Trans-disciplinarity within the discipline

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Abstract:

Architecture, while desirous of maintaining its autonomy, has always been fascinated by other disciplines, and has frequently appropriated concepts and models from science, mathematics, philosophy, literature, and so on. Architectural education has likewise contributed to such interdisciplinary pursuits. This paper will argue that while the ongoing investigation into other disciplines is of great value to architecture, the capacities and tasks proper to architecture need to be examined in more depth. Architecture must negotiate ways of maintaining its autonomy while remaining permeable to the influence of other disciplines. This is specifically relevant when it comes to the area of design education, which in its own right collects together a number of specific disciplines, such as interior, landscape, urban design and architecture. Within my own practice, which is strongly related to my teaching experience, the concept of trans-scale, as well as the establishment of trans-disciplinary networks, has facilitated a greater understanding of the potentialities of architecture as both an autonomous and open discipline. In order to investigate what I call the trans-disciplinary possibilities of architecture I will present work undertaken in two design studios with students from RMIT University. The first design studio, undertaken with architecture students, was an examination of a minor context embedded in a major context, specifically the city of Stuttgart. The second studio, which I have more recently completed, is an interior design studio in which students are asked to study and design a public square in Melbourne in order to understand their discipline with respect to both the broader scale of the city, and the more discrete scale of public furniture and design object. With both exercises I address the idea of a relationship between the different design disciplines, ie interior design and urban design, and frame it with trans-disciplinary questions. For instance, what is the role of the history of a city and the context of a site on a design concept? How great could be the impact of furniture considered within an urban project?
Trans-disciplinarity within the discipline

Based on my experience as an architectural practitioner, a tertiary teacher, and also a curator across the last ten to twelve years, I will develop in this paper the idea of trans-disciplinarity within design. I have used this as a design strategy within my own practice in so far as my practice has had the opportunity to treat a broad variety of scales, which I have worked on as architect, urban designer, interior and furniture designer. In this paper I will report on how I have tested the concept of trans-disciplinarity across the design disciplines and how I have introduced it as a valuable teaching concept.

Before I proceed, there is a distinction that should be drawn out between the terms trans-disciplinarity, multi-disciplinarity, and inter-disciplinarity. Jill Franz and Steffen Lehmann in their article, ‘Side-by-Side’ helpfully delineate different definitions for each of the above. Where they suggest multi-disciplinarity and inter-disciplinarity merely remain within the polite boundaries of distinct disciplines, Franz and Lehmann make an argument for trans-disciplinarity as a means of going beyond these boundaries. Likewise, this paper will argue that trans-disciplinarity challenges the fixed frameworks of the disciplines, at the same time as recognizing their relative autonomy, in order to open up a transport of discussion across teaching, research, and practice. To support this argument I will develop the concept of trans-scale, which facilitates a teaching of design across different scales simultaneously, effectively challenging traditional pedagogical procedures which recommend that the student of design proceed from the small scale object to the large scale field.

Architecture, while desirous of maintaining its autonomy, has always been fascinated by other disciplines, and has frequently appropriated concepts and models from science, mathematics, philosophy, literature and cultural studies, and so on. Architectural education has likewise contributed to such interdisciplinary pursuits. This paper will argue that while the ongoing investigation into other disciplines is of great value to architecture, the principles, capacities and tasks proper to architecture need at the same time to be examined in more depth. Architecture must negotiate ways of maintaining its autonomy while remaining permeable to the influence of other disciplines. This is specifically relevant when it comes to the area of design education, which in its own right collects together a number of specific disciplines, such as interior, landscape, urban design and architecture.

It is a common place to suggest that there is a strong relation between furniture design and interior design, between interior design and architecture, and between architecture and the city. The distinction between these design disciplines is generally assumed to be based on the distinction between different scales of investigation, furniture standing as the smallest object, the city and landscape, the largest. In my design practice we continuously speculated upon the beneficial possibilities of working across different design disciplines, which we described not as different disciplines but different scales of investigation. Believing
that a building should develop a dialogue with its urban context, we also speculated upon how furniture could inform a building, or to consider an even greater scale differential, a city. A question was formulated: Is there a relation that is transported across the different disciplines, something we could identify as the concept trans-disciplinarity within the discipline? If so, how could that concept be developed, and what will we discover to be its limitations and possibilities?

In my practice we developed the strategy of investigating certain concepts and strategies in different scales, often simultaneously, or by jumping between different scales in order to understand a design and its broader influence. For instance, we asked: What could be the impact of an urban concept on an interior, or on a piece of furniture? How might a furniture piece be read within an urban context? In general I believe that this concept helped us to establish an understanding of the possibilities and limitations of each design, and its accompanying position within our projects, as well as offering a strategy to test design goals in different contexts. The idea was that in each possible scale of investigation, whether a small scale object like a furniture piece, or a large scale concept more proper to urban design, the essential concept informs the design process, and at the same time every component of the design assemblage contributes to a much more complex and general design goal.

In order to investigate what I call the trans-disciplinary possibilities of architecture I will present work undertaken in two design studios with students from RMIT University. The first design studio, undertaken with architecture students, was an examination of a minor context embedded in a major context, specifically the city of Stuttgart. The second studio was an interior design studio in which students were asked to study and design a public square in Melbourne in order to understand their discipline with respect to both the broader context of the city, and the more discrete level of public furniture and object.

Introducing the concept of trans-disciplinarity provokes students and practitioners alike to address the question: what are the parameters of our particular discipline? In general, interior design, architecture and urban design, as well as landscape design, are all regarded as discrete disciplines under the broader umbrella of design. In this paper I would like to argue that the strong relationships the design disciplines share, in terms of comparable issues concerning our built environment, mean that they can be conceived, at the same time, as one discipline. Each one with a distinct focus, but still investigating and researching the broader context. Based on my own practical experience, the distinction between the disciplines tend to dissolve. The reality of design is more complex and asks for a much broader understanding of the design ‘problem’. I would like to re-orientate the way we address the design disciplines through the concept of trans-disciplinarity within the discipline, that is, as those relationships that conjoin the disciplines of the designed object or field, from the very small to the very large.
In an increasingly complex world the necessity of framing more specialised disciplines under the more general discipline of design is certainly helpful toward the development of specific knowledge, skills, and even a kind of mastership in a particular area. One of the main parameters that defines the individual design disciplines is certainly the perceived distinction between the problem of a chair, a room, a building, a city, and a landscape. Nevertheless, I believe it is most important that students understand that they do not act in the isolated environment of their own discipline, defined in the first instance on a fixed, or immobile definition of the discipline (a framework mainly based on the size and scale of a project).

Instead, the design problems the student addresses should be understood through a concept that can intersect with other disciplines, as well as investigating design concepts in different scales. It is important to have a general understanding of the other disciplines within the broader discipline of designing our built environment. Being able to see and interpret the smaller or bigger picture will inform the student’s understanding of the possibilities of design, even if they maintain their own design specialisation. Being able to consider a relation across disciplines throughout the design process, can only further develop and inform this process.

Using the concept of trans-disciplinarity within the discipline, students can begin to understand their design within a bigger context, sooner rather than later. The design student can not only be asked to consider the relationships between furniture and a given interior, an interior and a building, a building and its context in a city, but they can also be asked to consider the problem or impact of a piece of furniture within a city. Trans-disciplinarity within the discipline does not necessarily require a combined studio context, that is, one that might include interior, architecture and landscape students. It is enough to begin to open up the traditional disciplinary frameworks from within a discipline, so as to consider an new way of considering design problems. This, in the first instance, will allow a greater understanding of a design problem in the more complex world context, by addressing, discussing, designing the problem from the particular point of view defined or experienced within a particular discipline. This initial step may also be undertaken through a discussion with teachers and practitioners from other disciplines. Students will learn to understand the traditional definition of their discipline in a much broader way and experience how questions of other disciplines might allow them to develop their design processes and influence their design concepts, by grappling with a design concept in a context not usually related to their specific discipline. The concept of trans-disciplinarity within the discipline motivates the design problem such that it can be seen to move across the boundaries of the design disciplines. Design tends to be positioned and experienced within a greater social and cultural context. Part of the work of the concept is to allow students to recognize this greater context. In practice, students can test designs across different disciplines.

Below I will present work undertaken by two design studios in the School of Architecture and Design, RMIT University. Where the context of one studio was within the discipline of architecture, the other was undertaken in interior design.
A city i know, a city you think about

The premise of this studio required that the participating students consider a given site at a remote distance, and, as such, without experiential contact. The site was located in the German city of Stuttgart, where my architectural practice was formerly based. As a starting point the students were provided with information including the general context of living in Germany, impressionistic personal experiences of the city of Stuttgart, in addition to data describing infrastructure, population size and demographics, the social structure of the city, as well as very specific information concerning the site, such as maps, videos, photographic documentation of the context, and so on. The students then undertook further research about the city, as well as precedent examples including the consideration of other riverside cities, and pertinent urban strategies. While this further research was being undertaken the students were working collaboratively on a model of the site at the scale of 1:100 model of the site, a model the dimensions of which were 3.6m by 4.8m.

The students were then asked to develop and present a concept for the site, a former water plant within an ambiguous and underdeveloped part of the city, spanning an area of around 30,000 m². Formerly a high security area because it was a public utility, the site has recently been opened up for future development. The students were given no brief. Instead, the studio was framed around the question of what possible scenarios, at what scales could be proposed for the site.

This open brief allowed students to address the design problem in various ways. The proposed designs were diverse, spanning from proposals which were very much architecture and building orientated, for instance, the development of as much public housing as was possible on the site. Other students developed concepts at more of an urban planning scale, proposing scenarios that used the site as the starting point of a broader development along the city's riverside. Then, at the scale of the very small, one student considered discrete design installations, dealing with found objects and interior spaces to develop a narrative about the site and its relation to the nearby neighbourhood. Whatever concept the student developed, they also have been asked to investigate their design proposal within another context, ie the architecture housing proposition was also developed within an urban design as well as in an interior design level.

A variety of design propositions was encouraged by the non-brief situation of the studio, which asked students to develop a position in dealing with the given site context. A range of scales was finally explored from interior, almost furniture orientated proposals, to more conventional architectural solutions, and also general urban planning strategies. The studio was a great success, with more then half the students receiving high distinctions, and two of the students being nominated for the architecture lowerpool design prize, for which only 5 out of about 250 students have been nominated.
Trans-scale

This design studio asked interior designers to think about a public space, requiring them to leave behind the conventional scale of their discipline so as to explore the potentials and limitations of their education in another context. The students were asked to consider a public square in the city of Melbourne, and were, as such, challenged with a design problem that would normally fall beyond the boundaries of interior design.

The studio commenced with research on four squares in Melbourne, all located along the main Swanston Street axis. These included the State Library, QV, City Square and Fed Square. The aim was to make students aware of public space scenarios within a city, levels of publicity and privacy within the apparently public sphere, and different ways of dealing with such spaces. The students spent three weeks researching and documenting the history, development, and design concepts behind these squares, including their meaning in a cultural context, the inhabitation of the squares during different times in the day as well as the night. The students analysed aspects on the level of furniture in public space as well as the meaning of these spaces for the urban experience along Swanston Street.

To frame the design project students had to vote for a square they wanted to use for their semester-long design project. The final focus on one square was related to the fact that they were to collaboratively build a common model at the scale of 1:50. The chosen scale, generally used in the context of interior design proposals, is here applied at an urban scale allowing the students to experience the conditions of the given site as though it were a transformed interior, or perhaps an urban interior. As with the Stuttgart studio the model also allowed students to test and demonstrate their design propositions through model work, whether it would be a furniture or object, interior based scheme, architecture or landscape based. Students voted for the most controversial square, City Square, anticipating a much broader design potential because of its more ambiguous and complex history, including the controversial situation of the square within the city’s environment.

While building a collaborative model at 1:50 of City Square and its context, including the adjacent town hall and St Paul’s Cathedral, students were required to develop individual concepts to address various topics and questions raised during their research and critique of the current design and use of the square. The approach towards the square was based on their understanding and interpretation of the context. They developed concepts about inhabiting the space, the relation of buildings, the meaning of politics, religion and community, and so on. Students departed from the safe ground their usual interior context, and found they had to deal with a space of a quite different condition and scale. This required that they address issues about the meaning of the square in relation to the surrounding buildings, to the series of events and spaces along Swanston Street, as well as to the city as a community.
The design schemes ranged from small scale interventions, leaving the existing square almost intact, up to radical interventions that even departed the traditional boundaries of the square to deal with the whole context of build fabric around the given locale. Some developed considerable knowledge and skills in the studio and found themselves designing in what they had formerly identified as a more strictly landscape and urban orientated scale. Others experienced and tested how their conventional interior concepts and scale could, in fact, inform a large scale such as City Square. These students focused on more decidedly interior concepts by dealing with material and light, as well as the inhabitation of the space, often resulting in designs that created interior spaces, but at an urban scale. Or else students developed a serious of furniture interventions in order to shift the understanding and use of the existing square.

Alongside the design studio I offered a furniture elective where students were asked to design an intervention of some sort at the scale of a furniture piece to be placed in the same urban context of City Square. The design proposal did not necessarily have to be identified as furniture, but the way in which it interacted with the urban context from the point of view of a small scale object was considered crucial. Finally, the design studio, combined with the furniture elective, allowed students to develop design concepts across the scales of 1:2000 to 1:1 furniture prototypes, which the students were required to build in model form. Students developed an understanding of the process of design as something that could be developed across a range of scales, as well as how the designed object and/or the designed field could create different impacts depending upon what scale they engaged with, and how differently scaled objects and fields interact with different results.

During the design process students often became frustrated because they experienced their own disciplinary limitation in understanding, specifically in being required to design in a different and sometimes unfamiliar scale. However, working through the semester they lost more and more their courage and often reduced what were originally urban and landscape scaled designs down to more conventional interior design scales like furniture and interior spaces, so retreating to the perceived safety of their chosen discipline.

The concept of trans-scale encourages students to translate, even transport their emerging expertise across the design disciplines, such that a reciprocal influence across the design disciplines might be achieved. The above pedagogical experiments resulted in both successes and failures. Students both experienced moments in which the scalar divide between the disciplines proved too much of a challenge, so causing them to retreat, and moments in which their design processes were liberated so that they realised they could move relatively freely across what were otherwise perceived to be strict boundaries between the design disciplines.

1 Architecture design studio at RMIT University, School of Architecture and Design, Program of Architecture, lowerpool design studio, levels 2 & 4.

2 Interior design studio at RMIT University, School of Architecture and Design, Program of Interior Design, 2nd & 3rd year design studio, levels 3 & 5.

Former Queen Victoria Hospital Site now known as QV, Federation Square colloquially known as Fed Square.
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