Design as Interpretation: Exploring Threshold Concepts in First Year Design Education

Russell Rodrigo
Faculty of the Built Environment, University of New South Wales, Australia

KEYWORDS: THRESHOLD CONCEPTS, HERMENEUTICS, DESIGN EDUCATION

ABSTRACT
This paper explores first year design education in the Interior Architecture program at the University of New South Wales by conceiving the interpretive nature of the design process as a “threshold concept”. According to Jan H. F. Meyer and Ray Land (2002), threshold concepts in learning and teaching represent a transformative and irreversible way of understanding a subject, likened to a portal through which a previously inaccessible way of thinking is opened up to the learner and without which the learner cannot progress. The paper explores the ways in which the interpretive nature of the design process can be characterised as a threshold concept and hence how processes of interpretation can be embedded in curricula and modeled for students through structured and unstructured activities in the design studio.

I. THRESHOLD CONCEPTS AND DESIGN EDUCATION

The notion of threshold concepts emerged initially in the field of economics, where critical concepts within the discipline were seen by economists as being central to overall mastery in the discipline. In recent years, the notion of threshold concepts has been explored in other disciplines including the biological and physical sciences, computer science, accountancy, business studies, mathematics and engineering. Through its promulgation in other disciplines, threshold concepts have begun to be seen as a useful tool in conceptualising and facilitating student learning as well as assisting in the development of curricula, particularly where there have been issues of content overload.

Threshold concepts, as defined by Jan H. F. Meyer and Ray Land, represent a transformative and irreversible way of understanding a subject, likened to a portal through which a previously inaccessible way of thinking is opened up to the learner and without which the learner cannot progress. This transformed view may occur in a short time span or it may occur over a protracted period. The transformed view may in some circumstances represent an overall ‘way of thinking’ in a discipline, a way of perceiving and acting within the field. Importantly, threshold concepts are seen as something distinct from other discipline-based key learning outcomes such as ‘core concepts’. Through the understanding a threshold concept, there may result a transformed view of the subject content, discipline or world view (Meyer and Land 2006: 3).

Threshold concepts, according to Land and Meyer, may be distinguished by many, but not necessarily all of the following characteristics:

• They are transformative i.e., they change the way that a student perceives the discipline
• They are irreversible, i.e., the change in perception is unlikely to be “unlearnt”
• They are integrative i.e., they bring together different aspects of the subject that to the student initially did not appear to be related
• They are bounded i.e., they delineate a particular conceptual space and serve a defined purpose
• They are troublesome for the student i.e., knowledge that is conceptually difficult or counter-intuitive

In the application of the idea of threshold concepts in design education, there has been limited investigation, with the exception of the work of Jane Osmond and Andrew Turner in the field of product and automotive design (Osmond and Turner 2008: 243-260). This research proposed the notion of spatial awareness as a threshold concept in first year teaching but concluded there was little evidence in the resulting student assessment data to suggest that it possessed the transformative characteristics of a threshold concept. Rather than a discrete concept, it was concluded that the ‘confidence to challenge’ or a way of thinking within the discipline, provided a stronger correlation with the idea of a threshold concept.

In this regard, Land and Meyer note that within disciplines that traditionally have a history of general consensus on what constitutes a body of knowledge (e.g. Mathematics, Physics and Medicine), threshold concepts are more readily able to be identified. In disciplines with less defined bodies of knowledge, threshold concepts may be identified through ways of thinking and practicing, rather than discrete concepts:
“...within areas where there is not such a clearly identified body of knowledge it still might be the case that what might be referred to as ‘ways of thinking and practicing’ within a discipline also constitutes a crucial threshold function in leading to a transformed understanding.” (Meyer and Land 2002: 15)

It is argued therefore, for a discipline such as design education, the idea of threshold concepts holds more value when considered in the light of ‘ways of thinking and practicing’, rather than discrete conceptual ideas. Conceiving the interpretive nature of the design process as a threshold concept, it is proposed, offers a way of approaching both student learning and curriculum development through ‘ways of thinking and practicing’.

II. DESIGN AS INTERPRETATION

Interpretation is seen as the act of positioning, of situating ideas within a set of relationships - of holding a point of view. For first year design students, understanding design as an interpretative process often presents a fundamental challenge to established ways of thinking. Conditioned by processes of linear, rational thinking and rote learning, students may struggle with the idea that design problems are constructed by the individual through processes of interpretation, that each individual brings their own experience and ways of seeing the world to a given design scenario.

In Interpretation in Architecture: Design as a Way of Thinking, Adrian Snodgrass and Richard Coyne argue that “to design is to interpret” (Snodgrass and Coyne 2006: 4). The act of interpretation is seen as the act of ‘positioning’ within a set of relationships. At its core, Snodgrass and Coyne argue that design is interpretational when designers are involved in the process of decision making, of assessing possibilities and making creative decisions. Design activity in architecture is interpretational in that it involves the act of positioning.

As an area of scholarly enquiry, hermeneutics, or the study of interpretation and understanding, originated in the nineteenth century practices of the interpretation of ancient biblical texts. Contemporary hermeneutics involves not simply the domain of the written text but all processes and practices that are part of interpretative acts.

In Truth and Method, Hans-Georg Gadamer explores the nature of human understanding, arguing that hermeneutics is a way in which “to clarify the conditions in which understanding takes place” (Gadamer 1975: 263). Gadamer argues that key to scholarly understanding in the humanities is the role of presuppositions, prejudices and preconceptions in the mind of the interpreter. Understanding is therefore a process of interpretation and underlying every act of understanding is an “anticipatory projection of meaning” (Snodgrass and Coyne 2006: 38).

For Gadamer, interpretation involves the act of positioning, of relating one thing to another, of “pointing in a particular direction” (Gadamer 1986: 68).

“Interpretation, then, is the working out of possibilities projected in understanding’, that is, it is the working out of how something figures in the context in which it stands.” (Snodgrass and Coyne 2006: 38)

III. DESIGN AS A DIALOGICAL PROCESS

Prior to the emergence of the hermeneutical model of design activity, it was commonly accepted that design could be described in terms of a ‘science’. Design activity was seen as something that could be represented, described and understood as essentially ‘computational’. Positivist models of design activity seek to describe, map and explain it according to appeals to logic, rational systems and computational models. Here design is understood as a process of problem solving, a process based on analysis and rational thinking.

The hermeneutical model of design activity firstly attempts to address the question of how understanding arises. It does this through the workings of the ‘hermeneutical circle’ i.e., the circular relationship of the whole and the part involved in any act of interpretation. In order to understand a part of written text, for example, the whole must be understood in relation to it:

“The meaning of the sentence as a whole reflects back and modifies the meanings of its component parts, the words. The whole can only be understood in terms of its constitutive parts and these parts in turn can only be construed in terms of the whole that they constitute.” (Snodgrass and Coyne 2006: 36)

When a text is being read, an act of projection occurs in the reader as part of the process towards the understanding of the content. In the initial stages of reading, when meaning begins to emerge, there occurs a projection of the meaning of the text as a whole. As reading progresses, this initial meaning is progressively revised in relation to the perceived whole. Understanding emerges from this dialogical process between the part and the whole.

Hermeneutics attempts to address the question of how understanding occurs. Understanding involves an act of projection. In terms of design activity, the hermeneutical circle is analogous to Donald Schön’s description of design as ‘reflection-in-action’, or the relationship between thought and action. Schön describes design activity as a “reflective conversation with the materials of a design situation” (Schön 1992), that to design is to engage in a process of understanding through generating and interpreting design responses.
Snodgrass and Coyne argue that design is hermeneutical, that interpretation is the core of architectural production and hence architectural understanding:

“...architecture is interpretational in so far as it involves positioning. To position something is to invoke a primary architectural moment. To be positioned is also to hold a point of view, an interpretation, or is perhaps the start of an interpretation.” (Snodgrass and Coyne 2006: 22)

In a related vein, Steve Harfield argues that designers essentially “construct the problems they seek to solve” (Harfield 2007: 1) – that designers personalize a given design scenario, reframing it through a range of personal “preferences, prejudices and expectations” (Harfield 2007: 1). The nature of the design problem is therefore framed by the designer, beyond the pragmatic concerns of the brief. Harfield argues that, for design education, this personalising of the design problem requires “…design educators to drag into full consciousness the largely unconscious world of preference, prejudice, belief and assumption upon which the design process is predicated” (Harfield 2007: 5).

The pedagogical approach in the first year design course in the Interior Architecture program at the University of New South Wales deliberately brings into the foreground the preconceptions and prejudices that predicate design activity and prioritises the interpretative nature of the design process as a threshold concept guiding ‘ways of thinking and practicing’.

As a threshold concept, the development of interpretive thinking skills in design it is argued, is by its nature a transformative, irreversible, integrative, bounded and troublesome mode of thinking and practicing.

IV. FIRST YEAR INTERIOR ARCHITECTURE, FACULTY OF THE BUILT ENVIRONMENT, UNSW

Design Studio forms the basis of teaching across all years of the Bachelor of Interior Architecture degree. Other mandatory courses such as communications, technology, history and theory develops knowledge and skills which support the learning outcomes of Design Studio. The first year design studio and communications courses are fully integrated – technical skills developed in the communications course is choreographed with the development of higher level thinking and reflective skills in Design Studio.

From day one, students begin to respond to real design scenarios in a holistic sense rather than as abstract exercises. The framing of the 1st Year design curriculum proposes from the outset that design is not a theoretical exercise, that all design responds to a context – a given client, site and brief. Design projects are therefore formulated with real clients, real sites and real issues in mind. Students therefore begin to understand from the outset that the act of designing has wider impacts, crucial to the development of a ‘sustainable’ mindset in design.

Learning is scaffolded through structured tasks and activities, so that students are exposed to issues gradually, and skills and knowledge are built over time. The year progresses from the design of one room for one person, to a public reception room for a variety of users in first semester, to a simple building of two distinct rooms and finally a complex interior of multiple rooms and relationships in second semester. First semester is primarily focused of spatial relationships in plan while second semester extends this to spatial relationships in plan and section.

Course materials deliberately frame the process of design as interpretive:

“Design is an interpretative act and each individual brings their own experience, priorities, passions and ways of seeing the world to a given design problem. As a result, there can be many answers to a given scenario...” (Design Studio 1 Course Outline 2009)

Each project gradually develops students’ abilities to comprehend information, interpret it and propose an architectural outcome. Traditional activities described as “analysis” are deliberately reframed as “interpretation”, positioning these activities in the mind of the student as ones that are subjective as well as objective. First semester projects move from client and brief interpretation to site and precedent interpretation through a series of structured activities and student pin-ups. Second semester projects build on this process, further building on students’ abilities to interpret and propose.

The first project “Retreat: A Private Room” is a six week project that acts as a bridge between high school and university, intended to provide a holistic design scenario that students respond to through the filter of the “client”.

The site is based on a 6.5 X 4.5 metre studio space located at the rear of an award-winning contemporary terrace house designed by Marsh Cashman Koolhoos Architects in Sydney’s Woollahra in 2001. The brief requires that the existing studio be spatially and materially manipulated to create a ‘retreat’ for a specified client, reflecting and celebrating the personality and interests of the client and housing their three ‘favourite things’, showcasing their special qualities. Each of the eight tutorial groups is provided with a client, sourced from the weekly article series “Favourite Things” in Sydney Morning Herald’s Good Weekend Magazine (Figure 1).

Clients are selected for their potential to generate design responses through the interpretation of their personality and favourite things as well as mirroring the gender and cultural demographics of the student cohort. In 2009, the clients comprised:
Tommy Hafey, Footy Legend – favourite things: collage, weight, schoolbag
John Wilson, Caterer – favourite things: photograph, occasional table, teacups
Jane Rutter, Flautist – favourite things: flutes, coat, cushion
Stacey DeMarco, Witch, Author – favourite things: Chinese drawers, amulet, ugg boots
Tim Rogers, Singer – favourite things: football boots, chess set, record player
Bowie Wong, Fashion Designer – favourite things: Chinese opera costume, passport, toaster
Lou Vacher, Vintage Lingerie Retailer – favourite things: mannequin, vintage nightgown, feather fans
Rosslynd Piggot, Artist – favourite things: flowers, perfume, goggles

Fig. 1. Jane Rutter, Flautist

The first task, “Client Interpretation”, beginning on the first day of classes, requires students to graphically interpret the personality and interests of the client and to consider how these qualities could be reflected in a redesigned interior space, from its overall form and materiality to its experience and details. As part of this exercise, students are asked to consider how the client’s three favourite things may suggest ways of rethinking the interior.

The first exercise is intended to gauge both the standard of graphic communication skills as well as the ability to interpret information. The activity is “modeled” in class time using small group discussions and feedback presented in the following week’s studio for group discussion and comment. Although a simple activity, as a beginning exercise, students invariably find this challenging. Conditioned by assessment driven learning and linear thinking from high school, most students simply “repeat” information provided in the description of the client. Design ideas at this stage are invariably ‘decorative’ rather than ‘spatial’.

Few students are able to comprehend information beyond simply recalling it in another form. This is reflective of Bloom’s hierarchy of cognitive skills that range from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation (Bloom 1956). Bloom’s lower order ‘knowledge’ cognitive skills (arranging, duplicating, reproducing, stating) are primarily in evidence. Higher order cognitive skills – Bloom’s ‘application’, ‘analysis’ and ‘synthesis’ skills are usually demonstrated in some form by a few students within each tutorial group. Discussion is based on these interpretations as a way of demonstrating the difference between describing and interpreting.

The process of unlocking the ability to think interpretively is taken further in subsequent projects – brief, site and design precedents are framed as interpretative exercises from which design intentions emerge. Traditional approaches to site analysis for example are reframed to focus on the cultural as well as the physical aspects of site, in particular exploring how these characteristics can be interpreted in order to guide design activity.

Over the course of the year and in some cases over subsequent years, students are seen to move from simply describing, to being able to comprehend, select, interpret and ultimately propose.

V. CONCLUSION

The value of approaching curriculum design through the lens of threshold concepts allows educators to consider what is fundamental to the mastery of a discipline and the consideration of the ways in which teaching and learning can facilitate this. For a discipline such as design education, the idea of threshold concepts holds value when considered in the light of “ways of thinking and practicing”, rather than in the realm of discrete conceptual ideas.

Using Snodgrass and Coyne’s argument that interpretation is the core of architectural production and hence architectural understanding, the First Year design curriculum in the Interior Architecture program at UNSW frames interpretative thinking and processes as key to design activity.

Conceiving the interpretive nature of the design process as a threshold concept, it is proposed, offers a way of
approaching both student learning and curriculum development through ‘ways of thinking and practicing’. Embedding this approach through structured and unstructured activities in the design studio foregrounds the preconceptions and prejudices that predicate design activity and focuses on the development of a long term critical and reflective practices in graduate design students.

REFERENCES


Design Studio 1. 2009. *Course Outline*, Interior Architecture Program, Faculty of the Built Environment, UNSW.


