Difficulties and Possibilities in the Design of First-Year Design Courses in Architectural Schools

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Abstract: This paper begins with a review of recent changes in curricular contents of first-year design courses in major architectural schools. This is based chiefly on the study of research papers and teaching materials offered by the schools. Diversified approaches to basic design re-animate the debate of the role of design in architectural education and of the relationship between basic design and later architectural design. Improvements to the preparation of teaching materials, especially the project briefs, and the systematic documentation of the development processes of student works are considered important in both communicating training goals and in offering lessons for other teaching systems. The paper uses some design modules developed in NCKU to see show research can help improve teaching methods and design outcomes. Insufficient technical and moral support from the school makes innovations in design difficult to fulfil their educational goals. The lack of consensus about the role and function of first year design and the lack of objective methods in assessing the quality of a teaching programme add to the difficulties of research in this field. However, lessons can be leant from music and sport trainings for example for the development of a more effective and logically structured teaching programme. Improvements can be made in making experiences and achievement in each system transferable to others.

Keywords: basic design, architectural education, teaching materials and methods

Introduction

In Taiwan design teaching was, and still is, a rather neglected area in architectural research. The so called basic design, generally the first year design course, did not gain visible notice until the 1990s after the involvement of a young generation of architects and designers in architectural schools, including those newly established ones. New ideas were brought in and renewed teaching programmes and fresh outcomes were developed [1]. The 1997 Basic Design Conference (Taiwan) marked a milestone in the trend of reforming first year design teaching in architectural schools [2].

Basic design was, and generally is, considered the common ground for design-related professions, such as architecture, product design, fashion and graphic design. Such courses in Taiwan's architectural schools were considered being strongly influenced by the Bauhaus tradition and Japanese publications in design fundamentals that

were translated into Taiwan successively since the 1970s [1,3,4]. In architectural schools basic design was generally loosely structured by projects covering design elements (study of composition, colour, texture, form and space etc.), gradually increasing its complexity and adding architectural elements (such as structural and functional considerations). Most teachers in architectural schools do not think highly the importance of first year design courses or their influences on student's attitude toward and the development of learning capacities of design and architecture.

Recent changes in first year design courses

Recent changes in basic design curricula in architectural schools show a strong tendency of developing architecture's own basic design, tying first year design courses closer to later architectural design training, and having the course content responsive to Taiwan's social and cultural context. All schools underwent some changes, challenged the more traditional basic design, and try to develop a new and systematic course structure [1,2].

Some characteristics of this change in curricula design are significant, they are:

- The absorption of new design trend and theories, especially the latest architectural 'style' (witnessed in many schools)

- The adoption of principles from other disciplines (aside from plastic arts) for training, such as cinema and drama (such as Fon Jia University and Chon Hwa University) [1,2,5]

- The newly emphasised foci on the learning process and on the training of environmental observation and design thinking rather than solely on the familiarity of design elements and principles [in almost every school]. To some degree this trend has replaced former emphasis on the relationship between form and structure, construction etc., namely other professional fields of architecture [2,5-7].

- The broadening of design considerations from predominantly visual to much wider dimensions, such as social, cultural significance of form (such as Dong Hai, Tan Jian and Cheng Kung Universities)

- A trend in strengthening the character of a school, often directed by tutors involved. Two directions can be seen: one emphasising the artistic quality of design; the other emphasising architectural design proper.

Some schools even restructured undergraduate architectural design courses into three parts where the first part being basic trainings for architectural design (Tan Jian's first three years and Fong Jia's first two years)[1].

Diversity of projects and foci of design training show that there is no consensus about what basic design can and should do to prepare students for later architectural education. Some emphasises 'the grasping of professional tools ' and 'creative thinking'; some considers 'the ability to express architecturally' much important than creativity [1]. Discrepancies in teaching programmes do not come from different concepts of 'basic design' but from the concept of design training in architectural education and from the notion of the changing role of architectural profession in Taiwan. The involvement of first year architectural students to work with local communities is a good example [8]. However, different views of basic design, different approaches adopted and different course structures do not prevent these schools from covering similar design concerns and practices in their courses [1,2].

Teaching methods and materials are where philosophy and ideals of design and design teaching are expressed. However, research methodology in this field is still developing and visible research achievement remains chiefly in

the field of graphic design [9,10]. Some difficulties are critical:

1. Effectiveness of teaching cannot be interpreted only as short-term achievement; without sound result (for both the tutor and the students) teaching programmes and modules could be problematic and pointless to the goals of such training. However, it is difficult to judge the effectiveness or quality of a teaching programme from either the written instructions of project briefs or from student works. How instructions are given and how interactions between tutors and students during the processes of project development are crucial yet rarely systematically studied.

2. Though project brief will guide the direction of the development of students' projects and students' design thinking, tutor's teaching methods are crucial for the outcomes. One tutor's innovation can be another's headache.

Although these problems had made it difficult to conduct 'scientific' research in this area, there are ways to improve each system and to document the teaching-learning processes and the design results so that each can draw lessons from other's experiences. Systematic trainings for musicians or dancers offer valuable lessons [11].

Critical reviews, rarely seen lately, are useful materials in communicating goals, methods and value judgment of a design project. *The documentation of the teaching-learning process and the various stages of student works, both satisfactory and unsatisfactory ones, is fundamental* [12].

Improving project briefs

Teaching materials are surely not the only sources where students learn to think and do design. However, the quality of such materials do affect student's attitude toward design. Because many consider that the critical part of design learning dwells in the tutorial process, rarely do tutors invest in improving the distributed materials —goal statement, project description, and working schedule and the like. While it has been a convention in many schools to give a lecture when assigning and explaining a new project, very few schools include the lecture outlines and related materials in the project briefs. Likewise, although many schools have developed their instruction principles for first year design courses, rarely are students aware of this in the beginning [13,14].

Project briefs often contain goal statements, detailed description of assigned projects and required ways of presentation (the rules of the game), key points for evaluation, schedule and reference. These can be improved to be more useful for the learning process in several ways:

- The employment of examples, whether actual designs, published cases or student works, is useful and important. Carefully chosen examples can help clarify project goals and how design outcomes are judged. However, cases should not perform as models that restrict design thinking.

- Materials about the possible stages of works in the developing processes and the diversity of alternatives to a design problem or expression are useful in helping students understand where they are and the importance of interactions with tutors, classmates and references during the process.

- Carefully identifying relevant reference- specifying useful sections rather than just giving book titles- and adding book reviews will help students read critically. Good reviews can also help link projects under study with the whole course structure and later education or practice.

Investment of time and effort in research into these teaching materials and the development of user-friendly briefs is fundamental. Also important is the provision of a series of lectures directly related to assigned projects to help students acquaint with design theories, fundamentals of building design, men and the environment and like. *A conceptual framework or theory* is needed to help students understand the topics under study, the relationship between projects, and the relationship between basic design and architectural practice. Most relevant issues such as design and daily life, the definition of design, design methods and design thinking, design judgment, design and the society and many others, if well organised, will strengthen the teaching programme and improve outcomes.

Some experiments in NCKU

The involvement of outstanding artists in first year design courses since a decade ago has brought in experiences of modern art and gave the course a fresh outlook. The using of pottery clay for studying three-dimensional forms is considered effective and successful and the 'environmental design' module is highly valued.

Pottery clay offers greater opportunities for students to intervene with than plaster or cardboard, which are much often used in design studios for models. Kept wet, pottery clay is highly workable for experiment with form, texture, tools and methods; once dry, it can convey the solidity of masonry, stone and even metal works. It is the highly flexible processes that provide chances for modification and continual tests that are more important in the teaching-learning process. The module is considered effective and successful because after three or three and a half weeks most students can express certain significance or atmosphere through the objects they made. It helps especially in grasping natures of other materials. The working schedule is critical. Less time or fewer student-tutor contacts give unsatisfactory results that are easily recognisable. Also important is that most students can appreciate the final results and tell that progress has been made while in the beginning most did not know how to proceed.

The employment of design theories, Papanek's 'function complex' especially, in this project is found to be very helpful in providing students with a conceptual framework for design thinking [12,15].

Figure 1. Study of cubic forms with pottery clay- earlier stage (left) to final works (middle and right)

Environmental design offers the opportunity to touch full-scale projects and real environmental factors, while most design projects remain 'representations', paper works or models. Apart from integrating design concerns with structural and construction requirements, it stresses the social, cultural dimensions of the environment and the need to respond to environmental constraints via design. The experience of sensitively studying the given places, struggling for an idea, refining via sketches, photomontages, and various kinds of models, and constructing and

modifying the final work is valuable for architecture students. The complexity of the module makes it difficult for students to grasp the essence than the aforementioned one. Over emphasis on social and cultural dimensions of form can easily lead students astray, confusing literal language with formal language. High expectations can lead to disappointment, though different concerns in the module can still be assessed [15,16].

These are the modules that can best exemplify improvements to design teaching via research into teaching materials and methods. Though tutors put efforts into the improvement of other modules as well, less visible achievement is seen. Similar situation is seen in other schools. The reasons may be:

- These modules (such as colour study and composition) are more abstract and more difficult to be well linked to later architectural design, though the issues may be directly relevant to architectural practice.
- Some modules need longer term training to be effective, for example the sense of colour system in space.

Understanding the limits of what schools can do is essential in designing a design course, be it the structure or any individual projects.

Conclusions

A few factors affect directly the design and the quality of first year design courses in architectural schools:

- *The environment*. Including technical support such as wood or metal factories, consensus of pedagogical philosophy to encourage innovations and debates, and investment in related research.
- *The tutors*. Being the key factor to teaching quality, tutors have to build up experiences, make progress, research into almost all aspects of design teaching and be innovative to promote better training outcomes. The general teaching load in Taiwan's architectural schools make this difficult. The ego-centric nature of many designers, in conjunction with the sensitive side of design, make objective discussions and co-operations difficult, which is no good for team teaching.
- *Students*. The willingness to learn is more important than students' intellectual ability, though the latter is essential. Visual literacy and creative thinking that are fundamental to design learning are seriously deficient in Taiwan's high school education. Students have to develop different learning habit and attitude for design.
- *Constraints from design and school teaching*. School time is limited, yet a good command of design needs long time practice. Goals of architectural (design) education have to be set reasonable, robust and responsive to the changing world. The role of design in architectural education has to be defined to guide the design of design courses and first year design should be clearly positioned in the whole teaching programme. Well prepared curricula, substantial contents, and quality tutorial are essential but never easy.

These factors and their interactions form the major areas from where difficulties for design teaching arise. The best possible way for improvement is to make design teaching professional, especially first year design. Music training offers valuable lessons worth further investigations. Research into teaching materials and methods for design is fundamental, and systematic documentation of the teaching-learning process and critical reviews of the outcomes are the basics.

Design courses need quality teaching materials, a sound structure, good interactions with other courses, and good tutorial to deliver satisfactory outcomes. A conceptual framework or theory is needed to help define the role of

and scope of design architectural schools, to help develop a course structure, to link school education with practice, and to define to guide research in this area.

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