1. TITLE

Spatial Preferences and Perceptions of Personal Creative Space in Architectural Studios

2. AUTHOR

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ABSTRACT

Architecture education requires a large portion of time dedicated to design thinking and design developments, students are required to undergo creative progression which develops them into creative individuals. The thinking and making of architectural designs requires space designs that can accommodate these special needs and to foster creativity. According to studies done by Thoring et al (2012), there are five types of creative space and five types of spatial quality. Based on these factors, this study aims to identify the preferred design of creative learning spaces based on case studies at selected architectural studios in institutions in Malaysia. The objectives for this study are to understand what are ‘creative learning spaces’ as well as to identify the preferences and perceptions of students studying architecture on studio space designs and layout for creative learning. This study is carried out to identify the theory in designing of creative learning spaces. This study shall convey the elements of consideration when designing or redesigning creative learning spaces for architectural studios. A toolkit was developed and was used to interview senior architectural students through a random selection method. The key findings from this study is that architectural studio designs must consider
many aspects such as personal spaces, collaborative spaces, working spaces such as for model making and reference area. These areas must be carefully planned and arranged in zones to accommodate the nature of each space requirements in terms of privacy, level of acoustics tolerance, lighting, ambience, indoor climate, flexibility, incorporation of new teaching and learning technology, storage area and other needs to achieve a comfortable creative learning space.

**KEYWORDS**

*Architectural Studio, Creative Spaces, Space Design, Learning Space*
1. Introduction

Malaysia has introduced STEAM based learning (Science, Technology, Engineering, Arts and Mathematics) in its education system (Bahrum 2017). Higher learning institutions nowadays have given some attention to construct new, remodel and refurbish teaching and learning spaces as they aim to provide better environment, facilities and to adapt to the latest teaching approaches (AAU 2013, Narum 2013). Yet amongst the factors often ignored in learning and teaching is the impact of the space itself (Van Note Chism & Bickford 2002). As part of the creative industries, the architecture education field has an important role in assisting the country’s mission in achieving its nation education tertiary goals in producing outstanding architecture graduates. In providing quality graduates, the education must include a holistic curriculum accompanied by appropriate and up to date learning and teaching facilities. In architecture design process, students are required to undergo creative process which develops them into creative individuals.

Similar to other activities, architecture creative process required a space that can accommodate the process of creativity. Creativity requires time, space, and freedom to allow deep focus towards the activities and subjects. Students must be allowed to communicate, argue, and discuss the information and outcomes together (Teresa Grainger, 2006). For public universities in Malaysia physical space provisions are set by guidelines from Economic Planning Unit (EPU) of The Prime Minister Office. This guideline is limited to terms of sizes, dimensions, materials, finishes and cost. There are no existing guidelines in designing creative learning spaces in Malaysia, which leads to design of architecture design studios or architectural learning and teaching spaces. Creative education like architecture requires spaces that promote creativity and facilitate the learning process of architecture education pedagogy. According to studies done by Thoring et al (2012), there are five types of Creative Space; Personal space, Group space, Exhibition space, Prototype space and Transition space, and five types of Spatial Qualities; Infrastructure, Stimulation, Knowledge Repository, Social Interaction and Culture. Based on the types of Creative Space and Spatial Qualities, this study identifies the design components of creative learning spaces in architectural design studio based on three case studies of upper year studios in Malaysia based on views and perceptions of postgraduate students (Part II LAM).

2. Creative Learning Spaces

Creative learning requires a student to be an active learner, which means that less frontal teaching is needed (Stojanova, 2010). The design the learning
spaces have to support the creative activities and stimulate students in becoming active learners. Besides that, creative learning spaces should be promote interaction and movement of students, which leads to the generation of ideas (Thoring et al., 2012). It have been suggested by Stojanova (2010) that creative learning requires flexibility in the classroom in terms of furniture which can moves easily, modern visual and audio equipment, and diverse library or references. Based on the literature review, the principles in designing learning spaces that promotes creativity can be outlined as following:

i) Connection towards natural elements indoor and outdoor - day lighting, water elements, greenery and landscape, proven to stimulate the students’ curiosity and provide ample source of ideas (Hashim & Denan, 2015);

ii) Open plan design - providing flexibility by using movable furniture, walls and partition. Thus, involves the students in the design process of the layout arrangement. Involving the students into the arrangement will show that the students’ opinions mattered, and it links to winder understanding about listening as part of democratic practice as promoted in Malaysia (Clark, 2010);

iii) Hierarchy of space – layer of spaces which students can choose to utilise either by groups, individually, public or privately. Isolation while working is usually associated with creative attitudes (Deniz Hasirci, 2003).

2.1 Creative Process

Creative process is defined as the journey from ideas into production of producing creative product. According to Guilford (1967), the creative process involve fluency, the richness of the ideas to solve the problem; flexibility, the adaptability and exploration in finding better paths or solutions; originality, ability to come up with something new and unprecedented; and elaboration, planning the solutions and analysing the details and components as a whole. Study by Deniz Hasirci (2003) suggest that creative process can be evaluate based on the following criteria; originality, completion, self-courage, sensitivity, negativity, identification, and movement.

3. Architectural Studios

Students of architectural course spend a great deal of time learning and discovering the course in studios. Hence, this study will focus and investigate
on the preferences and perceptions of students studying architecture on studio space designs and layout for creative learning. Architecture design studio is the centre of the model and is the core for architectural education. The practice of architecture education generally through a ‘project based studio’ approach (Ozorhon et al., 2012). Thus, the number of hours spent formally on this course can be up until 16 hours per week, with a total of 8 to 10 credit hours, unlike other courses which only have 3 to 5 credit hours. This is not amounting to hours dedicated for independent research and self-learning. Architecture design studio is a student-centred approach which is different than the traditional teacher-centred approach where the instructor has the full control and the students are an empty vessel ready to be filled with knowledge.

Soliman (2017) affirms that the design phases applied in architectural design studio are divided into three phases; Pre-Design, Schematic Design and Design Development Phases. According to the author, there are different activities and task that the students are required to submit. Referring to Figure 9, in Pre-Design phase, the task given by the instructors/ tutors are to conduct researches on the topics or issues set during lecture inputs. This is either done individually or as a group investigation; students are also required to find any similar case studies and precedent studies which then lead to the formulation of individual’s project brief. The findings will be presented by the students to the instructor/ tutors and shared with the rest of the studio members. At this phase activities are conducted both in and outside of the studio and discussions towards the presentation of this phase is done via physical face to face meetings and also online sharing. Here, collaborative spaces are often used to perform the face to face meetings.

During the schematic design phase, students are to continue their studies on site which contextual study and site analysis at this instant they may be doing this individually or collectively depending on the given sites. Then the students will proceed with zoning and site planning. With the help of sketches and drawings, students will present their drawings, concept, and mock up model to the instructors / tutors in tutorial format and formal presentation in the studios or exhibition space. During the presentation, students will be given feedbacks on their design progress. Throughout this phase of design / project, students also are able to learn from their peers through informal discussions in studios and while listening to their peers during presentations. Throughout the design development phase, the teaching and learning method is similar as of schematic phase, however it is more vigorous and the task is to be completed for submission. Here, face to face meetings are regularly set; usually twice a week and assessments are periodically done to check on student’s milestones. At all times, students have access to the studio and work by themselves or
with their peers. Students are also known to utilise their personal studio workspace and collaborative space for courses offered to the students throughout the semesters. Here, studios are used for formal and informal teaching and learning. Hence, the design of individual works space and studio generally must be able to accommodate the various needs of the entire course.

In student-centred approach places the student in the middle of the learning process and they are expected to actively seek out new information and knowledge from their surrounding with the guides of the teachers (Tengku Kasim, 2014). The exploration and discovery of new information and knowledge are guided by the instructors / studio tutors. This process allows the opportunity to learn both independently and cooperatively with the teacher acting as a coach (Froyd & Simpson, 2008). The student-centred approach will develop the students’ soft skills which are identified by Ministry of Higher Education Malaysia, whereby there are seven soft skills elements chosen for implementation namely; i) communicative skills; ii) thinking skills and problem-solving skills; iii) Teamwork; iv) life-long learning and information management; v) entrepreneurial skills; vi) ethics, morals and professionalism, and vii) leadership skills.

It is observed that professional courses that utilises studios such as architecture, interior design, planning and landscape architecture are equipped with teaching and learning spaces that assimilate their nature of work in the real world. This differ from other courses such as business, accounting and law that utilises more often traditional class room layouts that does not reflect their nature of work in the real world. Studios or collaborative work spaces in architectural practices are similar to those the universities.

4. Methodology

This study seeks to identify the theory in designing of creative learning spaces and convey the aspects for consideration when designing or redesigning creative learning spaces. Based on review of past literature (Thoring et al., 2012), this study have adopted its theory. In Thoring et al. 2012, it states there are five types of creative learning spaces; Personal Space, Group Space, Prototype Space, Exhibition Space and Transition Space; and five spatial qualities associated with it; Culture, Knowledge, Stimulation, Infrastructure, and Social Interaction. Based on the objective of the study, three case studies were selected which is made up of two public universities and one private university. All of which are situated within Klang Valley, Malaysia for ease of access for the survey to be conducted. Each respondent are introduced to the five types of creative learning spaces in the existing architecture studio. Besides that, in each case study the
identification of issues are inquired with the existing studio designs on the five types of creative learning spaces based on the five types of spatial qualities. The study aims to come up with a recommendations and suggestions on shaping studio design guidelines by taking the users perceptions on the questionnaires distributed in the previous step. The method employed for this study is through an open-ended questionnaire of the current users of the existing architecture studio. The sampling size consists of 45 respondents, enrolled in LAM Part 2 studios; meaning postgraduate studios. However, only 39 questionnaires were complete and taken into analysis. A toolkit has been developed to assist the process of data collection. It is an adaptation of a toolkit developed by Thoring, Mueller, Badke-Schaub, and Desmet (2017).

**ADD THE QUESTIONNAIRE TOOLKIT DESIGN**

The limitation of the study is that there are limited case studies and respondents as it is a self-funded research. Other school of architecture might have different building form and layout which might derive to different findings and conclusions.

5.0 Analysis

6.0 Recommendations

7.0 Conclusion

References

Use Times New Roman, 11 pt, justified at single line spacing for the main text. Margins for A4 paper size (21.0 cm x 29.7 cm): inside 4.4 cm, outside 4.4 cm, top 5.1 cm, bottom 5.2 cm. The first paragraph after a heading should be started flush left (not indented). Composition of paper should have a clear Introduction, Methods, Results, and Conclusion. Do not use multiple columns.

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\[ x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \]

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Illustrations should be included directly in the files you submit. They should be at high resolution (300 dpi). All illustrations must be numbered consecutively using Arabic numbers in bold type (e.g. Fig. 1, etc).
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