

PROCEEDINGS OF THE

4th ICCI

INTERNATIONAL CONFERENCE
ON CREATIVE INDUSTRY 2017

CREATIVE EXPERIENCE IN DESIGN

ORGANIZED BY :

DEPARTMENT OF INDUSTRIAL DESIGN
DEPARTMENT OF INTERIOR DESIGN

FACULTY OF ARCHITECTURE
DESIGN AND PLANNING

INSTITUT TEKNOLOGI SEPULUH NOPEMBER
ITS CAMPUS, SUKOLILO SURABAYA, 60111, EAST JAVA - INDONESIA

THE 4th INTERNATIONAL CONFERENCE ON CREATIVE INDUSTRY: CREATIVE EXPERIENCE

Surabaya - Indonesia, 11 October 2017

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Published by:

ITS PRESS
2017

ISBN 978-602-5542-00-8



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PREFACE

On behalf of the Organizing Committee, I am very pleased to welcome you to the 4th ICCI that is held in Surabaya, the capital of East Java that has known with the colonial building around the city.

The world we live evolved to the best form where experiences are well designed. Creative workers tend to push their work to the area that would result emotional respond. Many creators will dig deeper to find the way to impress the emotional side of audience. The 4th ICCI theme in 2017 is about how people in the creative area of industry develop the idea of engagement, touch point and measured effect of people in the social field, creatively. This area become a crowd junction that collaborate (traditional) creative field with other discipline such as cognitive science, architecture and environmental design, psychology, linguistics, theatre, information design, ethnography, brand strategy, interaction design, service design, storytelling, technical communication, etc.

We hope there will be fruitful partnership and collaboration following the enthusiastic discussion during the conference.

General Chair



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4th ICCI

INTERNATIONAL CONFERENCE
ON CREATIVE INDUSTRY 2017

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No. 061362/IT2.VI.10 /DL.07.00/2017

is awarded to

Ir. Prasetyo Wahyudie, M.T.

as

Author

in International Conference on Creative Industry 2017
on October, 11th, 2017 at Bumi Surabaya Hotel, Indonesia.



Surabaya, October, 11th, 2017
The Faculty of Architecture, Design and
Planning, ITS
Dean

Ir. Purwanita Setijanti., M.Sc., Ph.D

General Chair of 4th ICCI,



[Signature]
Rahmatsyam Lakoro., S.Sn

INTERNATIONAL
CONFERENCE ON
CREATIVE INDUSTRY

The Studies of Student Attachment in Environment Behaviour at Studio Classroom

Case study: Studio Classroom of Interior Design Department ITS

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Abstract — Human behavior in a room is determined by the comfort factor of space. One of them is the furniture layout in the room. To improve productivity, the layout of furniture with a good circulation needs to be adjusted based on user needs and comfort. The arrangement of furniture in this case becomes important, therefore the study of environmental behavior design on student attachment is necessary considering the room is used for learning. Objects taken are similar-sized studio classroom 101 and 305 Interior Design Institut Teknologi Sepuluh Nopember (ITS) which used everyday.

Keywords – *behaviour, furniture layout, attachment, circulation, studio class*

1. INTRODUCTION

According to Lang (1987), there is a reciprocal relationship between human behavior and the built environment. The study relationship of human behavior and the built environment is known as the Environmental Behavior Studies. So far, research on Environment Behavior Studies emphasizes social and psychological aspects. Not many studies of these types that relate specifically to the treasury of design knowledge, especially interior design. The study of Environment Behavior Studies in the treasury of interior design knowledge is not much different from the study of architectural sciences, which is not only

about the function of space but more on the quality of space, so that humans can utilize space according to the desired behavior (Snyder, 1979). There are many studies of Environment Behavior Studies that discuss the behavior of occupants in a residential environment. Not many behavioral studies have been found in the educational environment, in this case the design campus. The interesting thing to be studied in the design campus is the students as the activity actors have the character of activity and the different lecture needs with other students. According to the curriculum, the design learning process, in addition to being given face-to-face theory, they also have independent activities, namely consultation

and studio work process. Design studio is the core space in the interior design course. According to the character of studio lectures, the students are required to work in space independently but structured. The sense of having a studio room by observing student attachments while working in a studio is one of the parameters of analyzing the reciprocal relationship between the perpetrator and the built environment.

2. LITERATURE AND THEORY

There are several necessary theories to support this research, including place attachments, studio learning area ergonomics, furniture layout, and circulation.attachment.

- A. Attachment to a place is the need to search and gain closeness for reasons of comfort, safety, security and protection. According to Bowlby (1982 in Prakoso S, 2015), basically everyone has an emotional experience with a particular place, both pleasant and unpleasant. The place is meant is where we live and daily activities.

Hakkinen A and friends (2012) also describes attachments to places based on the following aspects of review:

(a) Performers. There are 3 levels of actors: the individual level is done by individuals so that they are personal, group level is done by groups that symbolically share the place of activity, as well as the overlap level performed by individuals as well as groups.

(b) The process of psychology. It is the psychological process of an individual / group relationship to a place. (a) affection, is attachment to the place emotionally meaningful positive (b) cognition, is attachment to the place due to memories-beliefs-meaning & knowledge, (c) Behavioral practices, is actions related to the place.

(c) Object / place. Distinguished socially and physically. In socially, place attachment is caused by social relationships and group identity. While physically, differentiated on the spatial scale of space, city, built environment and

natural environment.

Scannell and Gifford (2010) have also described an organizational framework known as tripartite model of place attachment. An organizational framework consisting of 3 separate dimensions, but complement each other in understanding place attachment, is the dimensions of people, processes and places. The preferred first dimension to be discussed is the person, who the perpetrator has attachment to a particular place. This can happen on an individual or group / group level. The second dimension is the psychological process, how the role and the combination of emotion, cognition and behavior in a particular place. The last dimension is a place object character. Scannell and Gifford mean places in physical and social studies. Physical as a form of built environment, while social as a function of symbol or arena / social means.

The research above supplements the understanding of attachment to the place in Scannell and Gifford (2010) research, but Hakkinen adds to the perpetrators at the overlap level. This means that attachment to the place can occur because of the needs of individuals and groups. But how the psychological process between individual and group interests has not been discussed further.

Physically, according to Gustafson (2014 in Prakoso S, 2015) attachment to a place is a route that represents an emotional bond to a place based on personal preference, especially since the person has high mobility. For example, attachment to the place because of the needs of work convenience, ease in interacting with friends, security in storing personal needs, safety or protection against harm. Therefore, emotional bonding in place can occur in some places. As for the social, caused by the existence of bonds to institutions or joint ownership, social activities, satisfaction to the environment and the presence of friends or colleagues in a particular environment.

The physical attachment is closely related to the character of the behavioral

environment according to the needs of the user. Users have high ownership of an object or place, if the character of the design environment support activity. Ownership may occur temporally or permanently. As explained by Altman and Chemmers (1984) the following:

There is control and ownership of place or object on temporary/permanent basis. The place or object may be small or large. Ownership may be by a person or group. Territoriality can serve any of several functions, including social functions (status, identity, family stability) and physical functions. Territories are often personalized or marked. Defense may occur when territorial boundaries are violated. (hal. 121-122)

Based on the statement, the attachment to the design environment has characteristics (1) can be temporal or permanent, (2) place or object can be small or large scale, (3) ownership by individuals or groups, (4) Facilitate several functions, (Status, public interaction) and physical functions (tool storage, work convenience)

B. Ergonomics according to Nurmianto Eko in his book entitled Basic Concepts and Applications (2004), ergonomics can be defined as the study of human aspects in the work environment reviewed by anatomy, physiology, engineering, management and design.

Based on the study, the ergonomics required in this study are:

a.) Working table

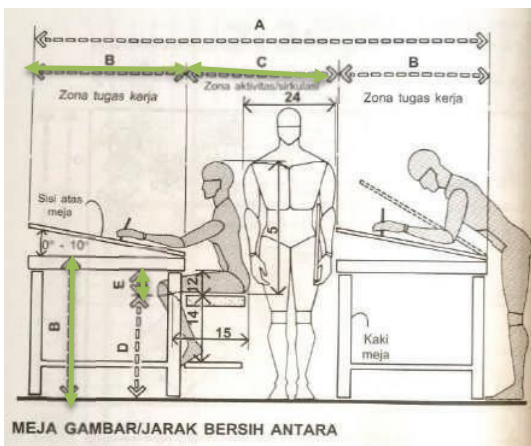


Figure 2.1 Clean distance between tables

	in	cm
A	108-120	274,3-304,8
B	36	91,4
C	36-48	91,4-121,9
D	21-27,5	53,3-69,9
E	7,5	19,1
F	48-60	121,9-152,4
G	36-60	91,4-152,4
H	30	76,2
I	12	30,5
J	54-60	137,2-152,4
K	27-30	68,6-76,2

Figure 2.2 In between tables guide dimension

The figure above shows the range of net clearance between tables (C) and the various clearances required for a proper intersection between the person sitting and standing with the table. Tables as high as 36 inches or 91.4 cm, as opposed to ordinary table height, will allow the use of a desk either sitting position or in a standing position.

The exact minimum clearance between the top of the seating surface and the underside of the table as shown (E), is very important because it will allow the user to work on the table. An altitude-adjustable bench can greatly help offset any variation in body size. The presence of footrest is also an important consideration.

b.) Visibility to the screen

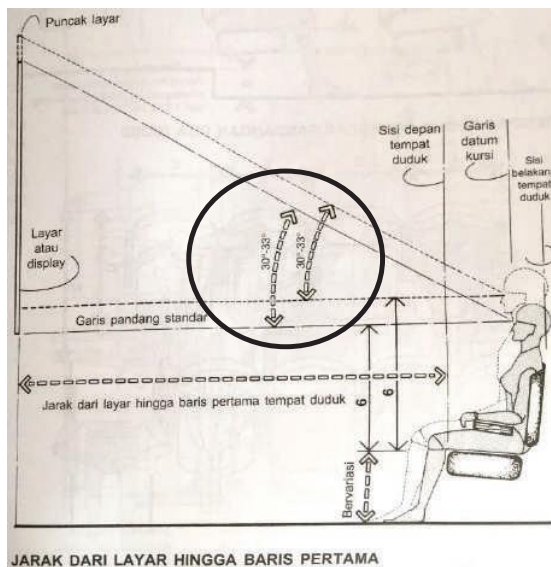


Figure 2.3 Visibility to the screen from first row

	in	cm
A	59,0	149,9
B	56,3	143,0
C	57,8	146,8
D	68,6	174,2
E	72,8	184,9
F	28,1	71,4
G	29,6	75,2
H	27,3	69,3
I	9,3	23,6
J	33,9	86,1
K	36,6	93,0

Figure 2.4 Distance to the screen guide dimension

The minimum distance between the first line and the display, in this case either a whiteboard or a projector screen as a student learning medium can be defined by drawing a line of sight from the top of the projected image to the observer's eye sitting on the front row at an angle of magnitude no less from 30 degrees and not more than 33 degrees.

C. Furniture layout in classroom

Effective learning can start from a classroom climate that can create an exciting learning environment, so it is necessary to consider the arrangement of classrooms and their contents, during the learning process. The classroom environment needs to be well laid out to allow for an active interaction between students and teachers, and between students.

Actually, there are many kinds of seating positions that can be used in the class like lined back, semicircle, opposite, and sebageinga. Usually the position of the seat lined backward digunakan dalam class with the method of learning lectures. And for discussion method can use the position of semicircle or dealing. And as an alternative seating arrangement with the method of group work or even the form of cooperative learning, then according to Lie (2007: 52) there are several models of bench arrangement commonly used in cooperative learning, such as:

- a. Horseshoe tables, student groups at the end of the table

The horseshoe seating type describes the authority of the teacher and separates the

teachers from all groups, while still providing supervision to each member of the group. This type facilitates consultation and communication between teachers and students, but this formation will take a lot of time when each group member has to present tasks to other group members or require discussion among members, as they must change the seating formation.

- b. Lines long tables

This type of arrangement sometimes reduces students' learning ability, because it makes the teacher have absolute authority and makes the student dependent on the teacher and does not occur group communication.

- b. Group table, students in one group are placed adjacent

In this type of seating, students more easily communicate without limitation, resulting in interaction and help-help between members, two important elements in this type, namely: leadership and cooperation. What the teacher is concerned about is that the members of each group are no more than six students, with a leader and a teacher position as a group counselor.

- c. Table square / circular shape

Circular and square tables can be used for discussion format, in this type there is no group leader, and this type is suitable for learning that requires memory or direct practice, such as on dance or sports lessons, so that students can freely see the teacher and can directly Practice what the teacher / trainer teaches.

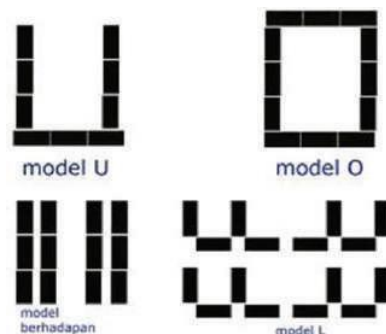


Figure 2.5 Seating position model arrangement

D. Circulation

Circulation in this discussion is space outside the furniture, usually used for student traffic in the classroom. There are several models of circulation in space based on placement and door openings among others:

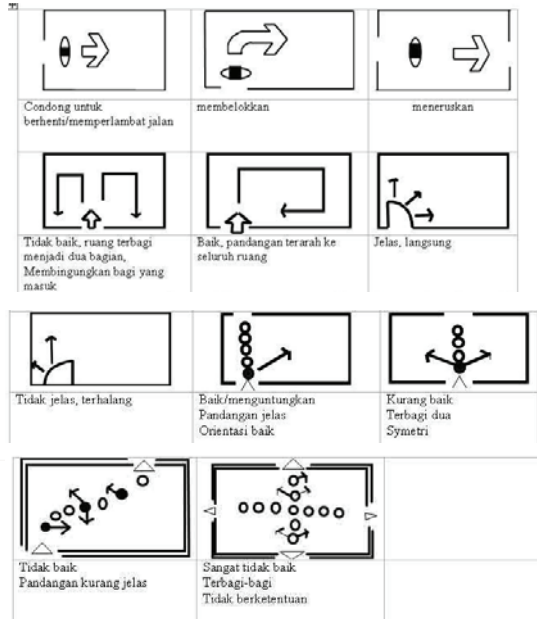


Figure 2.6 Circulation of space in general

3. DATA AND METHODS

This research is naturalistic, because it basically does not start from something 'empty' but based on the perception of researchers because of experience and knowledge obtained through the literature. The problem in naturalistic research is called focus. According to Moleong, the problem or focus is tentative meaning can be changed until the position of researchers are in the field. The change of focus / problem on naturalistic research is a sign of progress towards refinement. This research has a setting context in the built environment of lecture room in ITS Interior Design Department. The actuality that will be revealed how the character of the student design behavior is appropriate for studio lectures as well as what kind of environment behavior that supports the student design activities, so there are student attachment in the studio to work effectively. Space as a container setting behavior is not only a physical boundary

but also bounded symbolic. Lang (2010) termed this as an Advance Function. This naturalistic study not only involves physical formation as an object, but also addresses the behavior of the user as the impact that the physical object shapes.

A. Research Methods

This research uses qualitative method through phenomenology approach. Working methods using Zeisel analysis (1984), namely through observation behavior (observing behavior), observation physical traces (observing physical traces) and interviews. The three methods of work are applied in this study, because in addition to easy to do, credibility can be achieved by repeating observations and can reveal events that are likely out of predicted or rare occurrence.

B. Data Collection Technique

The design methods and data collection techniques used to produce the design are as follows:

- a.) Literature Studies: Studies of place attachments, ergonomics of studio learning areas, furniture layout, and circulation.
- b.) Observation with behavior mapping: done by place centered mapping is making sketches or base map. The basic sketches or maps in question are a 305 floor plan drawing and 101 Workshop room at ITS Interior Design Department. On the basic sketch / map, various alternative layouts will be created that create and maintain optimal conditions, build a positive socio-emotional climate and create a good interpersonal relationship atmosphere. The data on the sketch or base map will provide information on the available space, space, and furniture layout to be observed, embodied in AutoCAD 2D drawings.
- c.) Physical trace observations: Physical trace techniques are used to systematically look at the state of the setting so that an estimate of activity can be made. The results of observation in

the form of documentation photos, videos, notes and sketches, and can be a diagram that clarify the physical traces. Physical traces in this study aims to obtain data that complement the behavioral analysis that has been done in the observation stage of the behavior mentioned above. The needs observed in the physical trace include furniture data (form, layout, dimension, position), identity (lecture and drawing equipment, dressing mode, activity pattern), as well as other attributes related to student activities.

- d.) Questionnaire: A questionnaire on student responses on the layout of studio furniture 101 and 305 Interior Design of the Sepuluh Nopember Institute of Technology.

4. RESULT AND DISCUSSION

New students in particular as the main users in classrooms 101 and 305 Interior Design ITS majority comes from public schools. Thus, the basic capabilities of individual designs are not the same. In the basic design courses as the initial basis of design is different from the lessons learned in public schools, which requires creativity. This can be supported by a comfortable seating arrangement for students.

This research uses the object of studio classes 101 and 305 Interior Design ITS by sampling some students of Interior Design ITS as many as 63 students, with profiles of respondents as follows:

Table 4.1 Respondent Profile

CRITERIA	SUB CRITERIA	AMOUNT
Gender	Male	23
	Female	40
Generation	2013	32
	2016	31

This is done to find out the user's opinion about the comfort of seating arrangement in the studio class. In addition, researchers also made direct observations by sketching the basis of various forms of alternative layout furniture created from the existing layout.

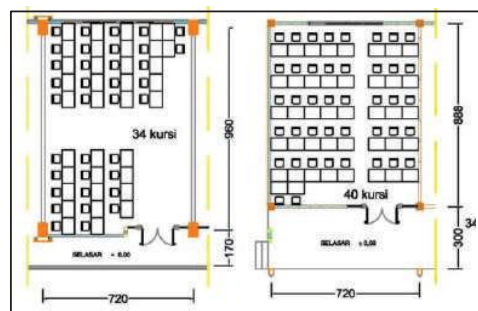
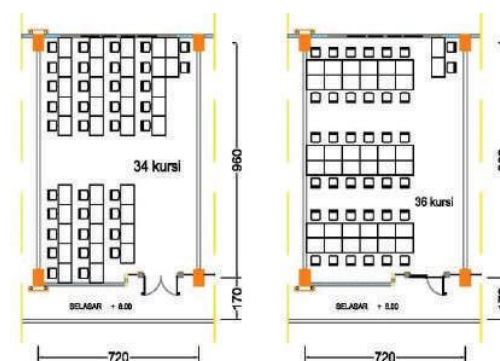


Figure 4.1 305 Classroom (Left) and 101 Classroom Existing Layout

Here is a sketch or base map of the location of the studio space that will be used as an observation. In setting lay out existing second space, use model of Seminar / Length Desk. In room 305 only able to accommodate 34 - 38 seats. The addition of 4 seats can be placed at the front door. This addition is ergonomically inappropriate, because it interferes with access to circulation. Distance between tables is 80 cm. In setting layout Room 101 Workshop, able to accommodate 40 seats, with the distance between tables 80 cm. Setting lay out above looks solid with limited circulation access. In this position, the front row is less comfortable to view any text or material on the LCD Projector. Distance of lecturer and student desk is too tight, so the assistance system is done beside.

Setting will be done only in Room 305, a group of sight, taking into account the capacity of students at least 32 people per class. In this pattern adjust the number of students, thus exceeding the ideal maximum number of each group, as many as 6 students. Sketch setting can be seen as picture below.



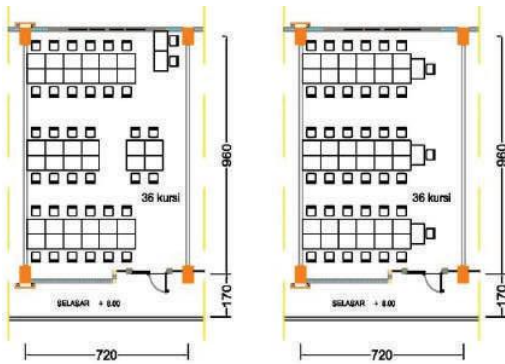


Figure 4.2 Sketches Room layout 305 and the development

In the figure above, there are three pattern development, where the first pattern of the desk of educator / lecturer is in front. In this position the grouping is seen in the student, the lecturer can observe the whole from the corner of space. In the second pattern, the middle table can be used as an island model that can be used for assistance, laying out sample objects and presentations. In this position, the lecturer can attend more than one student simultaneously. The last model is single assistant, where every lecturer coordinator and assistant lecturer can focus on student of group.



Figure 4.1 Lined Seating Arrangement

As can be seen in the picture above, with seating arrangement such as seminar lined model and the position of the blackboard and projector right in front of the students is quite comfortable to use when used for theoretical course. However, for the basic design studio course with a long duration of study time there are some students who turned his chair face to interact with his friend. Interaction is necessary as well as entertainment to support student creativity. In terms of ergonomics, this makes users uncomfortable. Similar to the results of direct observation, as many as

29% of respondents stated that the model seating arrangement was comfortable, because students convenience saw the blackboard and projector during the theory course. So the rest expressed the discomfort of a seating model like this. Furthermore, a direct observation of the parallel seating arrangement is presented in class 306.



Figure 4.2 Facing Each Other Seating Arrangement

In the figure above, the seating arrangement is faced with the blackboard position and the projector is in addition to making students rotate the chair during the theory course. This position is not too much of a problem because the time duration of the theory class is quite short. This is supported by the opinion of respondents as much as 71% stated comfortable with the seating arrangement. In addition, sitting face to face makes students more easily interact with friends, and see each other's work so as to motivate individuals to give their best work. This creates a happy atmosphere as can be seen in the picture below.



Figure 4.3 Facing Each Other Seating Situation

The wake of a happy atmosphere in the studio class with the seating system facing the students to increase creativity so that student productivity becomes better.

5. CONCLUSION

Based on the results of the study, although the seating arrangement is made in a row facing the blackboard and projector, there is still a tendency of students to turn the chair on the basic design course to interact with friends. This stated is not optimal because the duration of the time of the basic design course. Thus, the seating arrangement with the facing each other system is more precise and efficient because it only needs to rotate the chair with a short duration in the theory course. While the basic design courses with a long duration of time, students feel comfortable with can interact with friends, motivate to give the best work, increase creativity, and create a warm atmosphere in the classroom.

6. ACKNOWLEDGEMENT

Parties to be acknowledge were Interior ITS students as respondent who have helped this research.

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