

Implementation Of Project Based Learning And Service Learning In Interior Design Study Program, Petra Christian University

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Submission date: 01-Apr-2023 10:11AM (UTC+0700)

Submission ID: 2052628808

File name: INTERIOR_DESIGN_STUDY_PROGRAM,_PETRA_CHRISTIAN_UNIVERSITY_1.pdf (1.39M)

Word count: 4738

Character count: 27789

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Abstract: Curriculum development is carried out by the Interior Design Study Program at Petra Christian University to foster academic competencies, encourage and facilitate students to master various sciences according to their specialization, as well as enable them to understand real problems and find creative solutions. This article discusses various learning activities that contribute to empirical knowledge regarding the successful implementation of project-based learning in a sustainable manner. Through project-based learning, the learning process is built on learning activities with real tasks that challenge students to solve daily life problems both independently and collaboratively. Meanwhile, through service learning, students obtain the experience of direct interaction with the community where they live. Overall, the implementation of learning helps to promote the existence of the designer profession to the public. Communities become more aware that they need to increase awareness of their cultural environment, while for students, they become more aware of their competence as designers in building a better environment.

Keyword: Project Based Learning, Service Learning, Interior Design, Leadership Enhancement Program

1. Introduction

Design is the embodiment of creative ideas that answer the needs of the community. The quality of the design is highly dependent on the designer's ability to translate needs and communicate ideas to all parties involved (stakeholders). Designers develop problem-solving methods through optimizing functions by paying attention to safety, security, health, comfort and aesthetic for humans and their environment. Currently, design and technology innovation is growing rapidly. Sophisticated technology dominates all sectors so that even abstract ideas become easier to identify. Designers need to have the ability to innovate that is always updated with technological advances. However, as good citizens, designers need to develop the ability to collaborate with many parties in solving more complex socio-cultural problems of society.

Here, the role of universities is very much needed to prepare prospective designers who are innovative, have superior knowledge, skills, and behaviors that are oriented towards the success design projects that answer community problems. In this regard, the Petra Christian University Interior Design Study Program (Interior Design Study Program PCU) develops a curriculum by integrating student academic competencies by encouraging and facilitating students to master various sciences according to their specialization, as well as independently understand real problems and seek creative solutions. Students are directed to have direct learning experiences off campus for 1-2 semesters through the Leadership Enhancement Program (LEAP). The implementation of the LEAP program is expected to produce Interior Design Study Program students who excel in addressing design dynamics, are skilled in understanding, critically analyzing, and solving real problems of community needs creatively, systematically and contextually, as well as being resilient in facing increasingly complex future challenges. Graduates are expected to be professionals in the field of Interior Design who have Innovative, Novelty, Trustworthy, Resilient, Altruistic characters and have digital leadership skills.

Since 2016, the ID Study Program has opened two specialization paths, namely Interior Design & Styling (IDS) and Interior Product Design (IPD), to provide students with more future

career options related to the interior sector¹¹. This article will discuss various learning activities for ID Study Program students based on the Outcome Based Education Leadership Enhancement Program (OBE-LEAP) (Rector's Regulation No. 2, 2020). This article contributes empirical knowledge about the successful and successful implementation of project-based learning in the ID Study Program.

2. Project Based Learning And Service Learning Method

Project-based learning is a form of student-centered learning (Kokotsaki, 2016). The challenge for educators in higher education is how to create a direct learning experience for students to solve real problems in society more pleasantly. For this reason, educators need to be creative in choosing the right method in learning. The teaching and learning process in design design in the ID Study Program environment applies several approaches such as Project-based Learning (PBL) by combining Service Learning (SL). Learning activities are organized by the teaching team who teach in the classroom and the Studio Head coordinates the project with the tutors in the design studio and practicum in the laboratory. Tutors guide small groups of students (per group of 8-10 students), where they can provide input/suggestions in more intense, personal discussions on project implementation. Design studio activities allow group work to train time management in a structured manner through the stages of design thinking. Students are involved in teams starting from data collection, making needs programs, generating conceptual ideas in designing designs, making prototypes of interior design styling/interior product design, production processes in the laboratory, presenting their work to collaboration partners/clients, and ending with an exhibition.³

PBL is an approach that is built on learning activities and real tasks that challenge students to solve problems related to everyday life independently and in groups. The project-based learning approach creates a constructivist learning environment, where students build their own knowledge and educators become facilitators (Goodman and Stivers, 2010). Curriculum implementation with the PBL approach model helps prepare students to develop skills, develop empathy by listening to clients critically, evaluate the work of themselves and others, develop independent learning, and work in teams (Galford, 2015). Problem solving-based learning will help students learn how to communicate, collaborate, compromise to achieve common goals, and find the most relevant solutions to solve the problems they face (Asojo, 2021). Project-based learning will help generate new innovations. Students become superior in competence and skilled in overcoming real problems they face effectively through teamwork.

In addition, so that students have collaboration skills, also ace in management, and social¹⁰ communication, combining PBL with Service Learning is considered appropriate. PCU has a tradition of⁶ serving the community by strengthening regional development, responding to the education and health needs of the community, and contributing to the cultural life of the community. Through service learning, students get¹ the experience of real direct interaction with the community where they live. Service Learning provides many positive aspects for students' personal development, namely personal and interpersonal development; understanding and applying knowledge; engagement, curiosity, and reflective practice; critical thinking; perspective⁴ transformation, and citizenship (Eyler & Giles, 1999). The Service Learning method has an impact on the development of student soft skills, such as Caring, Creative and Critical¹³ Thinking, Leadership, Teamwork, and Communication skills (Arlina, 2009). Service Learning is a holistic education which integrates all student aspects: academic, emotional, spiritual. The requirements for the service learning method include: 1) Link to curriculum of study program, which means a

service can be based on mono-discipline or multi-disciplinary/cross study programs; 2) Meaningful service learning, namely the lecturer brings the learning process from the classroom/studio to the field so that students gain experience in community groups that need services; 3) Reflection, namely lecturers and students reflect as part of a continuous learning process. Lecturers give students time to realize the impact of the services provided; 4) Diversity, service learning helps students understand community diversity, understand multi-perspective approaches and planning and be able to develop conflict resolution skills; 5) Partnership, service learning requires a collaboration. There is collaboration between lecturers, students, communities and funders to achieve the right goals; 6) Monitoring, lecturers monitor during the SL program, so that activities become an important focus; 7) Duration and intensity, SL is carried out in a fairly long period of time, more than one month, because it includes the stages of problem identification, preparation of types of programs, implementation and monitoring, and reflection (Kuntjara, 2013: 21-22).

3. Case Study Project: Innovation Design For Cultural Space

This article is the result of the author's observations of participants with different levels of competence, namely 6th and 8th semester students. The first observation is the implementation of PBL in the Interior Design and Styling for Cultural Space and Interior Product Design for Cultural Space courses in semester 6, then continued in LEAP program in the 8th semester. This continuous learning activity goes through the design thinking stages, namely the understand (ethnographic studies), observe (empathy mapping), point of view (problem seeking & goal setting), ideate (concept based on community potentials designer-community ideas), prototype (incorporate community's artifacts in the design and co-creation/co-implementation) and testing (community evaluation, usability test and reflection) (Thamrin et al, 2018; Carroll et al, 2010). In the design process that uses the design thinking method, the involvement of intuition, imagination and creativity is very important, because it will sharpen the sensitivity of students' feelings in solving real problems in society. The process of dialogue in the design and collaboration between students, lecturers, and the community will help measure the success of PBL implementation. Testing through dialogue in the presentation will explain whether the results of the design design have answered the user's needs. Evaluations and reflections made by users are useful for assessing students' ability to solve problems and provide services to the community.

3.1. Regionalism Interior Design and Styling for Cultural Space

Project for students of the Interior Design for Cultural Space course implements the concept of regionalism. Regionalism emphasizes the disclosure of the characteristics of a region in modern architecture. This approach is a criticism of modern architecture which views architecture as basically universal. Regionalism is love of one's locality, pride in its accomplishments, and loyalty to everything in it brings about a state of mind known as regionalism. In turn, regionalism elicits the common interests of a community and fires its members with the energy to realize those interests (Harris, 2007). Building local communities in the learning process and appreciating cultural heritage is important in the design. Regionalism-based works will always involve the senses in their creation, embody and express local cultural processes, promote environmental conservation, and increase public awareness about the environment around them (Thamrin, 2015). Interior Design is an applied discipline that has the potential to help provide solutions to improve human life and the environment. The project carried out in this article aims to provide students with knowledge about awareness of socio-cultural issues

in the local environment and how students learn to provide design solutions and serve community needs.

The title of the project carried out by semester 6 students is Innovative Regional Design of Cultural Spaces in Surabaya. This design is in the form of library facilities that accommodate cultural activities and create sustainable learning for the community. The assigned project is a public space with a minimum area of 500m², which accommodates cultural, socialization, and educational activities. The project location is in Surabaya with a real existing site and floor plan. Groups are divided into 8-10 students, with each group being guided by one tutor.

At the initial stage, the author as a course lecturer and the Head of the Studio contacted the collaboration partner, namely the Surabaya City Library and proposed this project. Students conduct an initial search at the stage of understanding and observing the project object through social media and then conducting field observations to collect physical and non-physical data. They made in-depth observations about the function, condition of the existing site and its potential (site analysis) and its role in educating the public. Observation of problems related to products and collection objects that have valuable value for the local people of Surabaya in the context of culture and science. Students are asked to observe user activities from both managers and visitors, behavior, attitudes and user space. They involve themselves and participate as users and managers through an empathy approach and then reflect on the needs of the design object in terms of interior design, both in terms of function, aesthetics, atmosphere and space experience. Interviews were conducted with the manager of the design object, the community and the local community. They explore what is the special identity, vision, mission, objects and values that inspire the design object. They also searched and studied various literature on interiors as well as ¹⁾formation from academic texts related to the design object as a basis for design reference. At the point of view stage, students describe the needs of the design object in terms of interior design, both in terms of function, aesthetics, atmosphere and space experience (programming). Then formulate problems (problem statements) that need to be solved together with the group and the accompanying lecturer. After that, together with the student team, they integrate all findings (user, need, and insight) and think of initial solutions that can answer the problems that have been formulated. The formulation of the problem is in the form of suggestions on how to create an interior design of cultural space that elevates locality values and has an impact on sustainable community learning through experiential learning that can be created by interior designers.



Figure 1. Understand and observe, point of view stages (Photo: Bryan Documentation, 2022)

At the ideate stage, students brainstorm with various methods, such as mind maps and affinity diagrams and explore various alternative design solutions, which is then followed by presenting their respective brainstorming processes and deciding on the best alternative design ideas as the best solution. The next step, they put forward the formulation of the programmatic concept and transformed it into a clear design concept using various visualization methods using digital technology. Students together with the team involve users in focus group discussions to get input for improvement.



Figure 2. Point of View, Ideate, Design Critique, and Prototype (Design by Cecilia Hana, 2022)

They carry out joint activities to evaluate and critique designs with users and supervisors. After that they improve the design and carry out interior styling based on an agreement with the user. The final evaluation in the form of a design presentation was carried out with users (leaders and library staff) online (new normal era of the covid pandemic). Students as participants present the results of interior design renovation plans, and users provide input and criticism. The lecturer accompanies the discussion and concludes the results of the evaluation inputs. After the evaluation ends, they (users, lecturers, and students) make reflections on the overall implementation of the program.



Figure 3. Interior Design Styling and Test Stage (Photo: Bryan and team, 2022)

3.2. New Normal Interior Product Design

The Interior Product Design for Cultural Space course is a theoretical and practical course that produces interior products that address issues of cultural values, behavior and community needs. Aspects of innovation and sustainability are important considerations in the design, in addition to considerations of raw materials, aesthetic aspects of form, proper function, size and ergonomics, correct and strong engineering and construction to support the load, as well as aspects of production efficiency and commercialization considerations. The product designed is a sitting facility for a public room in a hospital. Sitting facilities are one of the interior products that are most needed by ¹² community and have the complexity of the problems closest to the analysis of the human body from the point of view of ergonomics.

The development of product design, especially for interior filling facilities based on contemporary culture, is still a wide area to be explored, considering that culture is very broad in scope. Meanwhile, in the field there are still many interior product designs for public facilities that

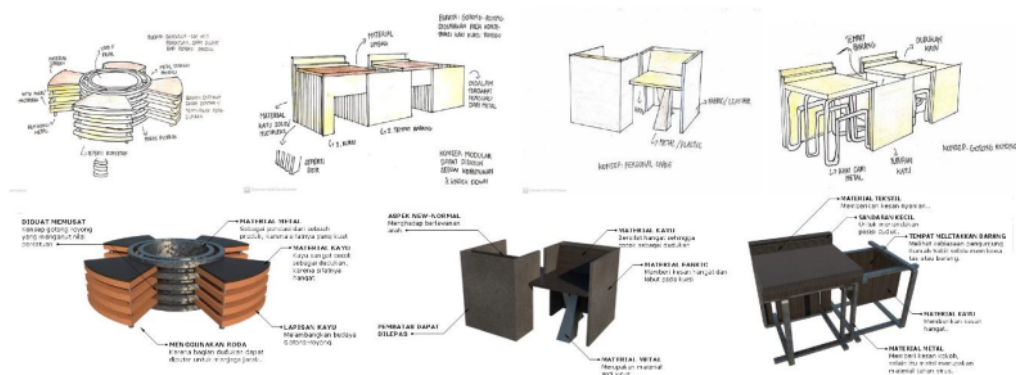
are still standard, so they seem boring and require new innovations. In addition, the sustainability aspect in responding to environmental and health problems due to the Covid-19 pandemic is also important to think about in every design creation decision. Therefore, interior product design in responding to emerging phenomena and issues with a cultural premise of innovation and sustainability is a challenge for designers. The project that was appointed for 6th semester students in the Interior Product Design for Cultural Space course was to design a sitting facility with the main material made of wood and or a mix of materials. The product design output is in the form of sitting facilities placed in public spaces such as hospitals. Students choose product placement locations for projects with their groups. The location of product placement in interior design is adjusted to the proximity of the student's domicile. Real existing site and floor plan, designed interior area + 100 m².

At the understand, observe and point of view stages, students collect data regarding the development of the social environment in the face of the new normal and the development of new designs that accommodate the need for spatial distance and protection of public health. They track changes in habits made by the community and find important problems and then look for solutions. They observe and analyze existing designs and assess the optimization of functions related to new behaviors and habits facing the new normal of the covid pandemic. In addition, they observe the situation of public spaces and observe the hierarchy, accessibility, and product placement in the space.



Figure 4. Understand and Observe Stage. Documentation of observations of interior design, furniture, and human behavior while at the Gotong Royong Hospital Surabaya
(Photo: Favian, 2021)

From these observations, students found the fact that the existing products were not in accordance with the health protocol and were only marked with a cross on the part that should not be used. Students find real problems for new design proposals that pay attention to spatial distance and pay attention to health protocols. After finding field data and literature data that support product design standardization, students create a programmatic concept, namely designing a multifunctional sitting facility product that pays attention to spatial distance, pays attention to function, shape, production costs, can be used for a long time/sustainable, and applies community cultural values. The ideas emerged from the activities of the local community who always cooperated when doing something to achieve a common goal, in this case gotong royong to solve community problems and care about common health. After establishing the concept, at the ideate stage students make alternatives and develop them. They analyze the design through joint critique with fellow students and their supervisors.



After the ideate stage, students make working drawings and make product prototypes in the production process. Students are involved in making them in laboratories or workshops chosen by students with the supervision of laboratory assistants and supervisors. After the prototype is finished, students evaluate the strength, ergonomics and comfort when the product is used. They carry out evaluations with their supervisors, which are followed by design improvements. After that they will hold an exhibition outside the campus to get feedback from the community.





Figure 8. Final Product Design (IDD0000061439, IDD0000061441)
(Design by Favian, 2021)

3.3. Leadership Enhancement Program (LEAP)

The OBE-LEAP ID Study Program curriculum offers a choice of LEAP pathways in the fourth year (semesters 7 and 8), including Research and Innovation, Community Engagement, Industrial Experience, and Global Exposure to provide a choice of a variety of learning experiences according to student interests, allowing students to choose topics and thesis with an approach and specialization based on their interests. The ID Study Program provides academic freedom for lecturers and students to collaborate with industry and various communities, both formal and non-formal institutions. Lecturers can express their ideas freely in the classroom/studio/laboratory as well as outside the classroom or in academic forums, as well as providing opportunities for students to express, create, present and publish their conceptual ideas, and actualize them on various occasions.

As mentioned above, PBL-SL activities are part of curriculum implementation. In this article, the author specifically describes the Leadership Enhancement Program (LEAP) Applied Research which involves the collaboration of final year students (semester 8) from the Interior Design Study Program and the Interior Product Design Program in designing the Herbal Library and developing the village area in the city of Surabaya. This activity was carried out for 5 months, going through the stages of preparation, design planning, monitoring, reflection and evaluation.

The main partners for this LEAP project are the Nginden Jangkungan Herbal Library and 15 Nginden Jangkungan Herbal Village Community VI – I Surabaya. Supporting partners include the Surabaya City Library and Archives Service, PCU Library, PCU ID Study Program Lab, and LPPM (Research and Community Service Institutions) PCU. Sources 1 of funding for the activity came from the Surabaya City Public Library and Archives Service and the Indonesian Ministry of Research, Technology and Higher Education (Ristekdikti). The main partner's roles include providing objects for projects, helping material subsidies for styling and product implementation practices, providing a place for discussion, and consumption. Main partners and supporting partners provide time for focus group discussions (FGD), provide input during product design ideas presentation & interior design styling, as well as provide input for design improvements. The main partners also help work on styling and product prototypes with students and lecturers.

The Herbal Village Library provides a place for the realization and implementation of space and facility designs in accordance with community activities that are closely related to developing herbal cultivation in the village. The herbal library facility is held as a center for education of herbal plants, their empowerment and utilization. The existence of this library was welcomed by the community, and in the future it is hoped that it will develop into a herbal tourism village. The Surabaya City Library Service helps direct and bridge important information

regarding library needs and requirements. Supervising lecturers involve students in designing the interior design of the library and its facilities.

Participation and ethnography between partners, supervisors, and students in LEAP activities including focus group discussions/discussions, training on the manufacture of plastic waste products and eco print training are very beneficial for partners. The training activities to make creative products from plastic waste were carried out by students & lecturers with children, while the eco print training was carried out with mothers from Herbal villages. With this activity, partners are resources that provide mutually beneficial applied knowledge for the development of student creative talents (learning process for citizens and students). The benefits of implementing project based learning and participatory service learning for student learning processes include increasing creativity and design quality; besides being useful for socio-cultural appreciation and implementation of environmentally friendly regionalism concepts for long life education for the community, students in the future. The results of the PBL-SL realization of interior design and styling I and product design of the Kampung Herbal LEAP (Final Project) Library are as follows (when the activity was carried out it was still the COVID-19 pandemic era in 2021)

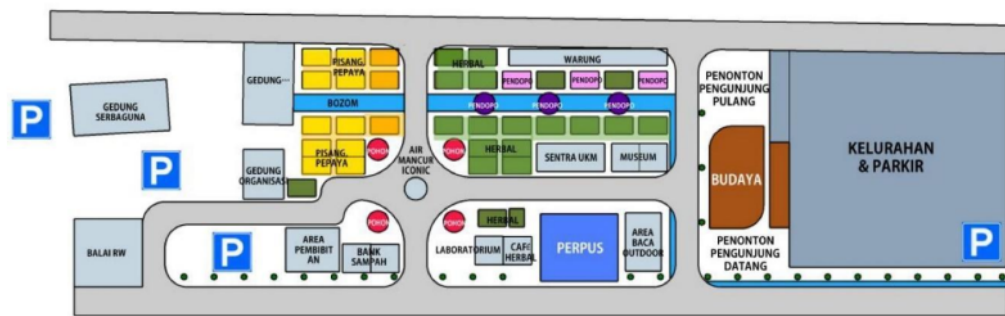


Figure 9. The plan to develop a tourist area in the Kampung Herbal Jangkungan Nginden Surabaya by IDS students (Nathania), IPD students (Mozart) and their supervisors. At this stage, the space facility as the object of the project is the library discussed with the Surabaya City Library and Archives Service (Design: Nathania, Mozart, Laksmi, Diana, 2021).



Figure 10. Left: Understand and observe stages to understand the real needs of the community and discover the potential of the environment.



Figure 11. Approach to the community through training on plastic waste management for children (raising awareness of environmental friendliness from an early age) and eco print training for community mothers. The public knows the environmental potential and sustainability of plastic waste and the potential of herbal plants for creative product development (experiential learning, collaboration, and participatory education).



4

Figure 12. Focus group discussion with the Herbal Village community and the Head of the Surabaya City Library and LPPM (research and community service institutions) PCU, along with the final results of the prototype interior design and styling and interior product design collaboration of students, lecturers, herbal library staff, and residents of Kampung Herbal Jangkungan Nginden Surabaya



Figure 13. The construction process of the Kampung Herbal Jangkungan Nginden Surabaya Library building was carried out by community members with the supervision of students and lecturers (Photo: Nathania, 2021).



Figure 14. The stage of making product prototypes at the ID Study Program Lab PCU (Photo: Natania, 2021)



Figure 15. Interior Design Styling of Herbal Library, Jangkungan, Nginden Surabaya (Interior Styling: Nathania and Mozart, 2021)

At the end of the activity, students presented their activities with partners and supervisors for the evaluation and reflection stage.

4. Conclusions And Recommendations

Through the implementation of project based learning and service learning, a method has been successfully tested in a responsible manner to achieve learning outcomes according to the expected profile. This activity can be used to improve the education curriculum which has a real impact on improving the social environment. Many benefits can be obtained from this activity. First, at the understand and observe stages, students gain a deep understanding of the aspirations, characters, and values that exist in society. At the point of view, ideate and prototype stages, students gain quality improvement in design quality through potential mapping, critical analysis, brainstorming, criticism, development and evaluation. Their creativity is growing, and they get enough space to bring up new innovations. At the test stage, students can review, reflect, and self-evaluate the strengths and weaknesses of their design for the next design improvement.

Overall, the implementation of this learning provides an introduction to the public about the existence of the designer profession (interior design and product design) and its activities. Communities become more aware that they need to increase awareness of their cultural environment. Awareness of the values that they aspire to be further increased through design design, thus indirectly actually increasing the potential for promotion of designer services. People are becoming aware of the possibilities interior designers can do to support their aspirations. As for students, they become more aware of their competence as designers in building a better environment. Students and lecturers become more aware that they have a role through their expertise, talents and talents to contribute to society in real terms (acquire reflective knowledge about the future role of designers in making positive social change). Thus, designers empower their expertise in increasing the local potential and credibility of the city of Surabaya.

Acknowledgements

The author would like to thank all parties involved in PBL-SL: students of Interior Design and Styling for Cultural Space namely Bryan Marcellino, Jeremy Abednego, Felicia Anggraeni, Theresia Danielie, Marianne Glorianna; Interior Product Design for Cultural Space students Favian Ferdinand and Ariesta Aprilia, LEAP Final Project students Hendro Mozart Delahoya and Nathania Mellisa, residents of Jangkungan Nginden Herbal Village Surabaya, leaders and staff of Jangkungan Nginden Herbal Library Surabaya, Surabaya City Library and Archives Service, PCU Library, Lab ID Study Program PCU, and Research and Community Service Institutions PCU.

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