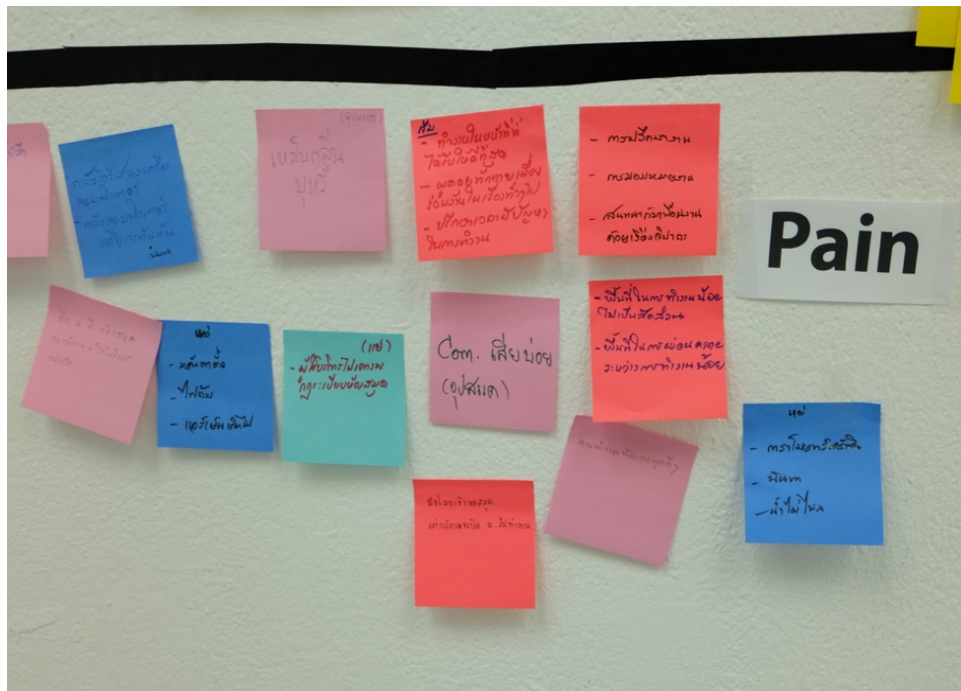


Figure 102 The data that the participants put on the chart of empathy map

Pain refers to the aspect of things that are concerned as problems and they obstructed the service or work, leading to unhappiness or inconvenience. The result found indicates that it is about facilities that are old and need maintenance, such as water stops running, burglar and the cameras did not work, broken computers, leaking roof, power cut, air conditioners are set on too low temperature, etc.

However, there are some interesting opinions such as the issue of having less people work in the library, which this might be the reason that there is more work to do and less people working, therefore it resulted in less communication between the service provider and service users. Moreover, it also included the issue concerning the service users do not follow the library rules, which can analyze the data obtained from the Gain that there is limited space for high demand of users, so the learning space is crowded and the service provider is not able to fully take care of the users.



Figure 103 The data that the participants put on the chart of empathy map

“Hear” refers to general issues such as complaining about too much work, giving courage to work, and problems about work as seen in figure 103. Furthermore, things that are heard often is about facilities such as students asked where can they make a photo copy, or asked about books.

Emotional customer journey maps is the tool that the service designer used as a medium to convey participants' experiences (journey map) toward arts and design learning space in the context of Silpakorn University.

This tool will allow the researcher to see the experience of learning space usage and the learning models of the participants, including before, during and after the learning process, which will be presented in the form of a chart.

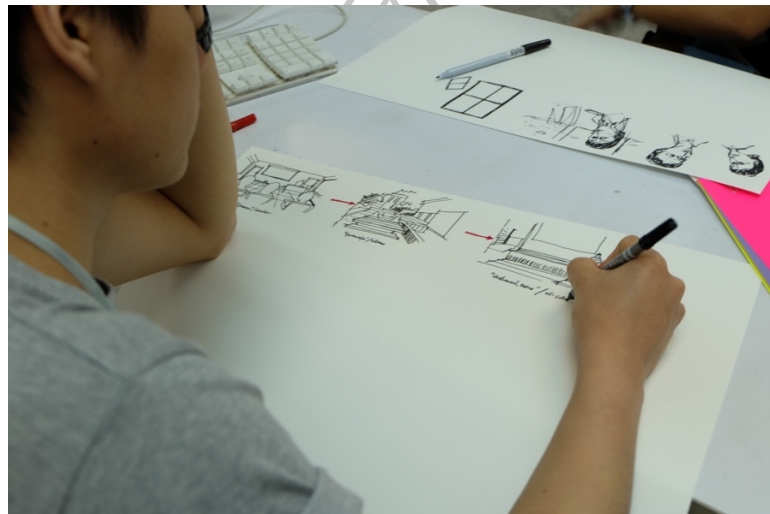


Figure 105 Equipment used in the building of emotional customer journey map



Figure 106 Equipment used in the building of emotional customer journey map

The researcher specified the main issue for building the emotional customer journey map. Purpose of this process was to let the participants tell their experiences of doing a project, starting from receiving brief until finishing project as well as indicating emotion of each touch point. The researcher prepared A3 sized paper, stationeries and emotional stickers for the participants. The emotional stickers were divided into three colors, yellow means happiness, pink means unhappiness or stress, and purple means confusion or curiosity.

The Finding and Discussion of Empathy Map

The participants drew the experience chart from their learning experiences as well as indicated their emotions for each touch point. In addition, the participants drew the chart of emotional customer journey maps and put emotional stickers for 20 charts total. There are three colors of emotional stickers in the charts, including yellow refers to happiness, pink refers to unhappiness or stress, and purple refers to confusion and curiosity. The example of emotional customer journey maps is shown in figure 107



Figure 107 The example of Emotional Customer Journey Maps drawn by the participants.

From 20 charts of the emotional customer maps, the researcher concluded to one chart, which is the Learning Journey Experience Map (as shown in figure 107), and divided the learning process into 3 periods, which are: Pre-Learning, Learning, and Post-Learning, in which each period has different learning activities. For the pre-learning process, it is the period that the students will receive the brief from teachers, after that, it is the process of leaning which there are research and implementation activities. These two activities can be done on a reverse. Next, it is the final process which is the post-learning; the activity used in this period is called deliverable, which students present their or submit knowledge to teachers.

The researcher divided all obtained data into six interesting issues as shown in figure 108 and figure 109.

Touch-point, in this research refers to the touch points that the participants have experienced, including things that they used, saw, found, acknowledged and communicated during the learning process and the learning space usage both directly and indirectly. Regarding touch points, the researcher separated by types to make it easy to understand, as well as used symbols to refer to touch points and divided by colors according to activities occurred.

Emotional Experience, is the period of emotions and feelings of the participants during the learning process and the learning space such as, what are things that make the participants feel relaxed or what are things that make the participants confused and feel stressed.

Place is the area or space that is connected to the learning process, which will tell what kind of place that the learners use for learning which covers not only within the university but also other space that the students used. Action is the activity and a form of actions happened during the learning process and the learning space. Thinking refers to opinions or attitudes of the researcher toward the learning process and space. Feeling refers to the participant emotion that expressed by drawing the charts.

The results from 20 charts of the emotional customer journey maps from students of four faculties can be concluded and analyzed as follows.

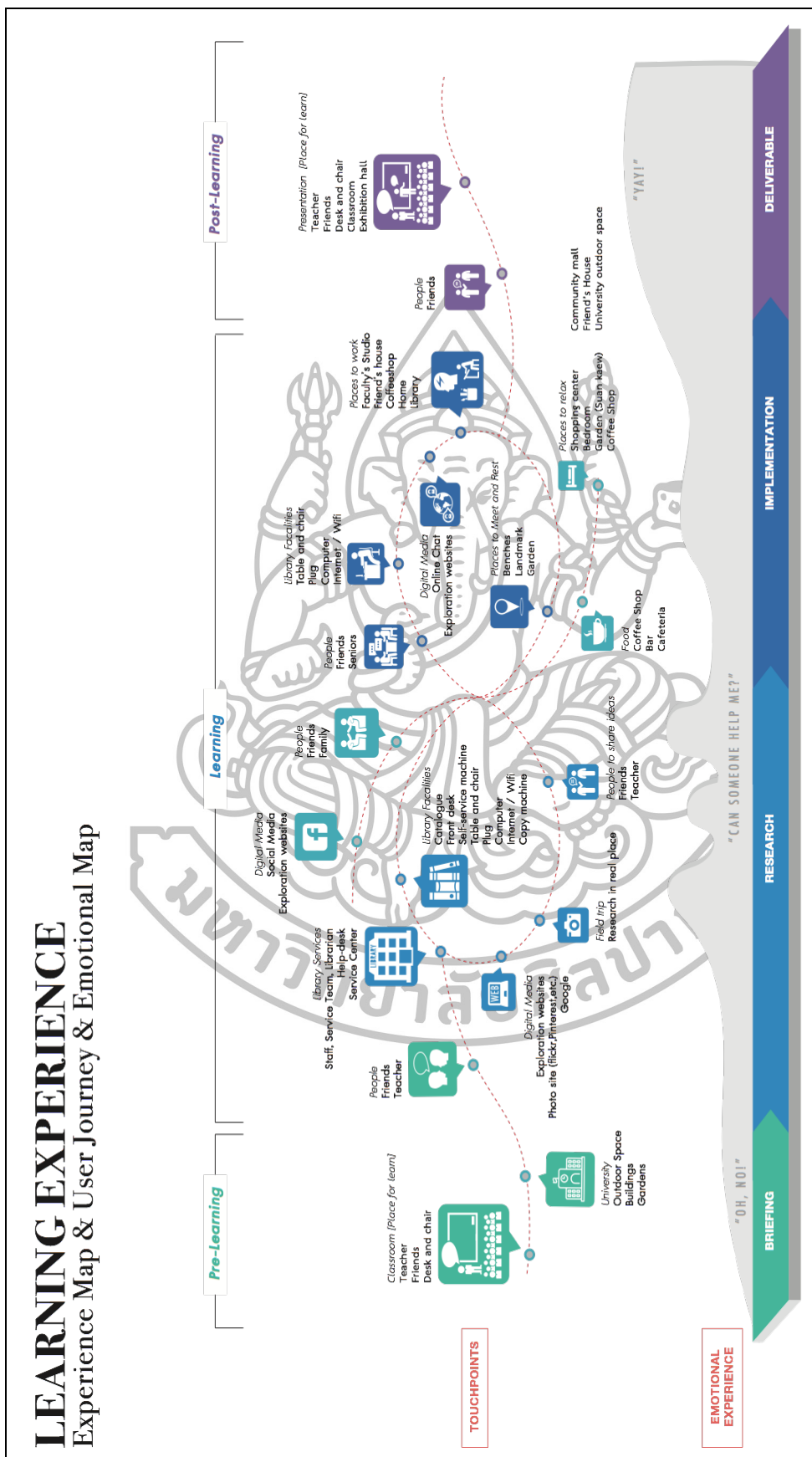


Figure 108 Learning Journey Experience Map form 20 students: Top Part



Figure 109 Learning Journey Experience Map form 20 students: Bottom Part

Start from the pre-learning, students will listen to the brief or questions from teachers which most of these take place in classrooms, after that, students were divided into groups in order to work with their friends and this usually takes place outside classrooms, classrooms, and gardens. Emotional condition occurred in students during this period revealed that learners felt stressed with their work, need someone to suggest, and most of them were not ready to work. Moreover, they were worried to do research and were not sure where to start, resulting in the need of guidelines for work more. However, before moving to the learning period, most of the students preferred to consult their classmates about the directions of work and search rather than asking teachers. In addition, some of the participants mentioned that they have not started working yet during this period because they claimed that they did not feel familiar with it yet as it is the beginning of work, so they spent most of their time during this period to brainstorm and relax with friends.

When entering to the learning process, the first step the students will do is to do research, the areas the learners use for research are various and different depending on what they are studying about, such as the group of students from the Faculty of Archeology and the Faculty of Painting Sculpture and Graphic Arts will use the space in the main library to do research, which might be because of the teaching and learning form that emphasizes on research from history books.

On the contrary, students from the Faculty of Decorative Arts and the Faculty of Architecture always need the most updated information, therefore they spend their time try to find inspirations at home and use internet or social media. Moreover, they also try to find inspirations at other places such as shopping mall or talk to friends

Although the models of space usage for the beginning of learning of both groups are quite different, there are two things similar which are; to be able to talk and work with friends at the same space during the learning stage will make students feel relaxed, and due to relaxation, students have fun with learning. As most of the students focus on friends regarding the aspect of work and interaction, therefore, students have demand and attitudes concerning learning and space in the period of learning, such as creative ideas are more important than space, talking to nice people

leads to the occurrence of creative ideas and inspirations, space management for new things are necessary because it supports the explosion of imagination, etc.

Apart from the students focusing on space as a main issue, resources and technology are also important that will support the learning process. Even though internet or social media plays an important role these days, but from the learners' point of view, social media does not cover all they needs, thus, books are still the most important factor that students need and use for research. Furthermore, the students from the Faculty of Archeology and the Faculty of Decorative Arts provided a reason that, books are more reliable than information obtained from the internet and once you know what you want to research, you can find such information faster than the internet.

After research, students will move to the process of implementation. During this process, most of the students choose to work with friends at the same place because they believe that even though work can cause stress, but being with friends they will feel more relaxed. Most of the students from the Faculty of Decorative Arts will gather to work at some of their friends' houses as there is not enough space at the faculty.

For the students of the Faculty of Architecture, the main space they are using is the studio at the faculty as there are varieties of equipment and it is convenient. And students from the Faculty of Archeology and the Faculty of Painting Sculpture and Graphic Arts, they still use the space at the main library with their friends, even though their work is not a group work. Most of these students bring their own laptops and plug in to the main library's power. However, there is a problem that sometimes there were not enough power sockets.

Although some of the students choose to use the space at the main library, the students of the Faculty of Architecture agreed that the library's space is not appropriate for the creation of work because it is noisy, but a coffee shop is a better place for inspiration and concentration because it provides the feeling of relaxation and good atmosphere.

During the process of work creation or implementation, the issue that all students experienced is the stress from work such as sometimes they were

confused or could not work very well, and what they needed for the stress is to relax. Most of the students share the common way of relaxation which is using the relax space around the university such as gardens, seats in front of classrooms, restaurants, or coffee shops.


The last process after the learning process is the post learning, it is about the presentation of work to teachers in order to get suggestions. Most of the space that is being used in this process is classroom, exhibition hall or studio, which each of students might feel relieved or worried if their work will be approved or not.

6.3 Experience Touch-point Cards

This research segment applied this tool in both groups, which during this workshop, the participants were divided into six small groups; the group of the library officers will be divided into two small groups and the group of students will be divided into four small groups according to faculties. The researcher prepared equipment including drawing board Touch-point Cards that are already separated by types, which are space and service, technology and innovation, facilities, and empty cards so that the participants will be able to add more information or imagination without any limitation.



GET INSPIRATION



**Touchpoint
Card Scenarios**

PURPOSE
Visualize the service procedures and process

TOOLS
Touchpoint cards, stickers, butcher paper

ACTING EXERCISE
Identify front stage and back stage actions that impact customer of your service.

Figure 110 Touch-point Cards Objective

The researcher has set the question for the participants; to design learning space that they need freely using the Touch-point Cards and place them on the drawing board or they can design their own Touch-point. The purpose of using this tool is that the researcher wanted the atmosphere of brainstorming in order to gather concepts that emphasizes the quantity as the main issue. Thus, it is necessary to create the atmosphere that offers everyone to be able to express their opinions without limitations. The advantage of this tool is that it provides fresh and new concepts without limitations and full of creative ideas. In addition, the brainstorming using the Touch-point Cards does not emphasize practical steps, but allows participants to think freely and response to the set question.

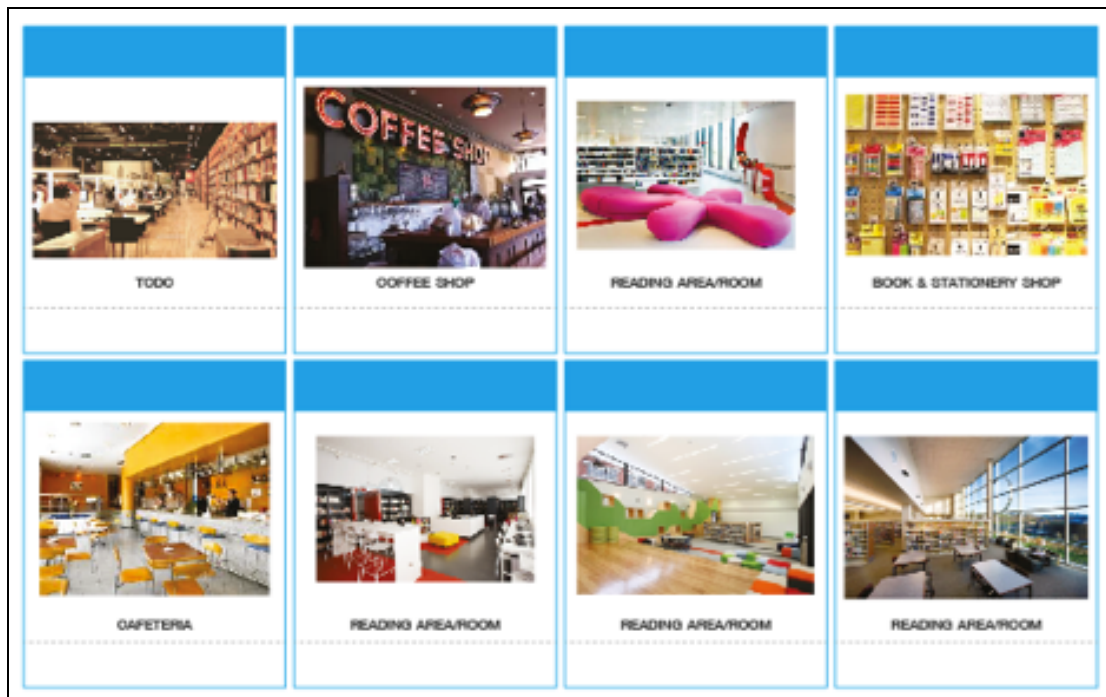


Figure 111 Example of the Touchpoint Cards of Space and Service

The researcher has set the question for the participants; to design learning space that they need freely using the Touch-point Cards and place them on the drawing board or they can design their own Touch-point. The purpose of using this tool is that the researcher wanted the atmosphere of brainstorming in order to gather concepts that emphasize the quantity as the main issue. Thus, it is necessary to create the atmosphere that offers everyone to be able to express their opinions without limitations. The advantage of this tool is that it provides fresh and new concepts without limitations and full of creative ideas. In addition, the brainstorming using the Touch-point Cards does not emphasize practical steps, but allows participants to think freely and response to the intended inquiry.

The Finding and Discussion of Empathy Map

The advantage of this tool is that it provides fresh and new concepts without limitations and full of creative ideas. In addition, the brainstorming using the Touch-point Cards does not emphasize practical steps, but allows participants to think freely and response to the set question.

The participants were divided into six groups including from 4 arts and arts and design faculties and 2 groups of library officers. These six groups designed and positioned learning space for Silpakorn University, Wang Tha Phra campus using the Touchpoint Cards that the researcher has prepared.



Figure 112 Experience Touchpoint Cards of the Faculty of Painting Sculpture and Graphic Arts students

The participants were divided into six groups including students from the Faculty of Archaeology, the Faculty of Decorative Arts, the Faculty of Painting Sculpture and Graphic Arts, the Faculty of Architecture, the library officers 1 (the main library officers) and the library officers 2 (Information technology library officers). These six groups designed and positioned learning space for Silpakorn University, Wang Tha Phra campus using the Touch-point Cards that the researcher has prepared as shown figure 111.

This tool focuses on providing a chance for creative ideas and imagination, as well as a chance to express the real needs of the participants without any limitations. The result of this research indicated which space or service is needed and the priority of that space from the arrangement of Touch-point Cards in each position. In addition, during the period of working as a small group, there was the conversation between the participants during their brainstorming, so the researcher was able to collect data in a manner of shadowing and observing as well. After the participants finished the design, the researcher collected more data from interviews in order to understand those models, concepts and positions of the Touch-point cards.



Figure 113 Experience Touch-point Cards of the Faculty of Decorative Arts students

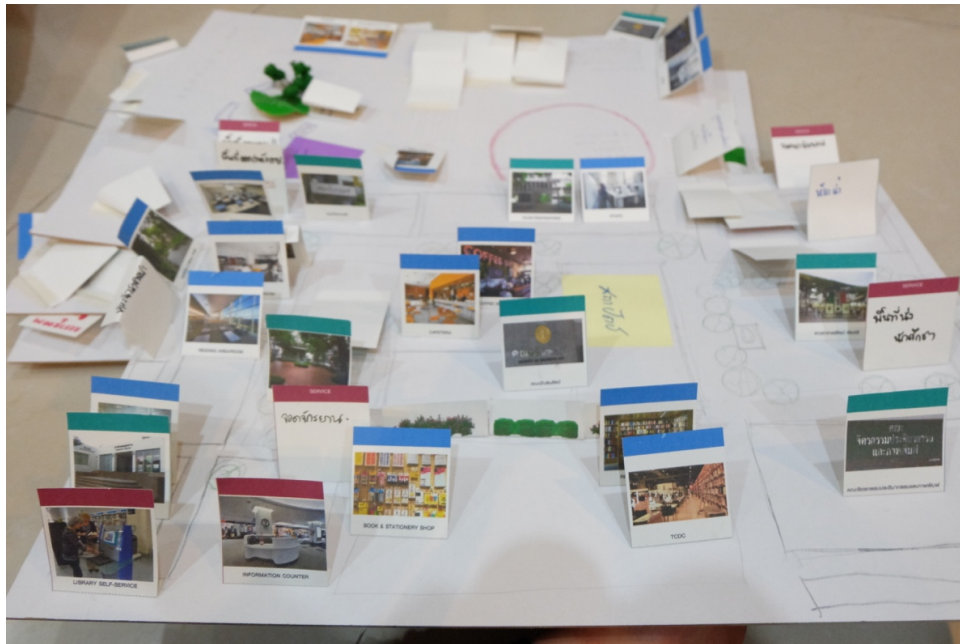



Figure 114 Experience Touch-point Cards the Faculty of Architecture students

6.4 Business Model Canvas

This researcher applied this tool in both groups, which during this workshop, the participants were divided into six small groups; the group of the library officers will be divided into two small groups and the group of students will be divided into four small groups according to faculties. Same as using the Touch-point Cards, the equipment provided in this step are the Business Model Canvas chart, size A2, post it notes, and stationeries.

IDEAS GENERATIONS



**Business
Model Canvas**

PURPOSE

Consider the strategic business components that will help to define the business case for your service.

TOOLS

Butcher paper, Stickies and makers

ACTING EXERCISE

Draw the 9 panels of the business canvas and fill each stickies describing the elements that belong in that panel

Figure 115 Business Model Canvas Objective

The purpose of using the Business Model Canvas is that the researcher wanted to have a free brainstorming but with clearer scope in the comparison with the Touch-point Cards, which focusing to see various ideas from the core stakeholders of learning space in the context of different space usage according to the divided groups. These obtained concepts will be guidelines that the researcher will develop to be “The concepts of creative learning space service” in order to make it relevant to organizations’ target systematically.

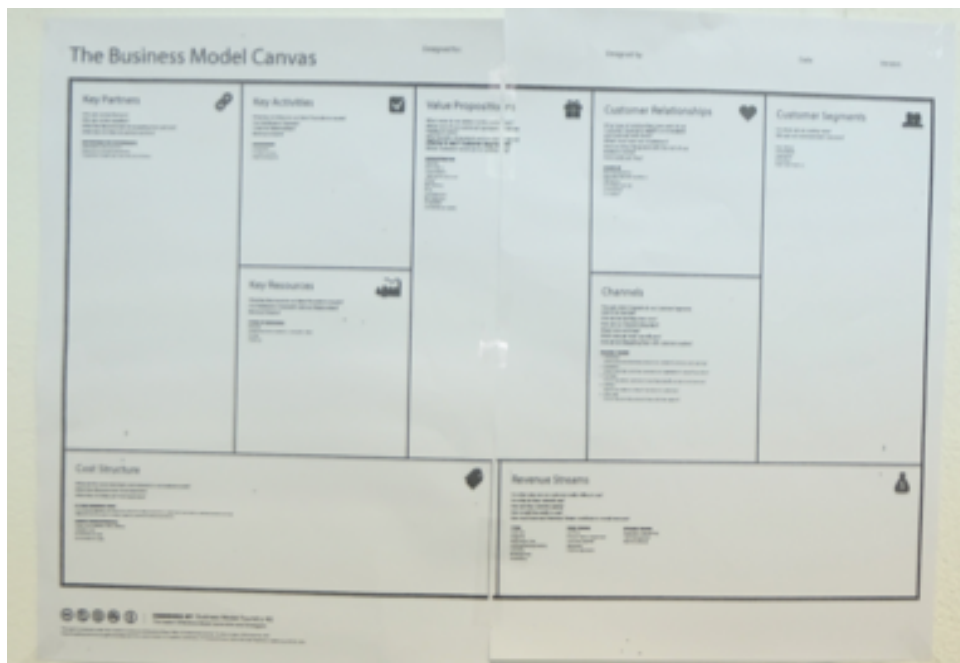


Figure 116 The Business Model Canvas chart prepared by the researcher



Figure 117 Co-creation with other participants: Business Model Canvas

The Business Model Canvas is not only just a framework but a tool that helps the researcher to be able to collect details from the participants in every aspect. It is a tool that helps the researcher to explain the characteristics of business in an overall image without missing any points. So, the researcher will be able to apply the obtained data and consider it more carefully. In addition, after the acknowledgment of concepts and guidelines, the researcher will be able to start design or improve the research for the better work.

During the workshop, the researcher has set the question for the participants, which is to suggest strategies that can be used to develop arts and design creative learning space for Silpakorn University, Wang Tha Phra campus. The participants are free specified target groups and any models under the framework of Business Model Canvas, which can be divided into nine aspects as follows;

1. Value Propositions The first important thing that the researcher needs to know by asking the participants to indicate what is “value” of the learning space that they want to present, which is the most important element in building the Business Model Canvas because obtained values can be applied as strength for the learning space as well as create differences.

2. Customer Segments The participants have to indicate the target groups by telling values proposition or the defined value will be sent to which person, which they have to define clearly that who will use that learning space, gender, age, occupation, address, and living style. Moreover, the participants have to decide whether they will send the value to only one target group or more, and how similar or various of such target groups as well as how are they related, in order to send the most appropriate “value” and “learning space model” to them.

3. Channels After knowing the target group, the participants will be asked to choose the most appropriate media for the target group, such as internet, Facebook, newspapers, etc., which these communication channels are the connection between the service provider and users starting from the first process to the final process of the business by aiming to have the users choose to use the service in the future more.

4. Customer Relationships Refer to relationships between the service provider or the learning space provider and the users; if the learning space users feel satisfied with the model, then it leads to the word of mouth and the increase of users.

5. Revenue Streams Refer to the designation of channels and models of making income, regarding the question of this workshop, the income might not be the main one but a chance to make more income, which that income can be applied in order to develop activities within the learning space.

6. Key Resources Refer to factors and resources that are important to manage learning space, in which this case does not mean only materials but also budget, land, human resources, intellectual property, machines, etc. as well as abstract resources such as brand value, which is untouchable property but has the most value. Especially the question of the workshop that has to be done under the context of Silpakorn University, which there are various key resources that can be applied in order to create benefits for the learning space service.

7. Key Activities Refer to the main activities that push forward ideas and models of service for art learning space. The participants will propose ideas for activities that will help to create value to the space, therefore, those activities might be necessary for the learning space in the future and move forward to the occurrence of truly art learning space.

8. Key Partners Refer to groups of people who play an important role regarding the concept and model of learning space, which could also mean the shareholders or affiliate network that will help to create learning space effectively.

9. Cost Structure Refers to the designation of cost and expense structure of the service operation. The condition of the cost in the workshop might also refer to the cost of activities or the cost that creates values to the service such as: marketing communication and design, etc.

The researcher would apply the information received from this study to the research in the next step of creative learning space in arts and design which is Reflection & Implementation, developing the concept to become the knowledge and tools in order to analyze the design of creative learning space in arts and design

The Finding and Discussion of Empathy Map

Business Model Canvas is a tool that helps planning and provides overall image, able to help design strategy, strategic points and select service models effectively and appropriate to the business. This workshop selected to use the Business Model Canvas in order to find ideas and brainstorm from the core stakeholders. The Business Model Canvas has divided the planning structure and set strategies into 9 boxes, which each box is related to each other and helps the designation of strategies and plans of the service can be seen clearly. There are six groups as follows;

Group A: Students from the Faculty of Archaeology

Group B: Students from the Faculty of Decorative Arts

Group C: Students from the Faculty of Painting Sculpture and Graphic Arts

Group D: Students from the Faculty of Architecture

Group E: The main library officers

Group F: Information technology resources officers of the main library

The research result can be concluded as follows;

1. Group A: Students from the Faculty of Archaeology

According to the information, group A named their group “Happy Land” or the land of happiness. The students from the Faculty of Archaeology think that in order to build creative art learning space successfully, key partners that will help contribute to the success should be groups of students and student club because any activities that can move forward by students as a main group.



Figure 118 Photo of Business Model Canvas of Group A: Students from the Faculty of Archaeology

Table 1 Business Model Canvas Result of Group A: Students from the Faculty of Archaeology

Value Proposition	Happy Land, land of happiness of creative learning
Client Segment	Students
Key Partners	Groups of students, student club
Key Resources	Human resources, land
Key Activities	Students street market: second hand stuff, art products, handmade products Camp fire: exchange ideas between faculties News radio: education news, revelation, answer letters Fair: Fairs to show students' products using the area in the university.

Table 1 Business Model Canvas Result of Group A: Students from the Faculty of Archaeology (continue)

Channels	Social Media, Poster, University website
Customer Relations	Create Official Page on Facebook so that students can ask questions, complain or send information.
Revenue Streams	Students' happiness, sell food and drink, rent payment
Cost Structure	Scholarship, payment for water, electricity, signs and decoration.

The happy land group thinks that learning management is in a form of specification or it is called niche market. They believe that learning and creative ideas are from emotion, if we are happy then creative ideas will occur. Regarding the learning space in the Happy Land style, they focus on the user needs and happiness of learning to see what students want, or how do they want the space. After that, make a change or improvement according to the user's needs. This group thinks that creative learning space for arts and design should include soul and identity of a person or the university and the students' happiness are from doing various activities.

2. Group B: Students from the Faculty of Decorative Arts

Group B named their group as "Relax", target groups are Students from the Faculty of Decorative Arts and teachers and use the space in Silpakorn University, Wang Tha Phra campus. They think that learning space management is in the form of specification or Nich Market same as the Happy Land group. However, the Relax group focuses on the concept of relax; they believe that if the students do not clear their mind, they will not fully open for learning, therefore, students should relax because relaxation will help to relax their brains and able to create creative work.

The group suggested the activity "Creative Relax Working Space (Public) by using the word 'Relax' on every space such as classrooms, teacher office,

or Suan kaew, everything must contain the concept of relax. This group was intend to create the activity in order to encourage students to pay attention in learning, using relaxed atmosphere such as classrooms with music, space to create art work, and art exhibition to inspire others.



Figure 119 Photo of Business Model Canvas of Group B: Students from the Faculty of Decorative Arts

Table 2 Business Model Canvas Result of Group B: Students from the Faculty of Decorative Arts

Value Proposition	Relax, relaxation area for creative learning
Client Segment	Students from the Faculty of Decorative Arts, Silpakorn University students especially the 3rd and 4th year, Silpakorn University teachers.

Table 2 Business Model Canvas Result of Group B: Students from the Faculty of Decorative Arts (continue)

Key Partners	Tom Tom coffee 24hr, Cheewajit magazine, TCDC, TK Park, DEC Hotel
Key Resources	Teachers, employees, Students from the Faculty of Decorative Arts
Key Activities	Creative Relax Working Space (Public) Organize it in order to create relaxed atmosphere, having music and arts for the users, working space that focus on relaxation, leading to corporation atmosphere.
Channels	Application, Website, Poster, Viral Marketing, Social Media
Customer Relations	Build customer base (the alumni, Suan kaew club), promote activities through Facebook
Revenue Streams	Dec Hotel, students' design work that can be used at the hotel, sell old items, and art auction
Cost Structure	Maintenance fee, payment for employees, utilities.

Regarding Key Partner, there will be spaces to rent out so that the outsiders can join and the income will be used as the budget to operate activities under the concept of 'relax' such as Tom Tom coffee shop which opens for 24 hours as most of the Decorative Arts students like to work at night time because they usually get creative ideas during that time.

For Cheewajit magazine, with the reason that once you work hard, you should take care of your health. Moreover, there will be fitness center so that students can relax and exercise. This group also suggested Dec hotel, which is the hotel that will be built using knowledge from 7 majors of the Faculty of Decorative Arts such as interior design and hotel product design, etc and the income from the hotel will be benefit for the faculty. Furthermore, there will be learning partner, TCDC

which will provide some help regarding materials. The Relax group believes that it is possible to feel stressed during learning, so, once you have stress you should relax, and that is the value that can deliver to the students under the concept of creative ideas come from emotion. If you are in a good mood, creative ideas will occur.

3. Group C: Students from the Faculty of Painting Sculpture and Graphic Arts

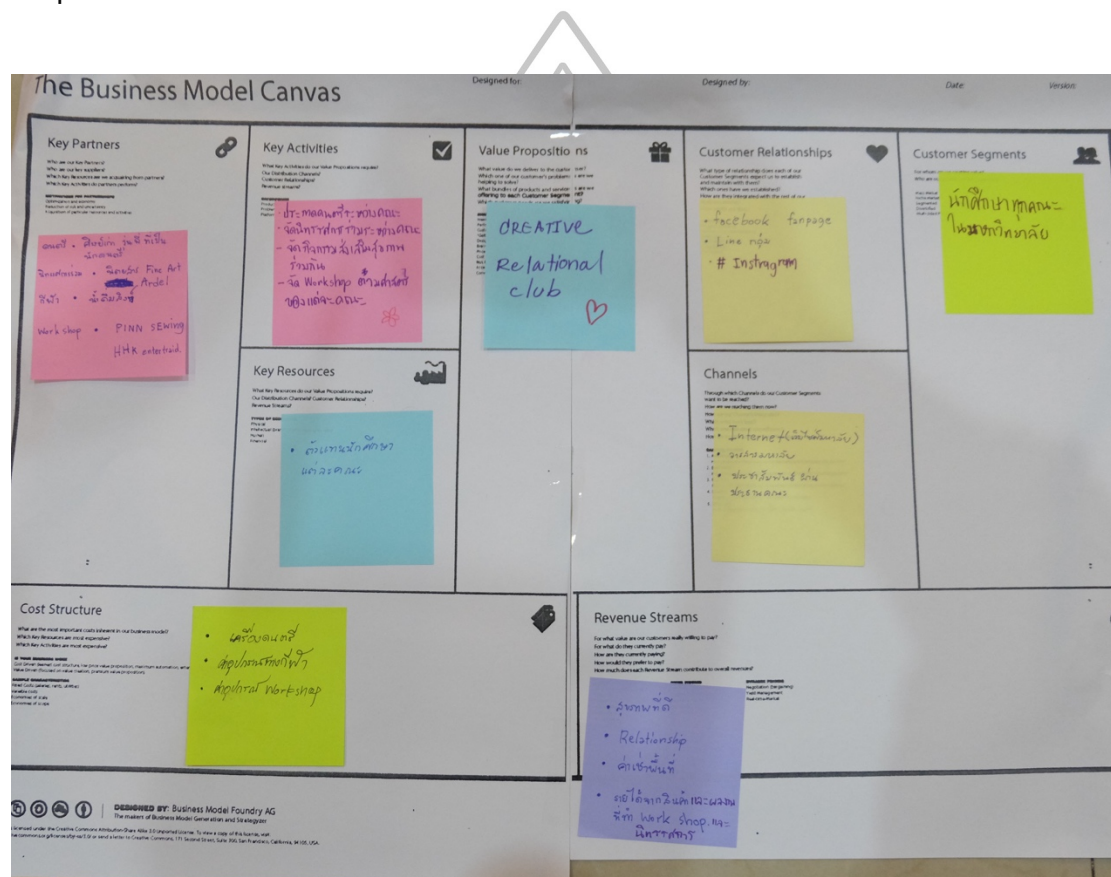


Figure 120 Photo of Business Model Canvas of Group C: Students from the Faculty of Painting Sculpture and Graphic Arts

Table 3 Business Model Canvas Result of Group C: Students from the Faculty of Painting Sculpture and Graphic Arts

Value Proposition	Creative Relational Club
Client Segment	Silpakorn University students
Key Partners	Music: The alumni who are musicians Co-exhibition: Art and Design Magazines Sport: Singha drinking water Workshop: Pin sewing
Key Resources	Representatives from each faculty
Key Activities	Music competition, Co-exhibition between faculties, health activities, and workshop according to skills of each faculty.
Channels	Internet, University journal, and advertise through faculties
Customer Relations	Facebook Fanpage, Line Group, Instagram
Revenue Streams	Good health, good relationships between students from each faculty, payment for renting space, income from selling products from workshop exhibition.
Cost Structure	Music instruments, sport equipment, workshop equipment

Group C named their group “Creative Relational Club”, which their point of view is that learning and creative ideas occurred from doing. They believe that if we start doing something, then something new will happen, such as playing a guitar can create new notes or new songs. This group thinks that learning space should be adjusted according to period of time and Thai people should be ready to adjust themselves.

Moreover, they mentioned that if learning space users have changed their behavior then we should adjust accordingly, as well as, emphasize health as per the concept of Healthy Braining; a good learning should go together with good health.

The Creative Relational Club gave the opinion that holding activities with other faculties, such as, art workshop, live music, or exhibition are considered as building good relationships. The interactions between students will lead to creative leaning, art learning innovation and new designs. According to the idea that everyone is diversity and everyone is different, those differences will create chances for “knowledge” in a new different point of view and inspire people to have creative ideas and make changes regarding arts and design.

4. Group D: Students from the Faculty of Architecture

Table 4 Business Model Canvas Result of Group D: Students from the Faculty of Architecture

Value Proposition	Sharing Space, medium size of amphitheater to support learning space for new generation.
Client Segment	Students, teachers, officers, school students and other people
Key Partners	Silpakorn University, other universities, learning institutes
Key Resources	Students, teachers, lecturers, vendors, space in the university
Key Activities	Brand creation, souvenir shops, Landmark designation, exhibition, and fair.
Channels	Internet, Social Media, Poster
Customer Relations	giving souvenirs, receiving knowledge, completing a questionnaire, expressing opinions and asking questions.
Revenue Streams	Promote the supporter, selling souvenirs, food and drink vendors.
Cost Structure	The expense for lecturers, food, advertisement, and space management

Group D named their group “Sharing Space”, they agreed that learning and creative ideas come from diversity and differences, same as the Creative Relational Club. This group needs the learning space to be a place where various groups of people can share and help each other to create creative ideas, leading to learning innovation regarding arts and new designs such as museums. The space management for souvenir shop; products that made by students is one of interesting activities that will lead to learning together. Moreover, an art workshop could also draw people attention to learn and they can use the knowledge to develop more work.

The Sharing Space group suggested the idea of learning space management in the form of Mass Marketing, which it is a space management that covers target groups in a big scope. In addition, they think that those who are interested in learning art and design are diversity and they emphasize the management of learning space more than organizing activities.

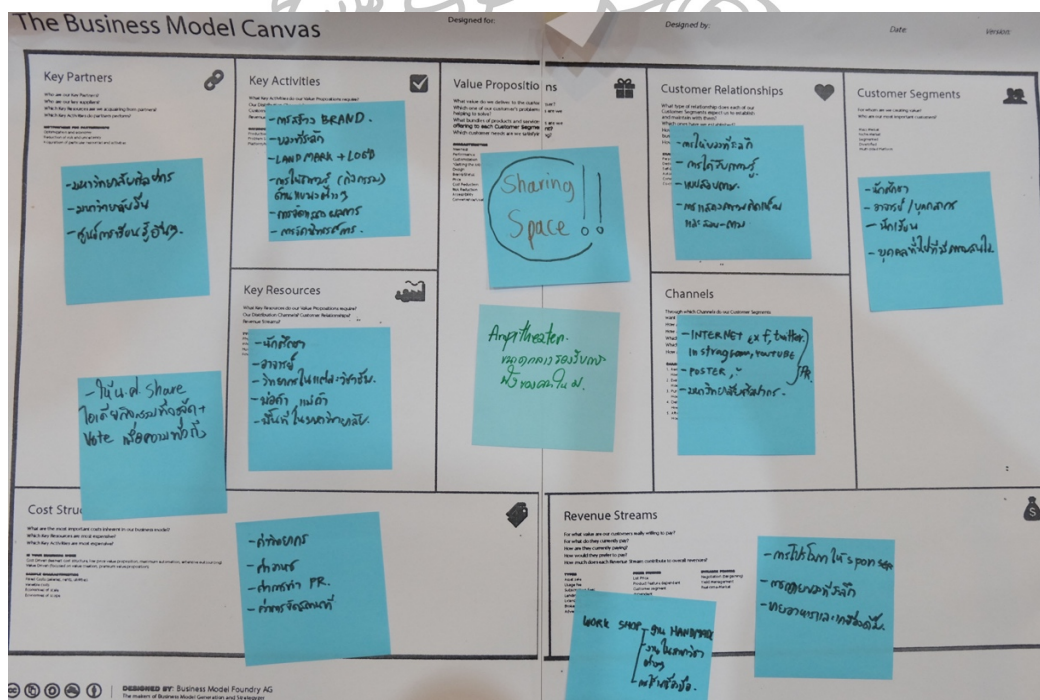


Figure 121 Photo of Business Model Canvas of Group D: Students from the Faculty of Architecture

Furthermore, this group pointed out that arts and design learning space management requires a flexible space and able to adjust all the time, so the learning space should involve in the important principle of design and space management; how to create a space that can be adjusted all the time according to trends and ages, for example, today we use the word 'sharing space' because it is popular now, but in the next three or five years, there might be an adjustment of the learning space to make it suit learning behaviors during that period of time. Moreover, student behavior will be changed; today people can learn, eat, party, and use social media altogether, but in the next ten years, their behavior might change. To conclude, the Sharing Space group believes that arts and design creative learning space should work as if it is a hotel using floating furniture, which is suitable for change according to time, and need of the users. The knowledge obtained from the process of learning art in this kind of learning space comes from the differences of people in the area.

5. Group E: The main library officers

Table 5 Business Model Canvas Result of Group E: The main library officers

Value Proposition	The convenience of users that borrow books from the library.
Client Segment	The library users including teachers, students, officers of Silpakorn University.
Key Partners	Teachers and students of Silpakorn University
Key Resources	Cloth bag
Key Activities	Design competition, prizes, book fair week, provide prizes for the users who made the highest statistic for borrowing books from the library for 20 prizes.
Channels	Advertise through Facebook, websites, bulletin board
Customer Relations	able to be borrowed or changed and can be the owner
Revenue Streams	The user satisfaction, income, as a test
Cost Structure	The cost of cloth bag design and advertisement

The result of brainstorming of the main library group 1, they applied the Pain Point of the service to solve problems. There will be the cloth bag design competition with limited amount of production. They suggested the competition as the Key Activities because Silpakorn University is the number one university of arts and design, therefore, most of the students are specialists regarding design and there should be people who are interested in joining this competition.

Moreover, using a cloth bag is like a Physical Evidence that proves that the library pays attention to users, as well as, it is an object that is touchable as in reality, the measure of caring or paying attention is untouchable. So, using a cloth bag as a medium will make the users feel that the service is in a form of concrete and is more physical.

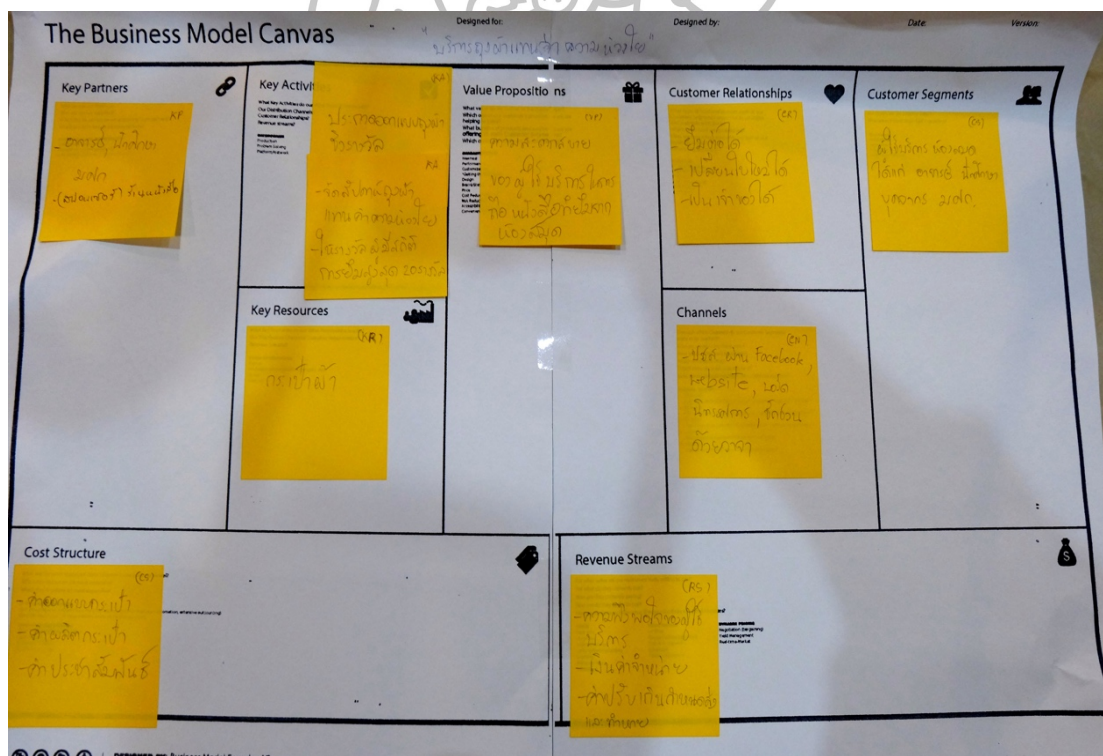


Figure 122 Photo of Business Model Canvas of Group E: The main library officers

Regarding the Pain Point, the background of this issue is that some users checked out books from the library but did not have any bag, and often when they took the boat home, some books fell down in the Chaophraya river or got soaked by the rain, resulting in frazzled books. Thus, the idea of a cloth bag occurred in order to solve this problem. In addition, cloth bag competition is a guideline that meets with the requirement in order to support a arts and design creative learning space.

6. Group F: Information technology resources officers of the main library

Table 6 Business Model Canvas Result of Group F: Information technology resources officers of the main library

Value Proposition	Arts and Archaeology Technology
Client Segment	Teachers and students at Silpakorn University, public
Key Partners	University Networks, museums, storekeepers, artists
Key Resources	Database, knowledgeable staff to advise database searching, search engine
Key Activities	Activities introducing information applying, purchase art database, website database, data searching competition
Channels	Websites, circular notice, posters, Facebook, email
Customer Relations	Assist the users in searching, other related database, distribute free copy of magazine for the first time of using library service.
Revenue Streams	Customers' satisfactory, database using worthiness from the numbers of customers
Cost Structure	Cost of utility, cost of staffing, cost of textbooks and resources

This group believes that only the activities in the learning space are not enough for learning process. The most important factor to lead to learning of arts and design is inspiration which may happen when the learners do the research and apply the information to their imagination and idea. Thus, this group believe that in order to learn visual arts, the research tools should be developed along with the good systematic database and searching system. Moreover, this group give the priority to the innovation that it helps motivating the learners since innovation and technology are quite similar. Applying the two to the learning space may cause awareness of the application, which results in new knowledge or a new paradigm. All these things develop the learning process in arts and design.

From the workshop result, all six groups defined similar customer segments, which were mainly the client segment and the service providers at Silpakorn University, Wangthapra campus. The concept could be divided into two main groups. The first group was Creative Relation Club of the students from Faculty of Painting, Sculpture and Graphic Arts and Sharing Space of the students from Faculty of Architecture. This group believed that learning space management was more important to the learning process than the activities. Good learning space management resulted in the plentiful leaning process and creativity. These groups also believe that diversity

The second group was the Happy Land group of the students from Faculty of Decorative Arts and both groups of library. All the four groups believed that organizing activities more affected the learning process in arts and design than the allocation. In addition, they believed that having key partners would help develop knowledge.

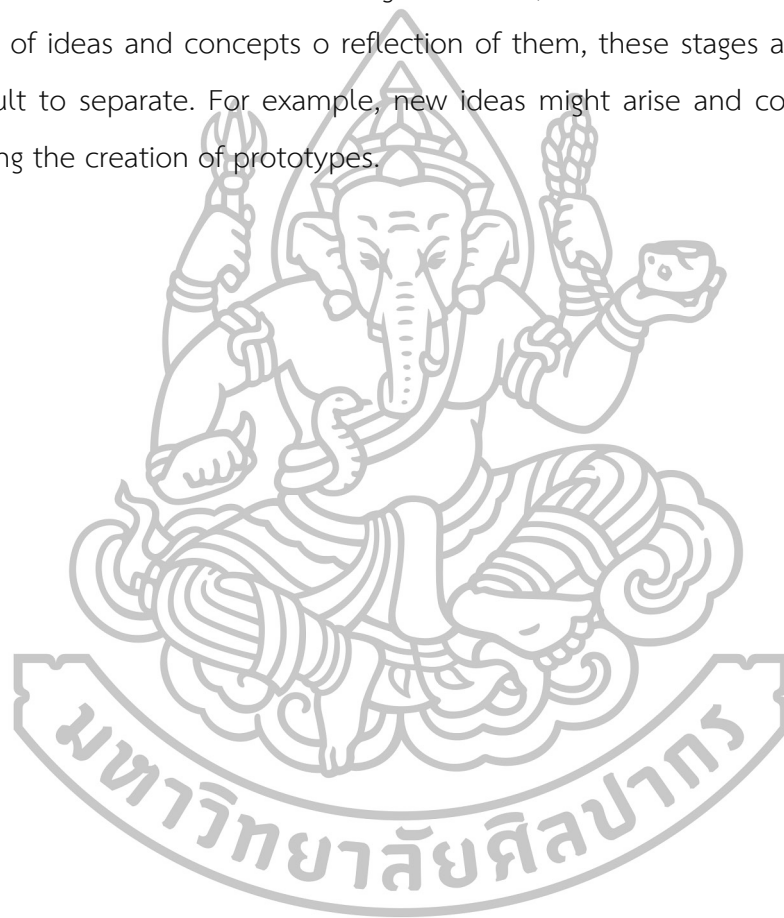
7. The Reflection and Implementation Phases of Service Design Process

After the Exploration Phase and Creation Phase from the co-creation workshop with used those four tools helped the research to be able to analyze the content. For the Last 2 phase of Service Design Process this paper was combined all the information's to;

1. Created and reflected Arts and Design Creative Learning Space innovation concept elements.

2. Created prototype that bring the concept to live by created Service Design Guideline.

The creation phase focuses on the creation of ideas and concepts, while the reflection phase focuses on testing these ideas and concepts (Stickdorn 2011). These two stages are closely interlinked and many iterations are conducted between them. While there are some service design methods, which are more suitable either for creation of ideas and concepts or reflection of them, these stages are in practice often difficult to separate. For example, new ideas might arise and concepts might evolve during the creation of prototypes.



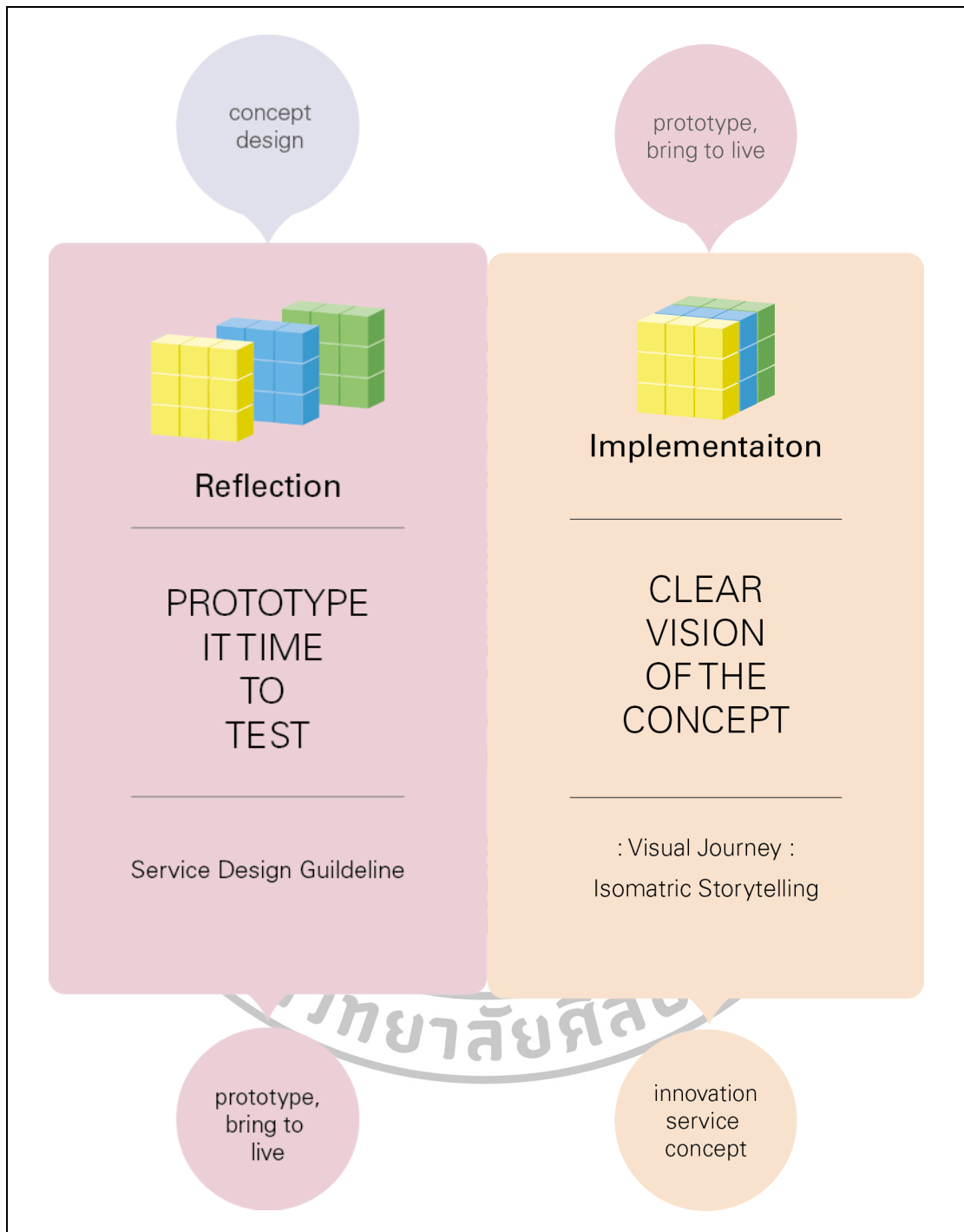


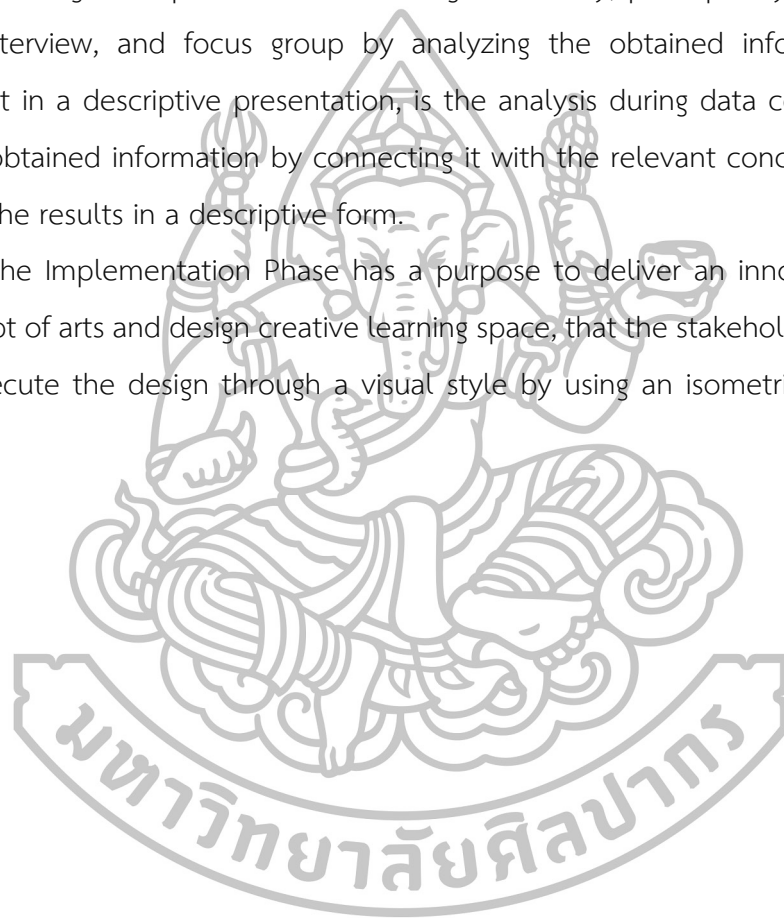
Figure 123 Service Design Process: Phase 3 Reflection and Phase 4 Implementation

Nevertheless, a stage specifically for idea generation is performed during the first iteration of most service design processes. One reason for the large number of

iterations in a service design process is that the aims of service design is not to avoid mistakes but explore various options and learn from mistakes.

During the reflection stage this research evolved visualized concepts from the creation phase in the form of prototypes, and test them with designer to create as realistic a service design prototype as possible. Furthermore, from the study of participant's design and presentation including case study, participatory observation, in-depth interview, and focus group by analyzing the obtained information and presenting it in a descriptive presentation, is the analysis during data collection and group the obtained information by connecting it with the relevant concepts in order to explain the results in a descriptive form.

The Implementation Phase has a purpose to deliver an innovative space with concept of arts and design creative learning space, that the stakeholder would be able to execute the design through a visual style by using an isometric storytelling method.



Chapter 5

Conclusions and Recommendations

1. Conclusions

The result from the brainstorming of co-creation workshop by core stakeholders in the six activities indicated the keywords that showed the significant attributes of ideal arts and design creative learning space. The result also explores the current situation of learning space of the Silpakorn University Library of Wang Tha Phra Campus that is currently used by Arts and Design students. The result showed that the learning space made the learners feel happy on the creativity and learning would be produced when the learners were happy.

The various activities and living in the good environment in the university were the irreplaceable with information and other resources. All creative activities affected the emotional development, thinking process, and the social relationship, which finally formed the knowledge of the learners.

1.1 The Purpose of Arts and Design Creative Learning Space

From activities during the service design process exploration phase, beside the empathy map and emotional customer journey map, this research obtained additional information during the activity of observing and shadowing by completing interviews during the activity, and can be divided as follows;

Regarding the space, most of the library officers and students agreed that there is a limitation about space management, including both the inside space and surroundings. However, according to the need of space that can support group work with equipment and resources such as computers, the main library is the most appropriate space for this need. Therefore, the number of users is in large amount, leading to a crowded and noisy space. The library noticed the problem as it is not convenient for those who need a quiet space. In addition, it was found that the

interaction between the service provider and users are at the very least, so the communication regarding rules and services did not reach many users.

On the matter of the learning space development, it is revealed that the service provider intended and aimed to develop the library service for a better service such as, how to do the effective library advertisement, how to avoid the feeling of not wanting the users to pay for the fine, how to adjust the service to make it more suitable for the users, will the library look good after renovation, or how to create more space in the library. In addition, it included the aspect of digital and technology as well; it was found that both the service provider and the users agreed on the same aspect such as, the development of current resources to be digital in order to support the same need, or the trend of using e-book or e-journal more than newspapers but at Wang Tha Phra, it goes against the trend, so there should be some development.

From data collection regarding the user behavior and the service provider' opinions, it can be analyzed and group into two models.

The first model the space of this model focuses on the support of learner's learning behavior that aim to get useful information, the need of well managed space and the space that can support various activities and big groups, having up-to-date resources and are convenient to use. Furthermore, this model of space should create a good and relaxing atmosphere in order to make it more suitable for exchanging opinions.

The second model demonstrated space suitability that supports the group of students to generate creative ideas and imagination, as well as the need for new and fresh inspiration from the learning process. Thus, this kind of space focuses on physical condition and surrounding factors such as size, surface, light, noise, and the position of equipment, which all of these affect the learning process of this group of students. Moreover, it is required to have a space that is private, relaxed and offers imagination without limitation and technology that supports work development.

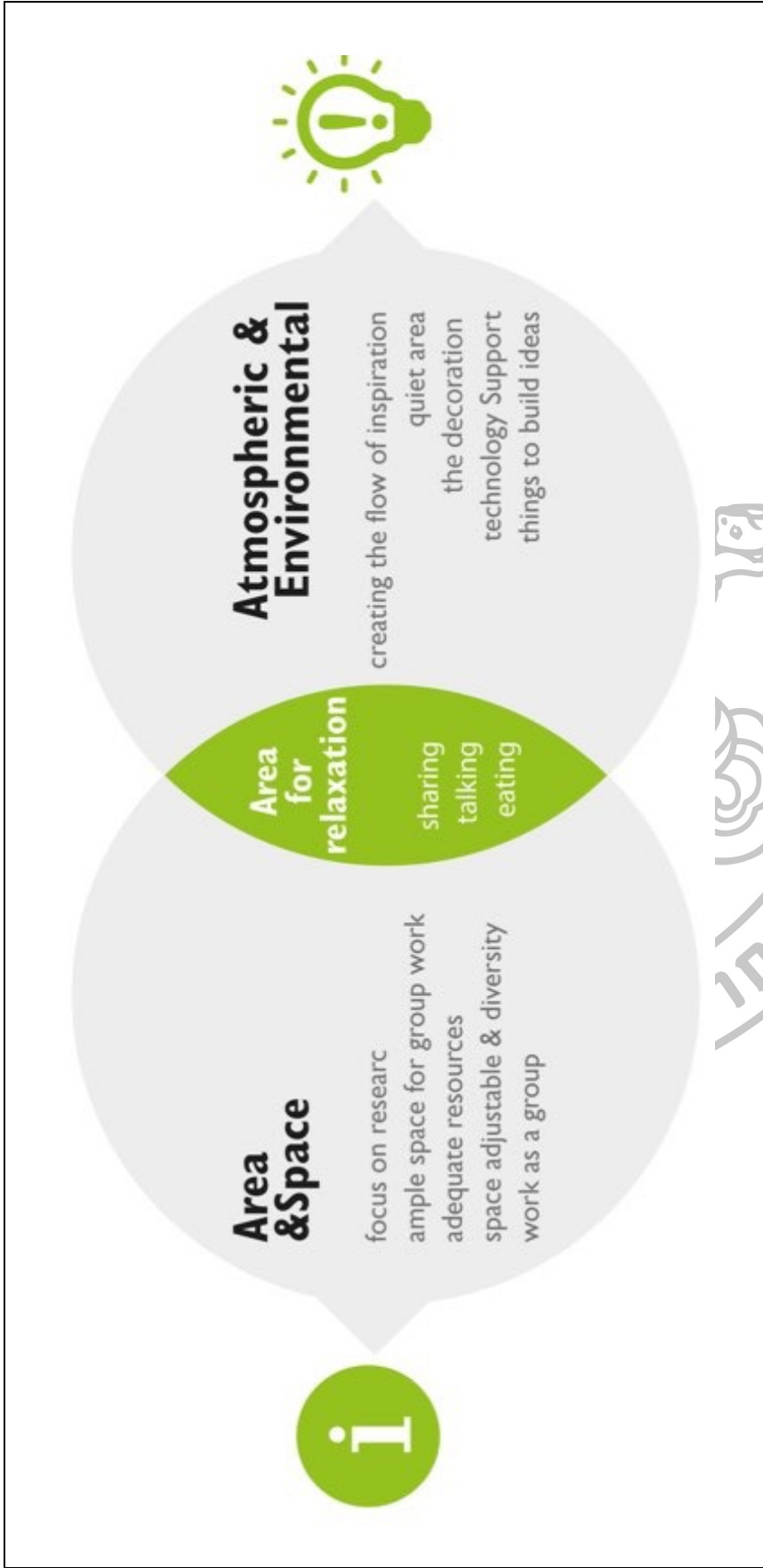


Figure 124 A model of Art and Design Creative Learning Space used of space purpose

	TOUCHPOINTS		Faculty of painting, sculpture and graphic arts	Faculty of Archaeology	Faculty of Decorative Arts	Faculty of Architecture	Library Group 1	Library Group 2	COUNT.
1	Book Store	E	•	•		•		4	
2	Carpark	R	•	•				2	
3	Coffee Shop	R	•	•			•	4	
4	Copy Center & Graphics Printing	E	•		•			2	
5	Reading Area	E	•	•	•	•	•	6	
6	TCDC (Thailand Creative & Design Center)	E	•	•	•			3	
7	Fitness Zone	R		•	•	•		4	
8	Green Zone	R			•	•	•	4	
9	Share&Co Activities Space	R	•		•	•		3	
10	Museum/Gallery	E	•	•		•		3	
11	Studio With Work Tools	E		•	•	•		3	
12	Cafeteria	R		•		•		2	
13	Computer Room	E				•	•	2	
14	E-book , Online Resources	E	•	•		•		3	
15	Stationery Store	E			•	•		2	
16	Workshop for Model cutting area , a patio Plot	E			•	•		2	
17	Entainment Room	R		•		•		2	
18	Meeting Room / Study Room (Group)	E			•	•		2	
19	Bicycle Lane	R			•			1	
20	Cinema	R		•				1	
21	Relax Zone, Living Area	R		•			•	2	
22	Sport Zone	R		•				1	
23	Resources and IT Help Desk	E	•			•		2	
24	Smart Board	L				•		1	
25	100 invaluable books Zone	L				•		1	
26	Special Book Zone	L				•		1	
27	Books should be read Zone	L				•		1	
28	Reading Rooftop Patio	E				•		1	
29	Art Exhibition Catalogue Room	L				•		1	
30	New Book Zone	L				•	•	2	
31	Library Information Center	L				•	•	2	
32	Library Self Service	L				•	•	2	

Figure 125 The frequency table of the Service Touchpoint needs

1.2 The Space ratio and Space type of Arts and Design Creative Learning Space

The emphasis of communication and exchange opinions is considered as the important factor for the learning process of both groups of learners. It revealed that during the learning process, there is usually stress and most of students need to relax. So, when there is a relaxed learning, students will enjoy learning more. Hence, apart from a good art learning space that offers benefits to students to have a good learning process, art learning space should be a place where students at all ages and any genders can find themselves together with others from having social interactions, doing activities, and spending time in the university. These are the things that

technology and other information resources cannot provide, thus, universities should provide chances for students to try to live their lives in order to find various ways to develop their identities.

This research applied the data from the six Experience Touch-point Cards to arrange them in the table in order to compare frequency and category, which can be divided into three types; the space for education and learning, space for relaxation, and space for the library service.

The resulted from this research found that arts and design creative learning space must have a 3 type of space used to gain a learning ability for arts and design students between the learning space and the users on the learning space of Silpakorn University, Wang Tha Phra Campus. It reveals that the space for education and learning is needed the most at 42 %, the next is the space for relaxation 36 %, and the need for library service is only 22% as showed in figure 126.

The frequency table picked the data from the Experience Touchpoint Cards method that divided participants into 6 group to co-creation fresh ideas and user needs insight as mentioned before. Moreover, the researcher grouping the cards that choose a card that has been brought together on the same selection. By the reason to finding what are the functional, space type, space used as well as a user needs of arts and design creative learning services.

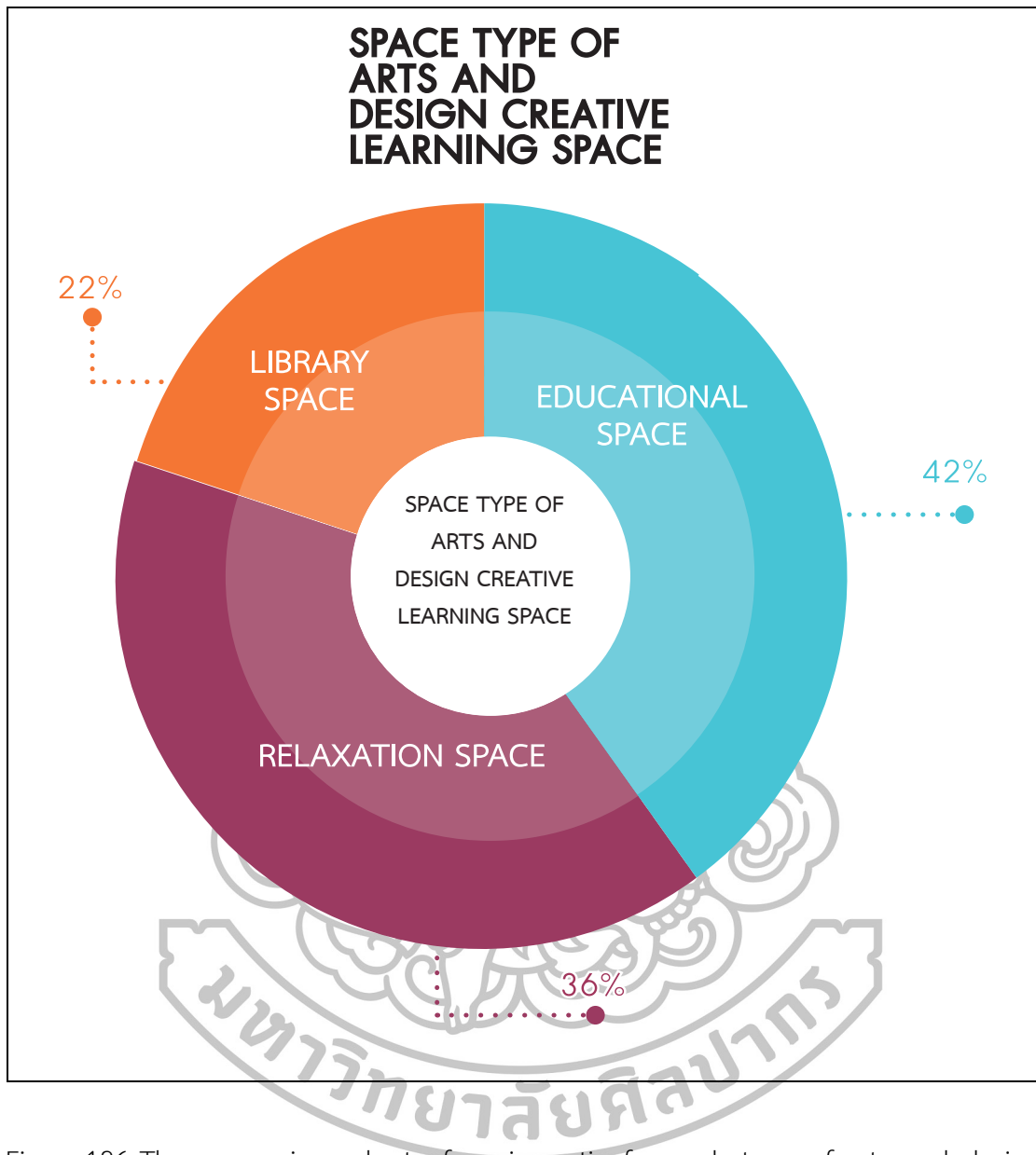


Figure 126 The comparison chart of zoning ratio for each type of arts and design creative learning space.

After that, researcher grouping the same service that have a similar objective into together for counted the demand rate for use this number in zoning diagram that the designer necessary to know before design a learning space.

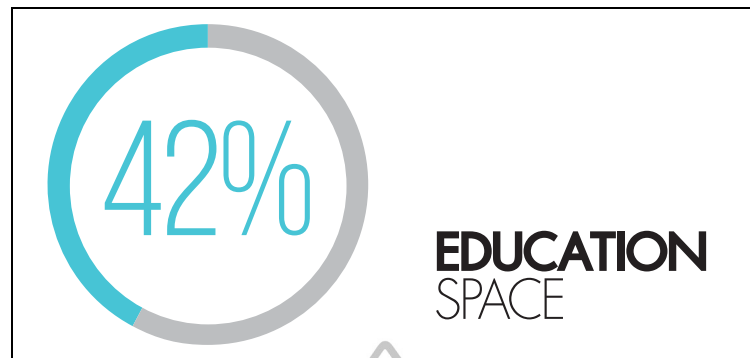


Figure 127 The ratio of education space.

Educational space will help the process of learning including in the process of Pre Learning, Learning and Post Learning to be able to reach targets easier. The participants agreed that the most important space is the reading area, which every group provided the reason that the reading area does not only support the need of reading books or doing research, but also the space where they can do group activities with friends. Furthermore, having proper reading area within the university offers students to be able to do group activities and other appointments more convenient because everyone can travel easier.

In addition, educational space also refers to the prompt of tools and equipment, especially arts and designs learning that requires a lot of practice. For faculties that have learning style focuses on creative ideas as well as production such as the Faculty of Decorative Arts and the Faculty of Architecture, have the need of workshop for model cutting and studio space that provides all tools is also needed for these two faculties and the Faculty of Archaeology.

Book Store is the area that both the service providers and users have the same need. Due to the lack of resources and stores, the students from the Faculty of Painting Sculpture and Graphic Arts and the Faculty of Archaeology mentioned that sometimes there is only one book for the subject that they need in the library which is not enough for many students and the group of library 1 acknowledged the problem as well. In addition, many books and resources from the library are worth to keep for private, and if they borrow from the library, they can only keep them for a few days, this is one of the reasons that the students from the Faculty of Architecture provided.

In addition, those three faculties provided the reason that there should be a book store in the learning space because there is no textbook store in the campus, so if they need to use textbooks they will have to buy from teachers or from other universities.

Regarding Educational Space, it might not be only physical space but could also virtual space such as historical resources and important archaeological items that are worth to study and research. Moreover, some items cannot be replaced and the information cannot be found on the internet. If these were organized as an e-book, it will provide a lot of benefits to the learning process, especially for the students from the Faculty of archaeology and the Faculty of Painting Sculpture and Graphic Arts that emphasize the study of historical information and research.

According to the data in table 1, from the service providers' point of view, which are the two groups of the library officers, suggested that there should be learning space for Computer Room to support the need of the users, on the contrary, students from all four faculties did not mention anything regarding the necessity of such room.

Apart from space, equipment, and resources that are necessary for the Educational Space, design library such as TCDC (Thailand Creative & Design Center) was mentioned by the students from three faculties as they claimed that it is necessary for the learning space.

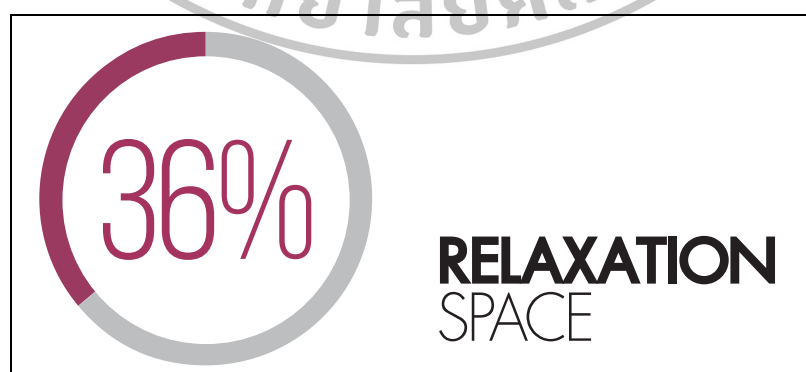


Figure 128 The ratio of relaxation space.

Relaxation Space was ranked in the second important issue, the participants agreed that sometimes learning causes stress, so they need relaxation so that they can gain more energy and feel fresh and then they will be able to think of creative ideas. The atmosphere at coffee shops is a popular choice for relaxation, many students use it as a place to meet, read, work, drink coffee and discuss about design while listening to jazz music, which the relaxed atmosphere help them to open their minds and new attitudes.

Share and Co-Activities Space, is the area of creation that often does not happen from learning or researching only. It is the building of area that offers those who study about arts and designs can connect to each other and exchange learning process as well as create design network. Moreover, it is a place that can spread out design work and creative ideas. The green zone decoration is one of the ideas that allow the users to experience the pleasure as if they are working at home, so relaxation space will be even more popular and the users will open for more new learning and inspiration.

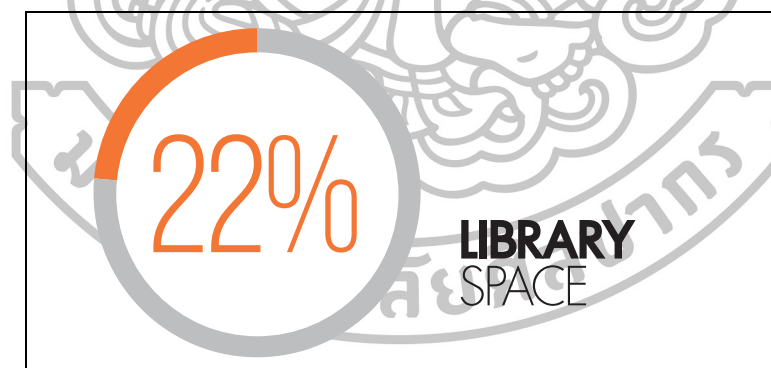


Figure 129 The ratio of Library space.

The third type of space, Library Space is for support the resource service such as books, magazines, thesis, etc. The service providers, who are the library officers from both groups have arranged the service area quite clear and in the same direction, such as New Book Zone, Library Information Center or Library Self-Service. From the students from 4 faculties, it revealed that, when it comes to the arts and designs

learning space, the library was not directly mentioned but was presented in a form of hidden space under the library service such as Reading Area or Entertainment & Cinema Room.

Creating suitable service design model of creative learning space is the goal for Arts and Design students the Silpakorn University Library of Wang Tha Phra. The result from Business Model Canvas tools in co-creation workshop process, which received more user's insight from participants during their presented ideations for arts and design creative learning space.

The challenged of the business canvas analysis is this paper have to finding the space ideal, service concept, space services and the service relationship from the 6 ideations that have a huge information and process into one model.

Firstly, used the result from the canvas and map into the table that is easier to pick up the useful information. Secondly, grouping and classified the data from each group that have a same issue combine into the sane section in mind mapping diagram. The important, always tag the symbols when is the group that this data came from.

Summing up, the information from business model canvas the researcher translated into Business Model Canvas mapping diagram (figure 130), which helped to analysis this research.

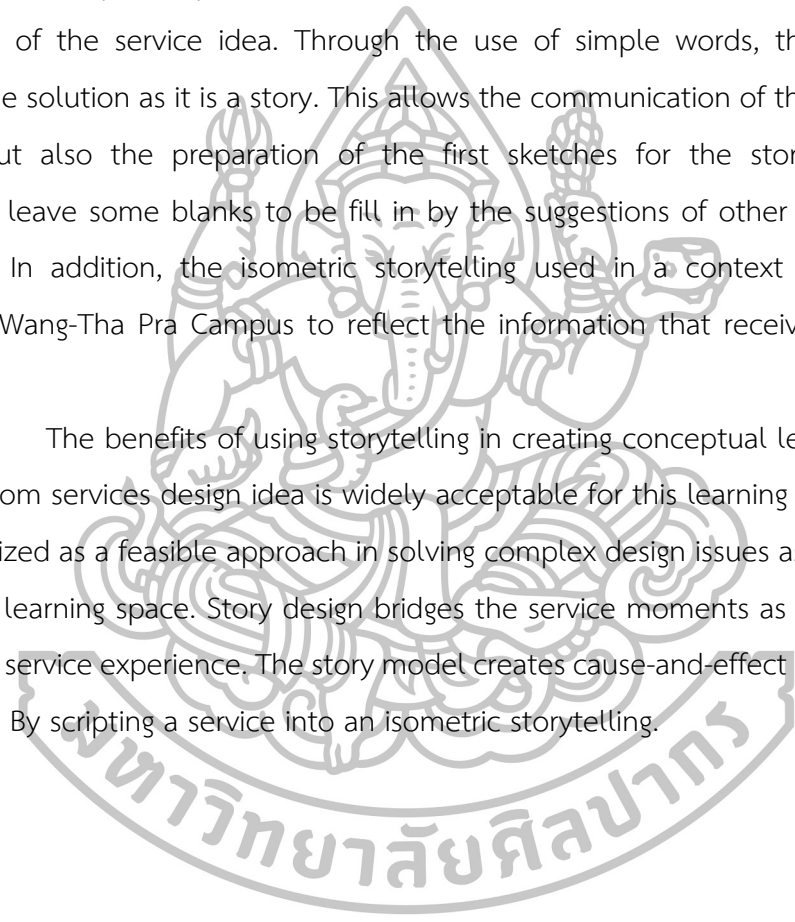


Summary of the research findings this section describes the major findings and pointing out similarities and differences in the results from both sessions, the workshop and the prototype with the potential users.

1.3 Isometrics Storytelling

This research has developed a sample of Isometric Storytelling and some of Service prototype (illustrated by icons). The storytelling supports the exploration of the service idea. Through the use of simple words, the teller will illustrate the solution as it is a story. This allows the communication of the idea inside a group but also the preparation of the first sketches for the storyboard. The storytelling leave some blanks to be fill in by the suggestions of other stakeholders and users. In addition, the isometric storytelling used in a context of Silpakorn University, Wang-Tha Pra Campus to reflect the information that received from the workshop.

The benefits of using storytelling in creating conceptual learning space modeled from services design idea is widely acceptable for this learning environment and recognized as a feasible approach in solving complex design issues as such regard to a future learning space. Story design bridges the service moments as a part of the customer's service experience. The story model creates cause-and-effect relations into the service. By scripting a service into an isometric storytelling.



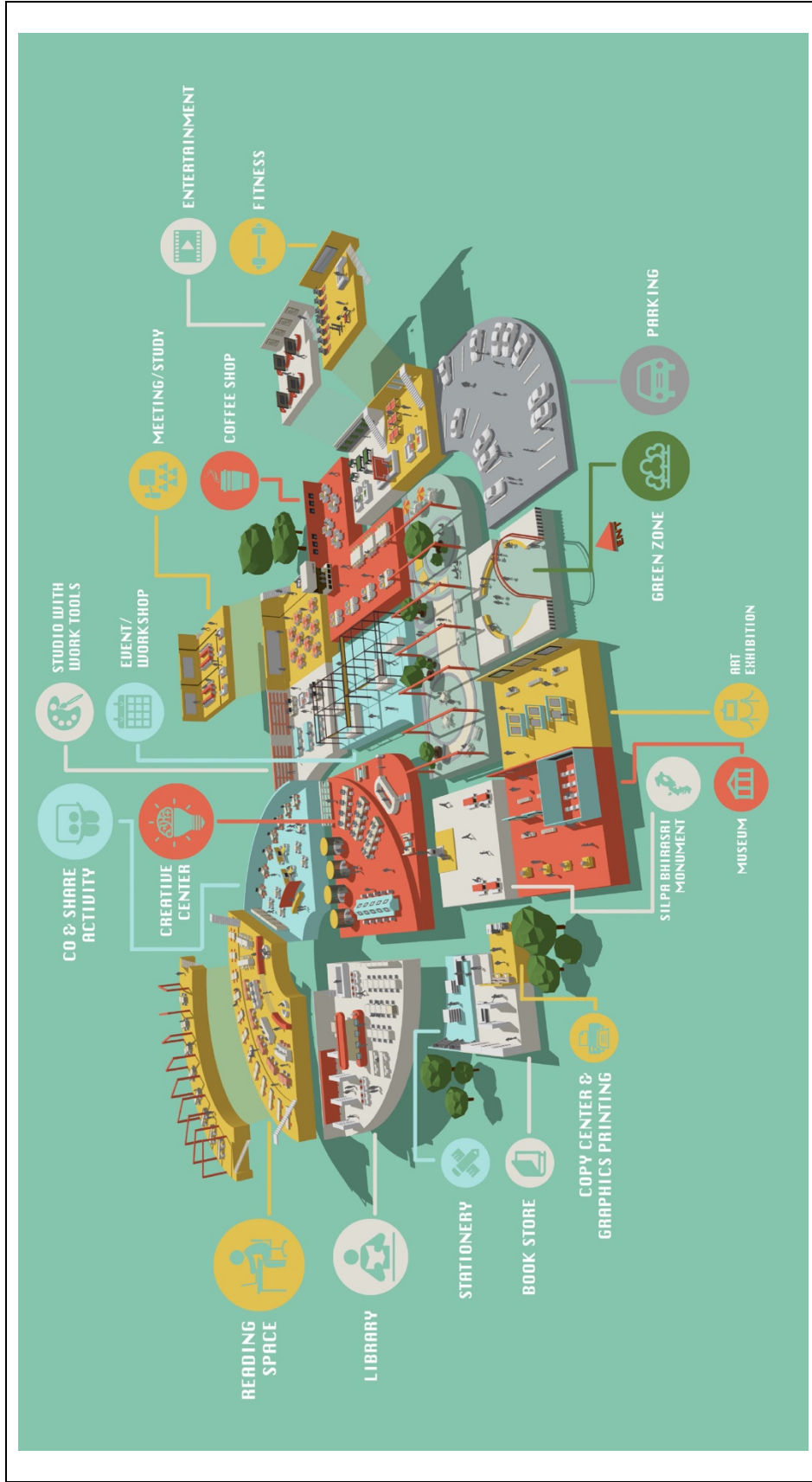


Figure 131 Storytelling to Reflection Arts and Design Creative Learning Figure 131 Space for Silpakorn University, Wang Tha Phra

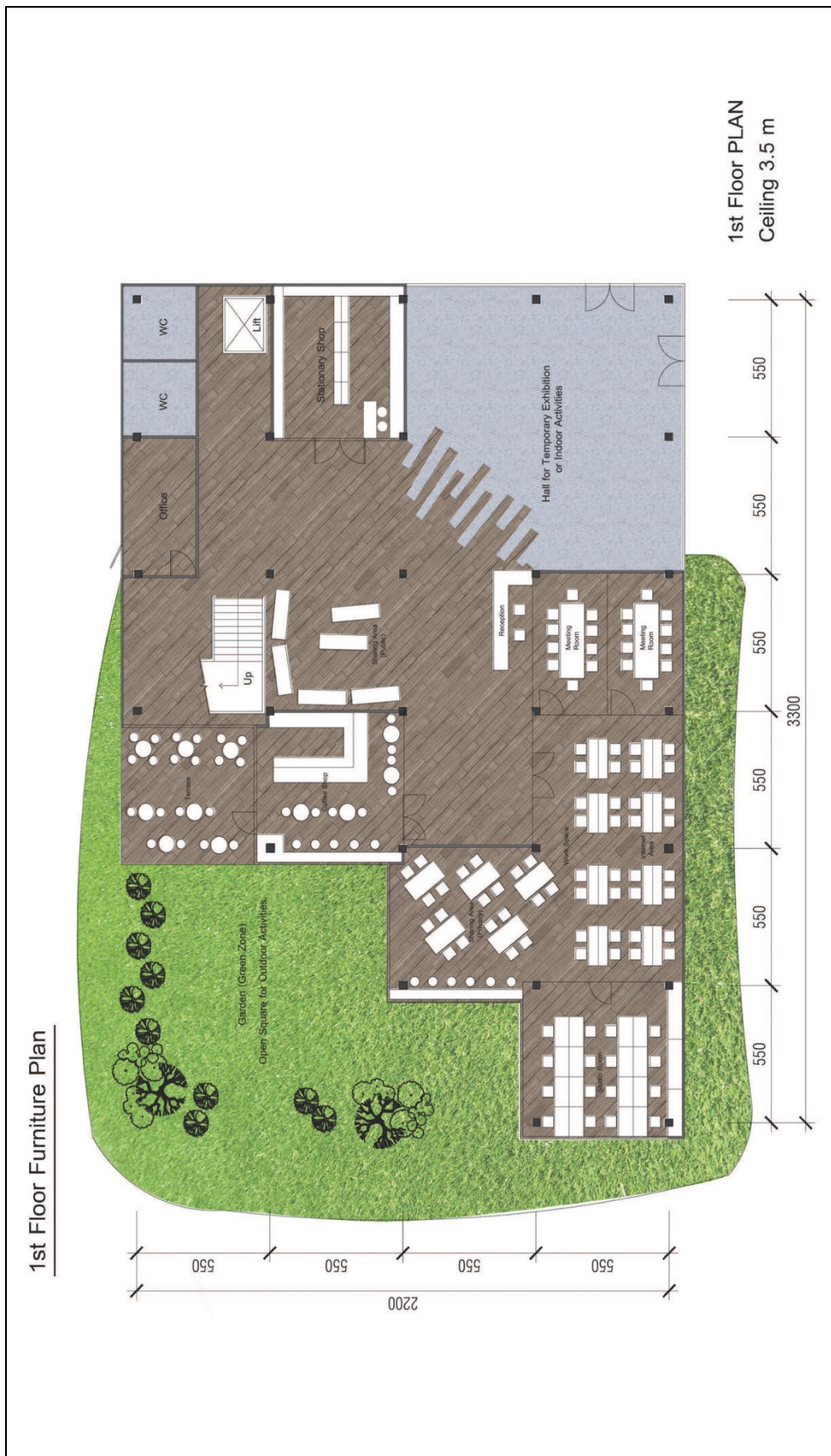


Figure 132 Storytelling to Reflection : Sample of Floor plan and zoning

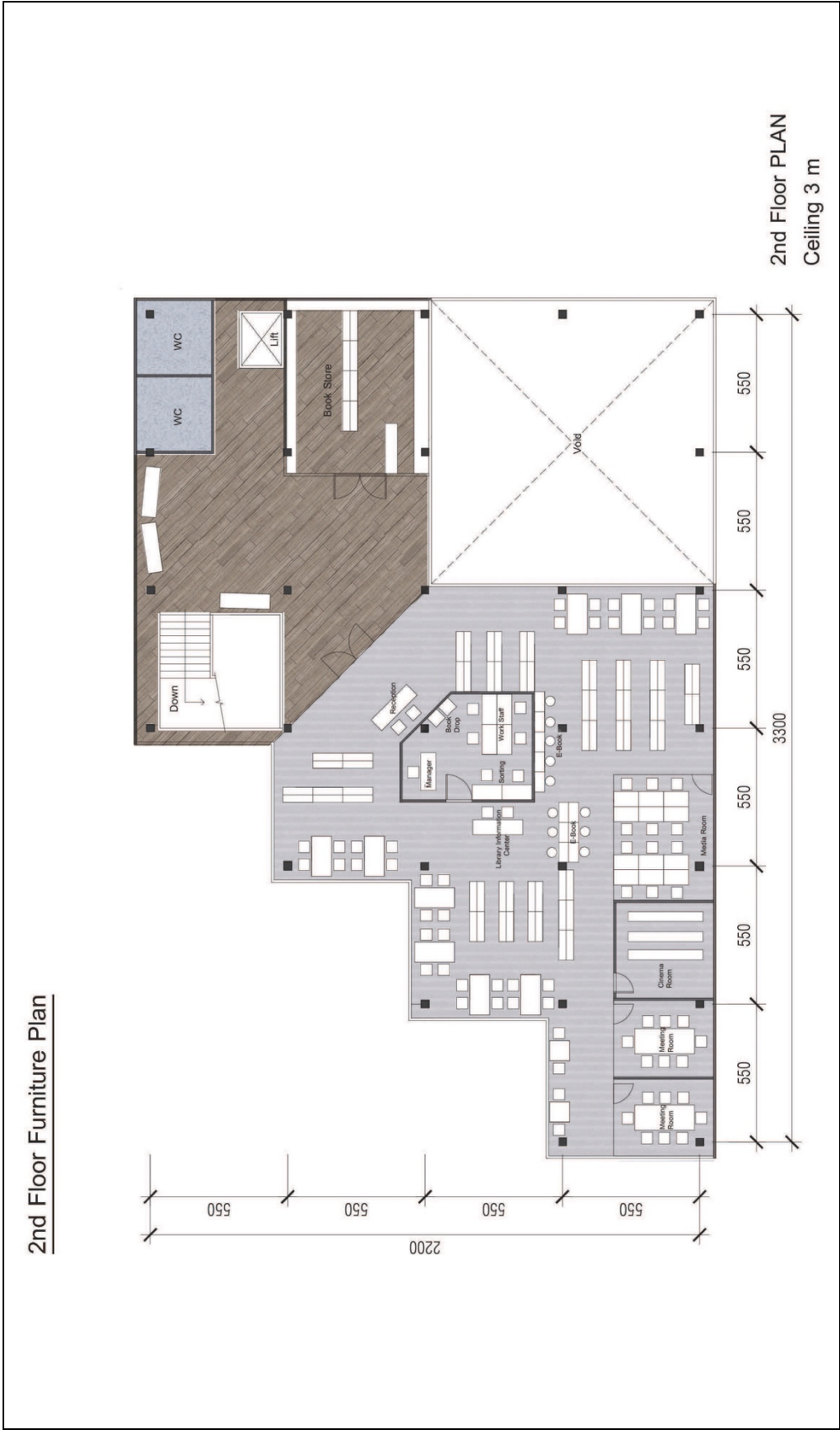


Figure 133 Storytelling to Reflection : Sample of Floor plan and zoning

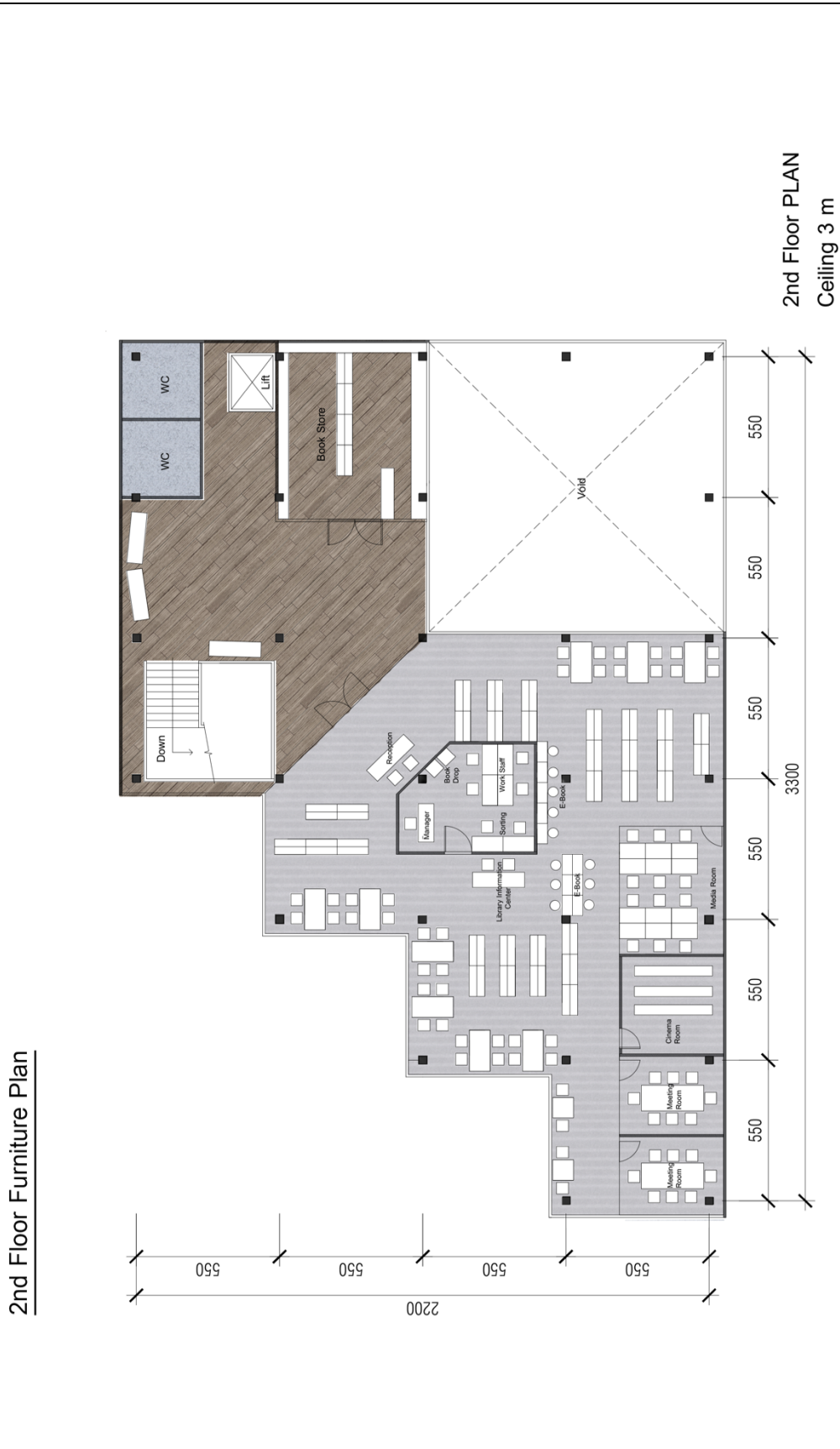


Figure 134 Storytelling to Reflection : Sample of Floor plan and zoning

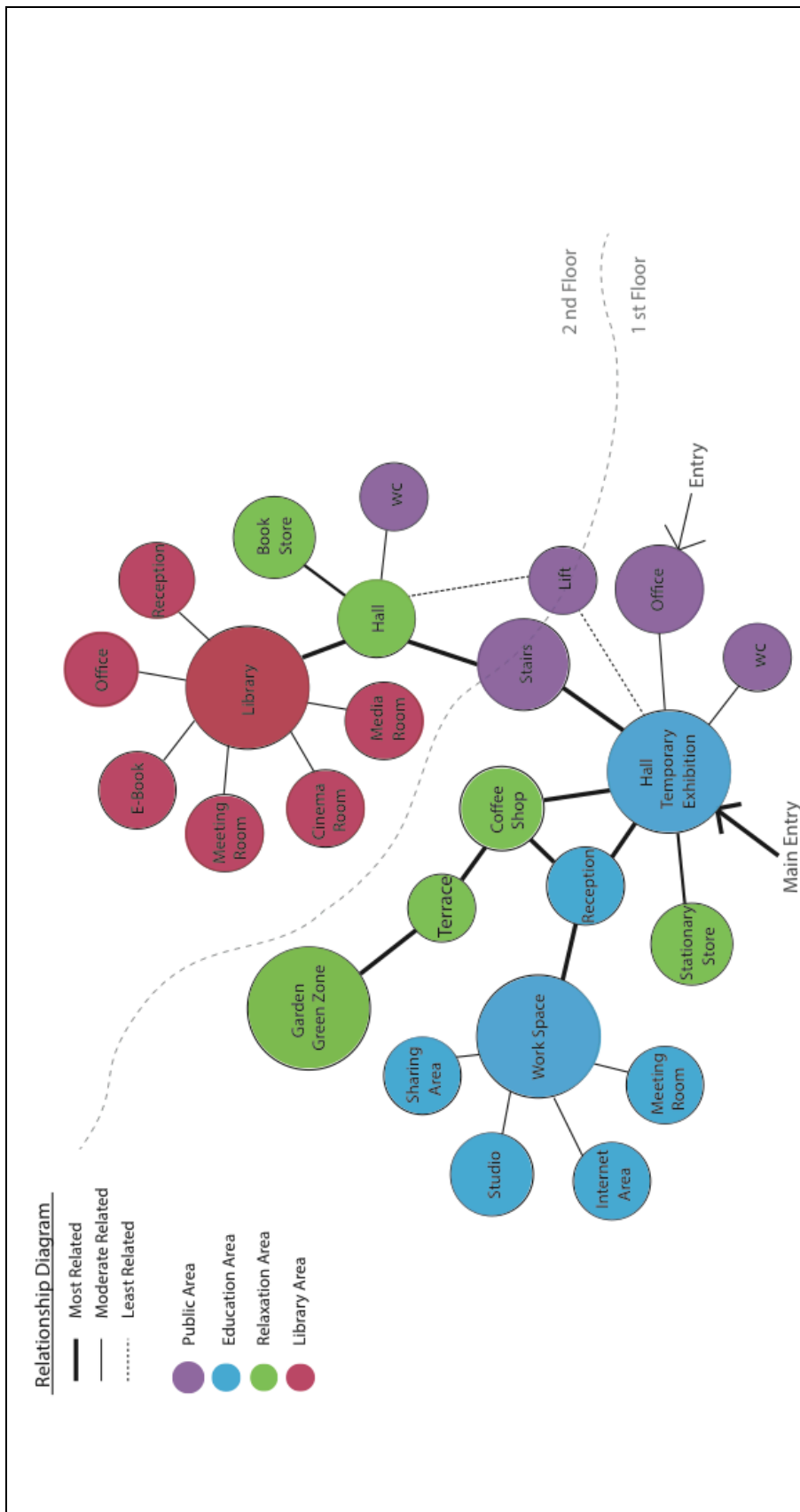


Figure 135 Storytelling to Reflection : Sample of zoning diagram

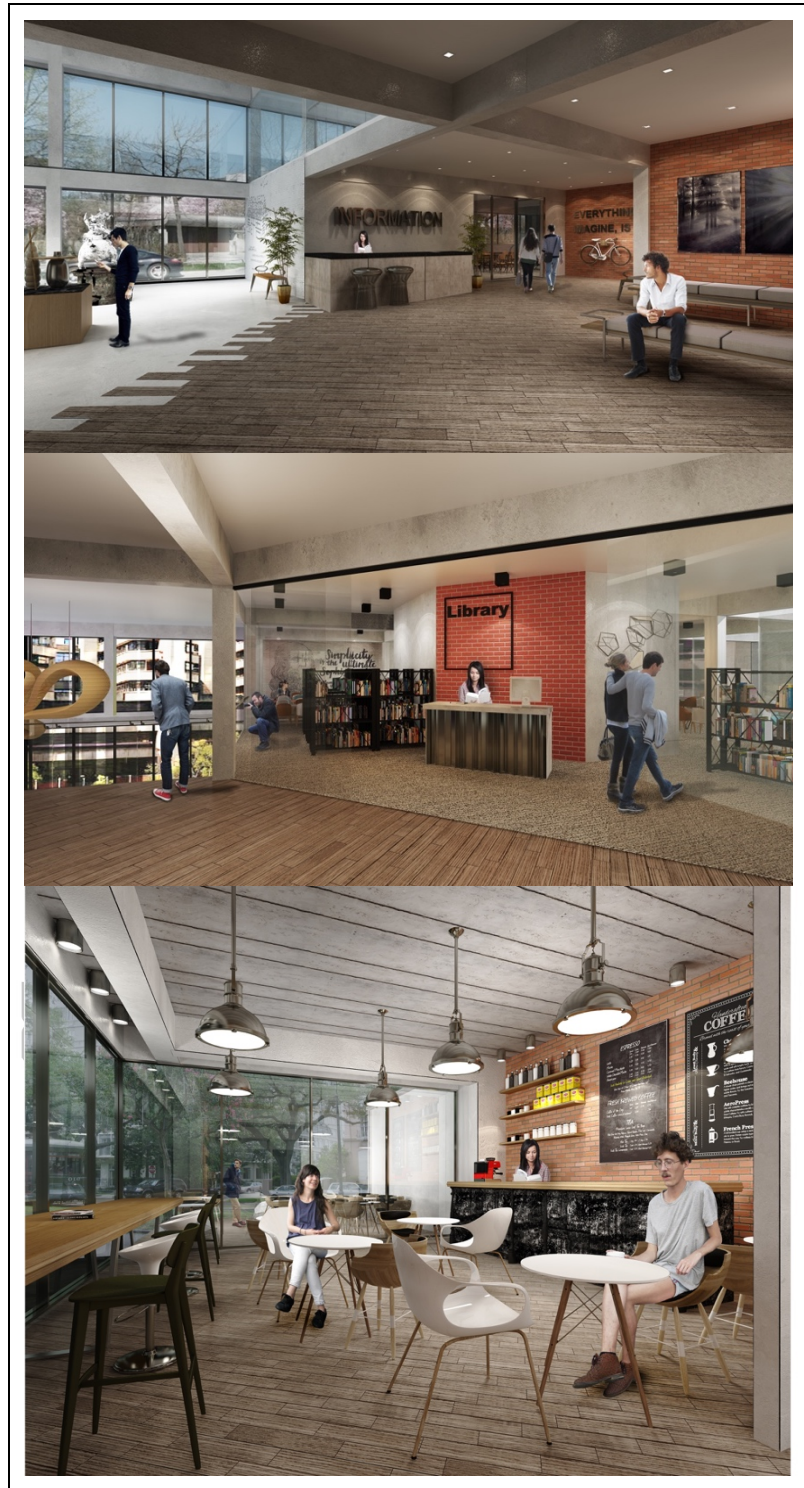


Figure 136 Storytelling to Reflection : Sample of Space design

1.4 Design Guideline

This research created a Design Advisory Guideline because of the understanding that user may have specific areas for developing the creative learning space. Moreover, service prototype also showed how this guideline was able to communicate with designer during designing the creative learning space. The ideas and design scenarios developed in step 3 implementation and reflection.

Creating valuable and meaningful graphics to help analyze information by using the information received from this previous step into the next step of service design process help Implementation & Reflection as an effective feature in-term of designing preparation all the way to execution of the “Guideline”.



Figure 137 Design Advisory Guideline : Cover and Back Page



Figure 138 Design Advisory Guideline : Table of Content

In addition to physical printed media of the Design Advisory Guideline, access of online Design Advisory Guideline is available through the following hypertext access: please visit <http://bit.ly/1MOIKLV> or scan the QR Code below as show in figure 139.



Figure 139 QR Code to additional access to online Design Advisory Guideline.

2. Recommendations for Arts and Design Creative Learning Spaces Framework

Since all participants were different, social relations between the students from each faculties or the individual who admired visual arts would create variation of space that best described their identity, their personal place to better help the knowledge innovation and forming specific paradigms of arts and design. Learning and social context might cause stress to the learners, so the relaxed area becomes an important portion, to ease and release the learner from pressure in order to offer an open-ended atmosphere for new learning and opportunity to utilize their ability generating creative pieces of work.

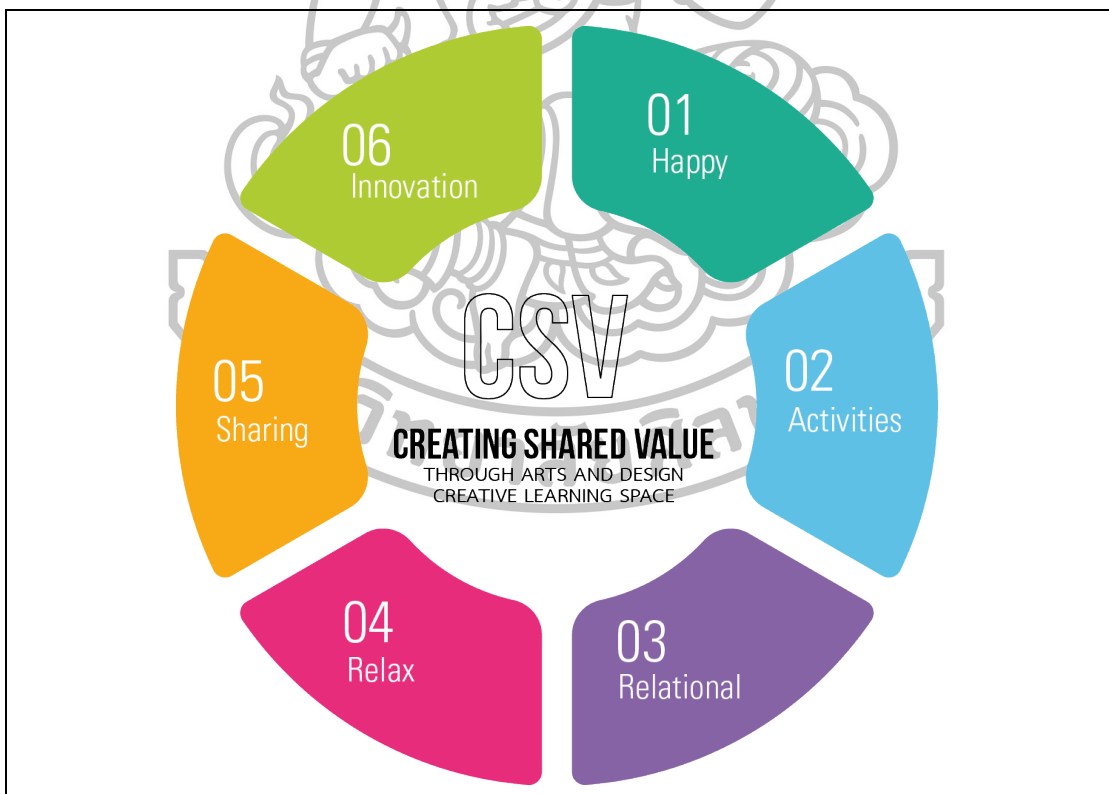


Figure 140 Framework of Arts and Design Creative Learning Space

Learning in visual arts should not be restricted to only one field of proficiency or skill, as seen from figure 140. Learners should be prepared for the new knowledge at all time. Learning area in ideal arts and design should be flexible to respond to the diverse requirement and the users' behaviors. Inspiration and provocation were very important in conducting the learning in arts and design. The progressive information technology and innovation destroyed the barrier between the persons and the places, which thought to have influenced the obstacles of learning. The world has changed rapidly and we have crossed to the creative wall in some manners. Innovation and technology were the part that created the motivation and facilitation. The possibility to get into new innovation was provided and challenged.

From the integration of all attributes mentioned, the opportunity of searching for "knowledge" to motivate new creativity was created. The design of learning space in ideal visual arts and creative design was Creating Shared Value (CSV) through Arts and Design Creative Learning Space that created through the shared value in society via the creative learning. Society in this context was in itself the learning of arts and design social reflection, where for instance a solution might reveal the possible learning methodology of the next century. Thus, each experiences gathered from the co-creation workshop may offer a beginning to the creation of a future learning space.

Creating Shared Value (CSV) concept framework was not only the learning space allocation for the students in the same faculty or all faculties in the university but also perhaps offered the broader social community and the educational alliances. From this learning allocation, Silpakorn University Central Library, Wang Tha Phra Campus was becoming Creative Learning Space, which succeed through the know-how, know-who, and know-why ideology. This meant that service providers or organization in regard to the learning space recognized how and who to service, which meant having the knowledge of the intended users and what they wanted. This may be a way to conceive the outstanding point of supporting educational environment

that Silpakorn University Central Library has already obtained. However, this would also present the stepping-stone to establish a flag shift to the suitable design of creative learning space in arts and design for the visual arts learners in the future.



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