

# Experiential learning and transformative pedagogy in beginning design studios: Qualitative assessment of an accelerated process in a limited timeframe.

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## Background

This paper describes a five-week foundation studio that functions as an alternative path to students who were not accepted in the first admission cycle. To catch up with their peers, the students need to acquire the necessary skill set in two five-week sessions instead of the whole first year of the studio. Additional two eight-week sections are also taught in summer (Figure 1). In addition to improvement of students' graphical and communication skills introduced in the first session, the second session focuses on advancing students basic design skills as a synthesis of a series of exercises introduced successively with increasing complexities and culminates the experience in a final design (Strand, 2017). This sequence has been designed and refined by Associate Professor Katherine Strand since the Fall semester of 2013.

The compression of the academic goals of the studio into an extremely short timeframe represented the instructors with several challenges during the second summer session. To be able to join their cohorts in the second year, the students have to acquire all the visual and oral communication skills developed by their peers in 30 weeks. They also need to gain the fundamental design skills upon which the summer studio students have to achieve if they do not want to fall behind in the next phase of their education.

This group of students is more mature than the regular semester students with more life experiences. Evidence showed that this cohort was also demonstrated determination to accomplish the tasks required in a precise and timely manner. Another sign of their maturity, the students needed more elaborate discussions to convincing than the average freshman.

The studio is a core pedagogy in design education (Crowther, 2013). Its uniqueness is a product of experiential and transformative learning practices. To address the brevity of the studio while taking advantage of the student's maturity, the instructors decided to rely on experiential learning or as defined by Felicia Patrick as "Learning through reflection on doing" (2011) to accelerate design learning. On the other hand, the literature defines experience as a conscious awareness of practices that lead to learning through contemplation, reflection, and iteration (Kolko, 2012). Despite the apparent conflict, the studio pedagogy focused on emphasizing the processes more than the outcomes. That shift from outcomes to process necessitated the development of a series of daily reviews explicitly designed to provide the students with continuous feedback (A. Y. Kolb & Kolb, 2005).

This paper is intended to assess the conflicting dialects between doing and reflecting on phenomenological frameworks (D. A. Kolb, 2014).

CONCEPTS		EXERCICES	15 Weeks	8 Weeks	5 Weeks
SCALE AND SPATIAL EXPERIENCE <i>Transition, Corridor, and Threshold</i>	INSIDE	EXERCICE 1: Surveying threshold	1	1	1
		1-A_Identification of different thresholds through photographs. Scale human figures.	2	2	2
		1-B_Abstraction of the photograph towards section. Introduction of the human figure of different sizes and positions, working at different scales. Construction of thresholds models.	3	3	3
	Passage	1-C_Perspectives 1-point of the thresholds introducing light and human scale.	4	4	4
		EXERCICE 2: Interior Embedded Passage	5	5	5
SHADE AND SHADOW <i>Shade/Shadow and 2-Pt Perspective</i>	TECHNICAL INTERLUDE	EXERCICE 3: Technical Interlude	6	6	
		3-A_Construction of the model and graphic elaboration of its plants, elevations and sections with shadows.	7	7	
		3-B_Perspective of two points with shadows of the piece.	8	8	
		3-C_With Photoshop, they introduce the piece in a real environment chosen by each student. Scale, shadow and materiality.	9		
PROGRAM AND TECTONICS <i>Materiality, Detail and Connection</i>	Materiality, Detail y Connection	3-C_Collage is continued with Photoshop. They introduce the piece in a real environment chosen by each student. Scale, shadow and materiality.	10		
		INSIDE OUT	11		
	Spaces and Territories	EXERCICE 4: Planning your Escape	12		
		4-A_Generate a space-escape with adequate dimensions and spatial qualities. Starting point Richard Diebenkorn's painting, Ocean Park series.	13		
		4-B_Draw the plant and an axonometry of the space-escape	14		
SITE AND LANDSCAPE <i>Mat, Surface, Field</i>	OUTSIDE IN	EXERCICE 5: Inventing the site	15		
		4-C_Understanding space from the human body, distinguishing three types: private, selective and public.			
		4-D_Design of a more complex territory with different spatial qualities and with the three types of space.			
	Topographic, Site and Landscape	5-A_Generate a 2-point perspective of the space-escape and introduce it into a real extreme topography chosen by the student.			
		5-B_From the gestural drawing, generate a complex imagined landscape.			
		5-C_Refine and develop their "sites" through exploring relationships of natural and artificial / hardscape and softscape / material and immaterial.			

Spring course 15 weeks: 6 hours/week  
 Summer course 8 weeks: 12 hours/week  
 Summer course 5 weeks: 16 hours/week

Visual Gramar: 42 hours total  
 Technical Skills: 40 hours total  
 Presentation Skill: 8 hours total

Figure 1. Comparison between the three versions of the Foundation Studio at Kent State University

## Phenomenological Frameworks and the Design Studio

Seamon (2000) described three specific methodological types of phenomenological frameworks, that can be used separately or in combination. The first is "First-person phenomenological frame," based on the personal first-hand experience of the researcher. The second is the "Existential-phenomenological frame" that consists in observing the experience of other persons; in this case, the method (tools and procedure) has to be defined depending on the type of research and researcher. The third is called "Hermeneutic-phenomenological research." The latter is based on the interpretation of the work of the creator (textual or images based.) It should be noted that there is no connection between the creator

and the researcher, who have to discovery meanings through the work itself. Seamon (2000) marked the work of Thiss-Evensen (1987) about the hermeneutic reading of many building from different cultures and period to establish the connection between the elements of Architecture with the people experience.

Each of these three frameworks was extensively used in during the session and for assessing the Design Studio experience.

## **Qualitative Assessment**

In order to understand the impact of the various approaches to students learning and understanding, the authors developed a series of qualitative assessment methods to analyze the complex phenomenon;

1. Analysis of studio weekly activities
2. Communication with individual students
3. Reviewing projects with and without the students
4. Perception interpretation using a survey to assess students learning after two additional studio experiences

## **Analysis of Projects and Exercises**

### ***Week 1:***

The first exercise is based on Merleau Ponte's articulation of phenomenology as the existence of the human being in the pre-existing world that surrounds it. The exercise investigates students' first-hand experience of tangible and intangible moments through a physical threshold. The investigation required the students to delineate a collocation of threshold atmospheres to form an understanding of spatial scales existentially connected to the human body. Furthermore, the exercise emphasized the experience by suspending program typology and surficial design qualities while highlighting body postures within a space. In addition to linking spatial qualities directly to their bodies, a human figure referred to "Kobe" was used. It was intended to engage a sense of personal familiarity while embedding the sensibility towards bodies and dimensions other than their own subliminally.

The students were asked to launch a series of photography-based inquiry by examining the threshold of spaces in their daily routine. During the spatial exploration and examination, the exercise not only strengthened students' ability to recognize architectural elements, but they were also able to understand the spatial quality through depiction by capturing multiple sill-level sectional moments of a series of un-programmed spaces using photographs as shared entourage. A series of photographs were organized and formed two parts of scale contraposition studies; varying the scale of space versus Kobe and varying the scale of Kobe versus space.

To enhance the spatial study and reinforce first-person learning framework, the students were asked to take a picture of each other in different body positions. These were then manipulated to saturate the images to create silhouettes. These were also referred to as Kobe. Placing various scales of Kobe in space further enhanced the students' perception of understanding spatial quality in two-dimensional plans and sections (Figure 2). It should be noted, however, that the students found it more difficult to use the plan views due to their conceptual unfamiliarity.

The subsequent threshold inquiry was to investigate three-dimensional spatial characteristics of the moments created in the previous study. The students used subtracting and carving formation as the primary modeling technique using Styrofoam to create occupiable spaces that were a series of interstitial spaces of varying sizes and consequently experiences. Using one-point perspectival projection was introduced to complement the visual communication skills developed through the

building of physical modes. The perspective was also used to study and enhance students' ability to advance their circular approach to conceptual design development using models, perspectives, and orthogonal projections. Each threshold study was paired with one perspectival projection and at least one Kobe figure to imply functionality of space that further students' perception of spatial development.

The last investigation sequence was to link the three-dimensional threshold inquiry into a cohesive form that combined two experiential passages (Figure 3). The experience of the two passages is related but not alike; moreover, one passage was a detour, and the other was the Variorum with a designed sequence of multi-experiential moments. This exercise helped the students to recognize the role of passage as a narrative that delineates transition and translation of body in space. As a result, the threshold studies turned into an experiential passage formation that pedestrians encounter. Thus, the passage design became a design of a cohesive experience and a narrative.

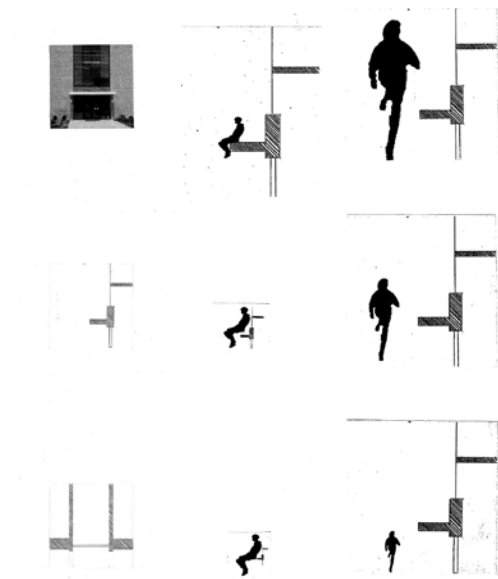


Figure 2. Use of Human Figures generated from students photographs to study scale and spatial qualities.



Figure 3. Combining thresholds to create the multiple passages

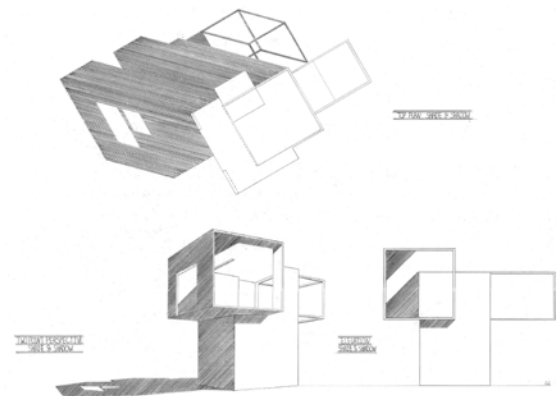
## Weeks 2

The second-week exercise adopted the hermeneutic narrative approach in which it integrated the introduction and application of the two-point perspective projection with shade and shadow. The project was not merely about the perspectival projection, but also emphasized the interplay between space and the human body in the context of place and time. The students placed the drawn objects (Figure 4) in an environmental condition based on their experience and interpreted the material from the context and body movements.



*Figure 4. An object used for the two-point perspective and shades and shadow exercises*

This study procedure was initialized by a set of fundamental exercises for the students to acquire a basic competency with two-dimensional shade and shadow on plan and elevation, drawing systems, drawing techniques, and perspectival elements (Figure 5).



*Figure 5. Perspective and shadows*

The students were asked to match the three-dimensional objects to suitable rich environments. To that end, the object was digitally superimposed with scaled texture and body figures in various postures aimed specifically at establishing a context and creating a narrative. This post-production process created an opportunity for a Hermeneutic interpretation of place and time. The quality of the resulting outcome of this Hermeneutic pursuit is an attempt to curate a design narrative through the interplay of design environments, body postures, and materials (Figure 6 & Figure 7).



Figure 6. Creating a curated narrative through the use of perspectival projects



Figure 7. Use of materials and humans for scale and context

### Weeks 3 & 4 & 5

In a matter of transformative learning, the final project embodied the intelligence of consolidating the phenomenological experience of locating people in space. This project preserved not only first-hand, and hermeneutic narrative design approaches, but also embraced an existential design approach that engaged the immediate experience of the surrounding environment. Throughout the subsequent phases, the students built upon the previous knowledge and experience that was executed with the inquiry forming the final design process.

The final investigation was a mini-capstone project of the summer foundations design studio that involved three significant sequences; the design of *my space*, *our space*, and *our space in a place*. All three orbit around the theme of escape and finding comfort. The background of the theme was to reimagine a place for solitude when one finds a place for peace, quiet, and comfort. As this task unfolded, each student began to use personal experience to define body comfort. As a result, the individual model studies reflected and were informed by the human body postures in space that were investigated earlier studies.

The investigation was based on conducting a literature review of an American painter, Richard Diebenkorn, and his Ocean Park painting series. The painting number 109 was selected from the Ocean Park series for the students since it was on view locally at the Cleveland Museum of Art (Figure 8).



Figure 8. The painting and the Gallery spaces

Building upon the earlier experiences, the primary objective of this project was to develop multiple studies of individual occupiable space that interpreted and extracted from the Ocean Park painting. Each of the studies delineated parts from the painting: lines, aggregation of points, and planes. These parts were translated into the one person escape, *my space* (Figure 9). Each student selected a physical modeling technique as the primary method to further the interpretative investigation. The model construction methods ranged from utilizing folding spaces, point-line-plane spaces, to massive volume spaces.

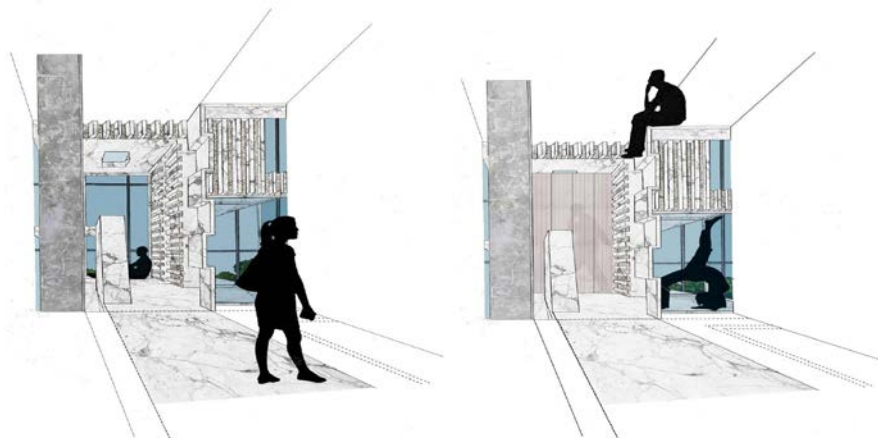


Figure 9. Examples of *my space* based on interpretation of Richard Diebenkorn's, painting number 109 from his Ocean Park painting series.

While the "*my Space*" investigation concluded within a week, the students were asked to extract some of the most significant spatial qualities from each study and combine them into a structure that could be shared with multiple people; it was called "*Our Space*." The shared structure had multiple private cuddle spaces but also contained at least one semi-private adjacent area (Figure 10).

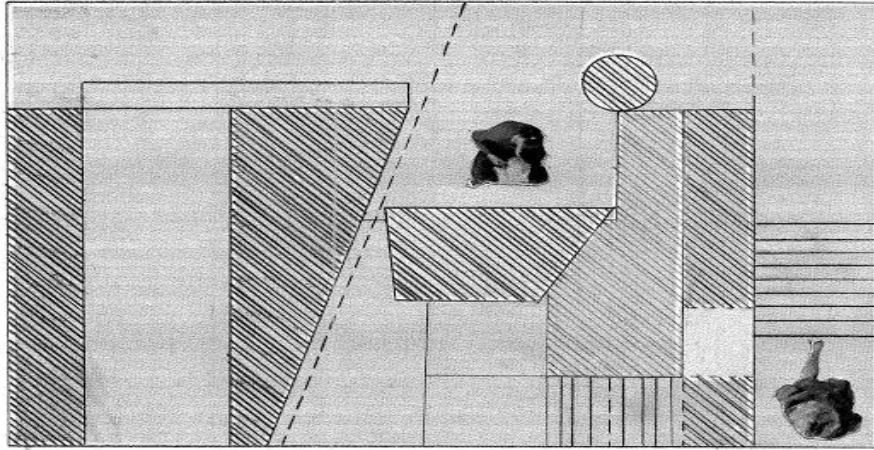


Figure 10. Example of Our Space

A subsequent exercise was presented to the students following Our Space design study, which introduced domain of a site that the students' design must reflect and address the surrounding culture and physical condition. The site was to be selected in or out of the new architecture building, designed by Weiss and Manfredi Architects. This was the building in which the students were using during the summer. This exercise integrated the existential-phenomenological design approach which utilized students' experience of the building. The students designed their final project based on their experience of the space.

An essential aspect of the Our Space study was that design decisions were made based on the students' first-hand experience. The students used their experience as a database to form a narrative and a design position that addressed the building issues, as well as selecting a location to situate their design structure. The technique of engaging the architecture building ranged from attaching, placing, extending, and hanging from the ceiling (Figure 11).



Figure 11. Engaging the building and the design space for solace

The final students' outcomes were naturally formed by the process of sharing and reimagining space as a group. The design process from "My Space" transformed into "Our Space" which was a synthesized approach of the prior weeks of design practice. Although a significant amount of precedents were given to the students throughout the design process, the final designs contained their own identity through interpretation and the experiential design approach. The result of "Our Space" was the synthesized knowledge of a five-week studio.



## Post Studio Assessment (student perception survey)

### Development of the Students Survey

The instructors developed a qualitative survey instrument to assess the learning outcomes of the studio. The outcomes of the survey were then compared to the stated objectives of the studio. However, it should be noted that the survey is not a part of the phenomenological study. That section was analyzed based on observation and informal discussions with students. However, the survey is used here to gauge the summer students' assimilation in their second-year studios as well as to measure the retention of skills and knowledge.

The instrument constituted eight (8) open-ended questions. The survey questions were purposefully crafted to encourage contemplative responses from the students' experiences.

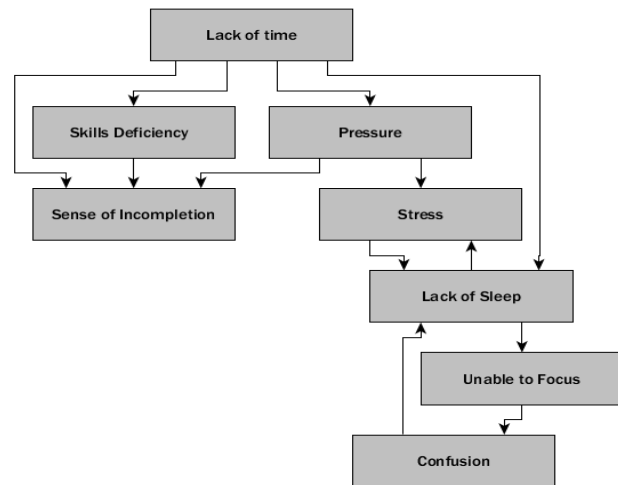
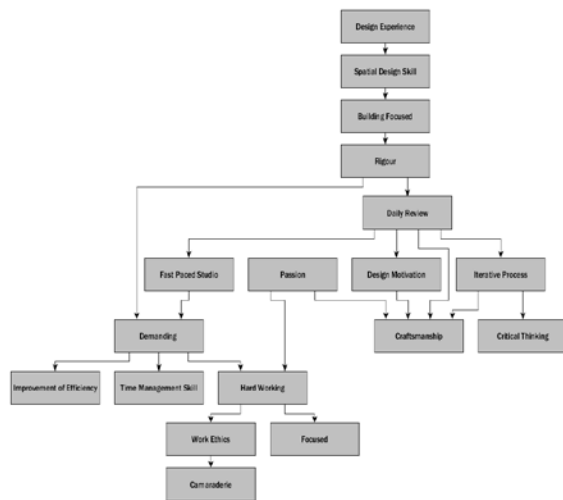


Figure 12. Analysis of survey outcomes: positive experiences

Figure 13. Analysis of survey outcomes: negative experiences

### Student Perception

The analysis of the qualitative data showed two distinct outcomes; positive and negative. The positive experience of the students may be summarized under four categories (Figure 12);

1. **Motivation:** the students found the studio to be motivating and exciting. This has resulted in them paying attention to the craft of design, presentation, and communication of ideas in models, three-dimensional or orthogonal drawings.
2. **Critical thinking:** Improvement of critical thinking was expressed as an outcome of the class. This is due to the daily reviews and the insistence of the instructors on advancing design through iterative processes.
3. **Passion:** Increase in the awareness that passion is needed to acquire the level of dedication to achieve the highest goals in architecture education needs
4. **Exceptional work ethics:** Because of the high—pace of the studio, the students expressed their development of time management skills and focus. Additionally, being in such a positive and supportive environment caused the students to develop strong friendship and camaraderie.

On the other hand and as a result of the increased demands, the students could not find the time to complete all the tasks required on a daily bases. This has caused them to feel pressures. As a result, the students expressed increased levels of stress causing their lack of sleep. This, in turn, has resulted in increased pressure, stress, inability to focus, and to a few a state of confusion (Figure 13). In addition, the students expressed that their confidence in their graphic communication skills was deficient

compared to their peers in the second year. However, all said that this deficiency was short-lived and they are able to gain all the necessary skills in a few weeks.

## Reflections on Studio

Based on the outcomes of the studio at the end of the five weeks and the reviewers' comments, the students were able to achieve a high-level of sensitivities to design issues, especially those relating to the human body and comfort. Currently, some of the best students in the second year are from the summer studio. In fact, some of them have formed a "Mr. Calvin's Think Tank" where they meet, contact faculty, and work on design competitions outside their curricular duties. Mr. Calvin is a personified idea character upon which narratives are built for every design charrettes or discussion.

On the other hand, five students decided not to pursue architectural education. The pressure and the lack of sleep were sufficient reasons for them to quit. A serious review of workloads and assignments need to be considered to accommodate a reasonable amount of work with sufficient hours dedicated to sleeping and relaxation.

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