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RESEARCH ARTICLE

# Research-by-design framework for integrating education and research in an intercultural parallel design studio



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## Abstract

Intercultural student exchange can positively impact education, research, and society. Research-by-design has been put forward in design education as an approach to explicitly address the integration of education and research. The problem is that design schools develop their own interpretation of this approach, which brings difficulty in virtually comparing and learning from the generated design proposals. This case is evident in intercultural parallel design studios that deal with diverging socio-cultural and institutional traditions. In addressing this problem and maximizing the benefits of intercultural exchange, this study proposes to adopt a meta perspective and use the *design as co-evolution* model as a framework for analyzing and comparing design data generated by different research-by-design approaches. The study applies this meta perspective on an intercultural architectural design studio jointly organized by Ton Duc Thang University (Vietnam) and Hasselt University (Belgium).

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## 1. Integrating research and design in an intercultural parallel design studio

European funding on North-South capacity building projects is increasing (a/o [Eacea](#)). This increase is motivated by the argument that intercultural exchange can positively impact educational, research, and societal levels (a/o the Belgian funding agency VLIR-UOS). This intercultural exchange in architectural education can take the form of a parallel design studio in which students from both universities explore the same design challenge. The objective is mainly educational, that is, to raise intercultural awareness, build intercultural competences, and prepare students for global practice ([UNESCO, 2013](#)). The potential positive impact on society and research, which is put forward by the funding agencies, is rarely addressed explicitly ([Charlesworth, 2018](#)). [Brown and Yates \(2001, 4\)](#) conclude on the basis of a literature review of environmental behavior studies, “On the educational side, where the stated aim includes responding to human need and aspirations, emphasis continues to be placed on perceptually and representationally based form-making.”

Research-by-design has been put forward in architectural design field as an approach to integrate education and research; research-by-design refers to “any kind of inquiry in which design is the substantial constituent of the research process” ([EAAE, 2012](#)). This focus is driven by the [Bologna Declaration \(1999\)](#) that required design schools, which until then were only investing in passing on the skill of design, to also invest in research. As a consequence, the declaration triggered a search for a type of research that is proper to the discipline of design (a/o [Cross, 2001](#); [Petermans et al., 2013](#); [Van de Weijer et al., 2014](#)). Today, the design studio is not only a classroom but also a research lab. However, this transition is not evident. The reason is that architectural assignments are complex problems ([Rittel and Webber, 1973](#)) and cannot be addressed with standardized research methods. In other words, research-by-design requires tailor-made methods that support the training of future designers (education) and the systematic exploration of a design challenge (research) (a/o [De Vos et al., 2013](#); [Huybrechts and Van de Weijer, 2017](#)).

A quick scan of the design literature reveals that design schools have always adopted and developed methods to explore design challenges in a systematic fashion by balancing creativity and rationality ([Bashier, 2014](#)). Thinking methods include but are not limited to scenario thinking ([Salewski, 2012](#)), metaphorical design ([Hey et al., 2008](#)), and parametric design ([Lee et al., 2014](#)). The availability of methods is not the issue. Instead, the challenge lies precisely in the abundance of tailor-made methods (a/o [Strickland, 2017](#); [Soliman, 2017](#)). Design studios develop their own method depending on the assignment at hand. This situation brings difficulty in comparing research-by-design studios and learning from the generated design proposals and processes ([Ghonim and Eweda, 2018](#)). The context of an intercultural parallel design studio further complicates this ambition because the design methods used within such studios may now even differ (slightly) within the same studio assignment due to the (sometimes) fundamentally different socio-cultural and institutional contexts of the involved partners; as a result, education and research

traditions differ ([Biggs and Büchler, 2008](#)). This situation also causes difficulty in systematically comparing the design proposals within a single (intercultural) studio and thus in learning from the generated data.

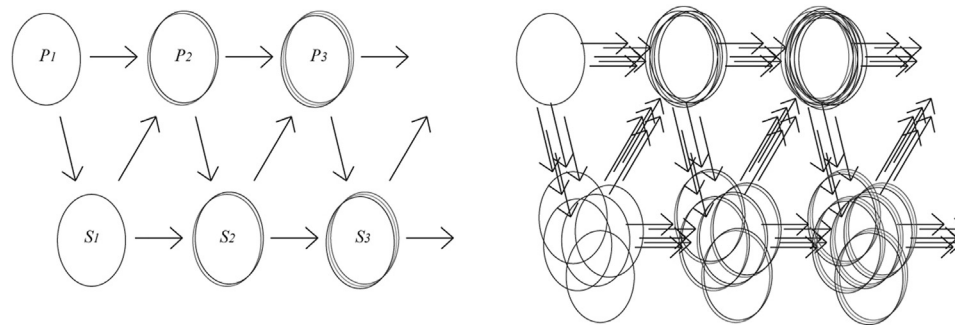
We propose to address these difficulties by adopting a meta perspective on research-by-design that allows to systematically compare the single, customized research-by-design methods. To select such a perspective, we turn to literature on the nature of design. For example, [Maher \(2000\)](#) distinguishes three models of design. The first model is design-as-search. According to Maher, design can be conceptualized as search when the design problem is well defined and fixed. The designer must only systematically scan the space of possible solutions. The second model is design-as-exploration. In this model, the focus of the design changes as the process continues. The designer stops when he or she finds a solution that matches a problem. The design process is complex because nothing is fixed. The third model is design-as-co-evolution. In this model, the problem can change during the process, but the design process remains focused. Scanning the solution space may reveal that the problem is not defined properly. The result of the process is a well-defined problem and a matching solution. According to Maher, the model of design as co-evolution is particularly applicable to conceptual design, where relatively little is known about the design problem. Architectural assignments are undeniably complex problems ([Rittel and Webber, 1973](#)), and (architectural) design can therefore be labeled as design as co-evolution ([Dorst and Cross, 2001](#); [Cross, 2007](#); [Dorst, 2008](#)).

This study adopts Maher’s model of design as co-evolution as a meta perspective to improve the integration of research and design within an intercultural parallel design studio. We first translate the design as co-evolution model into a framework to analyze intercultural parallel design studios for developing the above-mentioned perspective. Notably, Maher’s model is developed for a single design process unlike the complex dynamics taking place in an intercultural collaboration. Second, we apply this framework of analysis to an actual intercultural parallel design studio involving North and South: a studio that took place for 4 months in 2017 in Vietnam (Ton Duc Thang University) and Belgium (Hasselt University).

The paper first presents the framework of analysis. Then, it briefly introduces the case study and screens it against the framework of analysis. Finally, it formulates recommendations on improving the integration of research and design in an intercultural parallel design studio.

## 2. Research-by-design as co-evolution

Prior to the modeling of design as co-evolution, we first shortly sketch the double objective of a research-by-design studio, that is, a design studio that aims to integrate education and research. The educational objective of a design studio is to simply teach students to design well. For this topic, the following questions arise: How can I address a given design challenge with a particular complexity? Which steps do I need to take to develop a good design? What is a good design? How do I map ongoing spatial transformations processes? How do I relate them to one another and to



**Figure 1** Design as co-evolution for a single design process (left, after (Maher, 2000)) and for a design studio (right).

possible future transformation processes? How do I then steer these processes? The research objective of a design studio is to teach students to use design to conduct scientific inquiries (EAAE Charter). For this topic, the following questions arise: How do I formulate a research question? How do I position this question within the state of the art? How do I define my research goals? How do I choose an appropriate (design) method? How do I interpret my generated data?

The aim of the study is to translate Maher's co-evolution model into a framework of analysis that can support a design studio to reach this double objective. Maher describes design as co-evolution as a process in which the design requirements are continuously being reconsidered as design solutions are being suggested (Maher, 2000). In other words, the requirements and solutions of design evolve separately and affect each other. This process is visualized in Fig. 1, with *P* referring to problem space and *S* to solution space.

As mentioned earlier, Maher's model is developed for a single design process that one designer (or student) goes through. However, a design studio involves multiple students and thus involves multiple parallel design processes (one per student) (Devisch et al., 2013). In an intercultural parallel design studio, this configuration doubles given that differences in education and research culture may lead to different readings of the same problem and solution spaces. The result are two clusters of multiple parallel design processes. In summary, in an intercultural parallel design studio, one can distinguish a co-evolutionary process at three levels: 1) the level of the student, 2) the level of the

design studio, and 3) the level of the intercultural parallel studio.

Each of the three levels comes with a particular challenge to the design studio (Table 1). Regarding *the level of the student*, the design process has an intuitive nature. Design decisions are made in a non-linear fashion by relying on tacit knowledge (Polanyi, 1983). This condition brings difficulty for students in rendering their decision-making process explicit and turning their design processes and projects into information relevant to others. However, Donald Schön, Nigel Crost, and Kees Dorst argue that design activities are a combination of rational thinking and creative skill, which are inseparable: "... activities of reasoning and creating, actually employ each other. That is to say, good reasoning might valuably have a creative aspect, and on parallel creative work grows out of reasoning as we knowingly deviate from the rules" (Hill, 2006, 85). The question is how to make this reasoning explicit such that others can learn from it. Regarding *the level of the design studio*, multiple parallel design processes are involved; one per student. This condition causes difficulty in comparing design results given that each of these student follows his or her own (i.e., quasi autonomous) process. Regarding *the intercultural parallel studio level*, the differences in education and research culture result in diverging perspectives of both studies on reaching the educational and research objectives. A relevant concept in this respect is that of *cultural schemas* to refer to the impact of norms and meanings on how a designer behaves, makes decisions, and filters and stores information (Önal and Turgut, 2017). Unravelling the interplay of cultural schemas that are at

**Table 1** Challenges of an intercultural parallel design studio.

Level	Challenge	Co-evolution perspective	
		Educational challenges	Research challenges
Single design student	Intuitive nature of the design process	Learn to systematically explore the problem and solution space	Learn to describe and document design decisions (the path through the problem and solution space)
Design studio	Autonomous, parallel design processes	Learn to collectively explore the problem and solution space	Learn to compare and synthesize problems and solutions (map the problem and solution space)
Intercultural parallel design studio	Different cultures of education and research	Learn to handle multiple (normative) perspectives on the problem and solution space	Learn to frame decisions in a larger (societal) context (contextualize the problem and solution space)

work in a parallel design studio further complicates the simple comparison of generated design proposals.

The co-evolution perspective can help frame and address three challenges (Table 1). The first challenge is related to the level of the single design student. The studio should provide each student with strategies to systematically explore Maher's problem and solution space. Thinking design methods, such as scenario thinking, metaphorical design, and parametric design, support the students in describing and documenting the arguments that they develop along their route through this problem and solution space or *to reflect-in-action* in the words of Schön (1983). The important questions are as follows: Why did he or she explore a particular problem and not the others? Why did he or she pick this solution? Did he or she consider other solutions?

The second challenge is related to the level of the design studio. The studio should provide students with strategies to focus on the exploration of the problem and solution space around shared research questions. In other words, the aim of the studio is to collectively attempt and understand one feature of the problem space or one possible relation between the problem and solution space. It should train students in comparing and synthesizing single design proposals, that is, in mapping the problem and solution space. Cross (2001) refers to this task as *scientific design*, which is based on scientific knowledge but utilizes a mix of intuitive and non-intuitive design methods.

The third challenge is related to the level of the intercultural parallel studio. The studio should provide students with strategies to address different interpretations of the same problem and solution space. They should train students in developing a common language to cross cultures.

We propose to operationalize these challenges into three questions, which can help develop an intercultural parallel design studio that integrates education and research.

Question 1: Which exploration strategies did the studio provide?

Question 2: Which strategies for synthesis did the studio provide?

Question 3: Which strategies for knowledge transfer did the studio provide?

In the subsequent sections, we screen our case study against these questions.

### 3. Intercultural parallel design studio

In 2017, Ton Duc Thang University (Vietnam) and Hasselt University (Belgium) organized an intercultural parallel design studio in Ho Chi Minh City (HCMC), Vietnam. The studio was framed by two doctoral studies. The first doctoral research, which was conducted by Le To Quyen, addresses the issue of flooding as a result of climate change. This research defined the context of the parallel design studio. The second doctoral research, which was performed by Dirk Osinga, explores how to train architects to address societal issues, such as scarcity and circularity. This research provided strategies to structure the design studio.

The approach of the intercultural parallel design studio is summarized in a studio brief, which is shared by both schools. The brief begins with referring to the doctoral

research of Le To Quyen as the context of the studio. Climate change increases the probability of exceptional weather conditions such as heavy rains, drought, and tropical storms. The past decades were already marked by large-scale flood disasters in Bangkok, Thailand (2011), Brisbane (2011), New Orleans (2005), and Dresden (2002), among others. Vietnam is no exception, with exceptional flooding in 1971, 1996, 2000, 2008, 2010, 2011, and 2013, along the 3260 km coastline. Current flood resistance infrastructure, such as levees, dams, and channelizations, cannot mitigate the expected increase (in number and impact) in floods. The research objective of the doctoral research of Le To Quyen is to explore (novel) spatial strategies that can address the negative consequences of the expected increase in floods, particularly on large parks. The parallel studio adopted this research objective and introduced four approaches to structure the exploration for novel spatial strategies.

The first approach was to focus on one region, namely, Can Gio Province, located in the metropolitan area of HCMC. A large part of Can Gio Province is covered by a mangrove forest, a biosphere reserve listed by UNESCO. It is formed in the downstream of the Dong Nai/Saigon River. The concern is whether Gio can offer considerable storm protection to reduce the impact of typhoons on HCMC. The area is under intense pressure from land use change, encroachment of saltwater, and tourism. In the small town of Can Thanh, the local community is threatened by these changes. The shoreline of this rural fisherman's settlement is still authentic. However, plans are being developed to expand day and weekend tourism from HCMC, which places pressure on this authenticity, the fragile ecosystem, and the local economy. This particular context leads to a slightly adjusted research objective, that is, to explore (novel) spatial strategies that can address the negative consequences of the expected increase in floods and can trigger a form of tourism that strengthens the local culture and economy.

The second approach was to let each student develop a spatial strategy for one out of five locations in the town of Can Thanh: the salt fields, the ferry point, the harbor, the city center, or the coastline.

The third approach was to ask each student to adopt one out of five flood mitigation strategies. The first strategy is to retreat from land that is at risk of flooding. The second strategy is to build flood-proof structures. This strategy can be done by raising occupied floors above the flood level or raising the land before starting to build. The third strategy is to build levees. The fourth strategy is to restore natural habitats, such as marshes, sandbars, and creek beds, which can absorb the energy of storms to mitigate risk from sea level rise. Past developments erased or buried some of these habitats, but recent restoration projects are introducing a change. The fifth strategy is to build the water with floating structures that can cope with tides and the rise of the water. The students selected a location and a flood mitigation strategy. They then have to define a program of their own choice, such as a market space, a salt museum, and a temple, for which they have to design a building and landscape.

The fourth approach was to begin the parallel studio with a common one-week workshop in HCMC. The workshop consisted of lectures, fieldtrips, surveys, and design



Figure 2 Impressions of the fieldtrip.

assignments (Fig. 2). The doctoral research of Dirk Osinga framed the assignments.

The results of the one-week workshop are published in a book entitled “Mapping Can Thanh” (Fig. 3), which documents the five locations with images of buildings and landscapes, drawings of road sections or construction details, interviews with inhabitants, pictures of building materials, local resources, and personal anecdotes. The final design proposals are summarized in a project book entitled “Studio Vietnam” (Fig. 3), which describes the location, the flood mitigation strategy, and the chosen program for each design proposal along with drawings and collages of the actual design.

#### 4. Learning from the Can Gio parallel design studio

A total of 45 students participated in this design studio: 22 students from Hasselt University (Belgium) and 23 students from Ton Duc Thang University (Vietnam). This resulted in 45 design proposals, which all attempted to answer the same research objective: to explore (novel) spatial strategies that address the negative impact of the expected increase in floods in Can Thanh and those that can trigger a form of tourism that strengthens the local culture and economy of this small town. The proposals are very diverse. For example, one student proposed to turn the existing salt fields into a dyke and integrate it with a tourist center (Fig. 4, top left). Another student suggested to extend the piers at the ferry terminal into a dense network of pathways that not only

allow the embarking of ships but also fix the coastline in case of storms (Fig. 4, bottom left). A third student proposed an aquaculture park that combines the cultivation of seafood with a market and a water park (Fig. 4, top right). A fourth student designed an elevated eco-resort (Fig. 4, bottom right). A fifth student proposed aquasculptures, compact inhabitable towers positioned in the sea right next to the town center. Other proposals included an ecological park that cleans water before it goes to the sea and an education center in a bamboo tower structure.

This study does not evaluate whether these proposals met the research objective of the studio. Instead, this study analyzes the strategies that the intercultural parallel studio provided to integrate its educational and research objectives. The important questions are as follows: Which strategies worked well? What were the challenges? What are the opportunities for improvement? We perform this analysis by screening the parallel studio against the three questions that comprise the framework of analysis. The material that we used to conduct this qualitative analysis are the studio brief, the “Mapping Can Thanh” and “Studio Vietnam” books, an online questionnaire that was sent to the 45 students, and open interviews that we conducted with two tutors from the parallel design studio. The questionnaire and the interviews were structured in accordance with the framework of analysis. Seven and five of the Belgian and Vietnamese students, respectively, completed the questionnaire.

Question 1: Which exploration strategies did the studio provide? Table 1 shows the strategies the studio provided to describe and document design decisions. The tutors

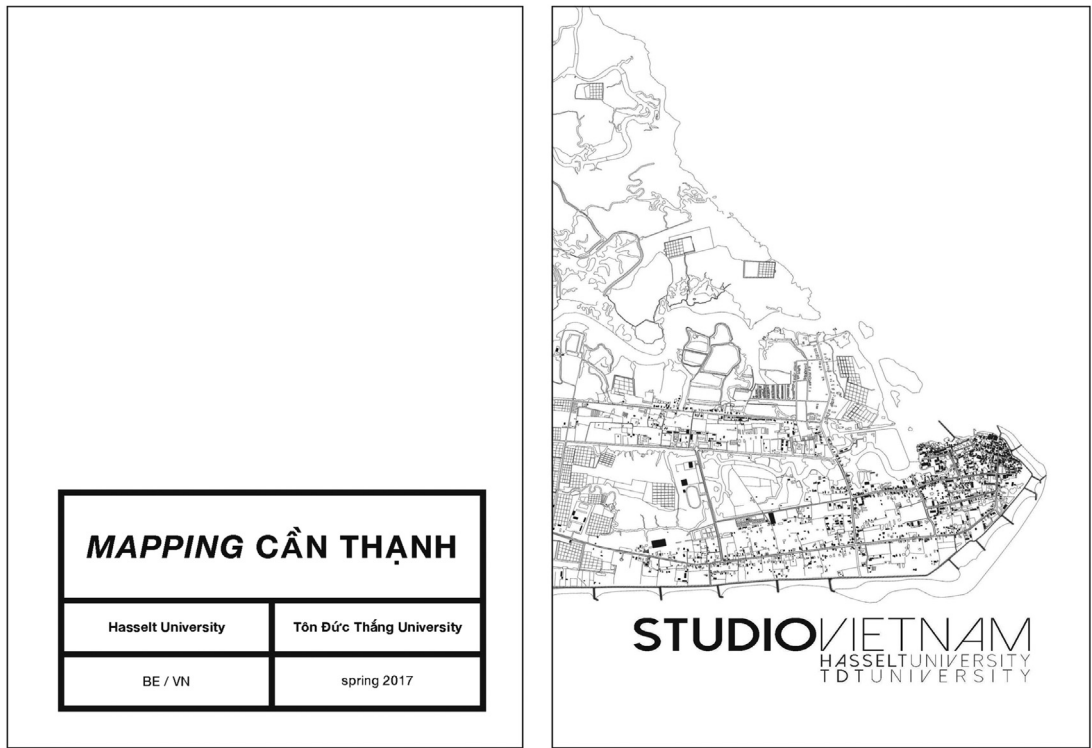


Figure 3 Book containing the one-week workshop (left) and book containing the final design proposals (right).



Figure 4 Examples of design proposals: salt fields on a dyke (top left, © Jakob Ghijsbrechts), dykes to fix the coastline (bottom left, © Lilit Abgaryan), an aquaculture park (top right, © Nguyen Dang Khoa), and an elevated eco resort (bottom right, © Tran Chi Nhan).

discussed five strategies. The first strategy was to let the students choose from the list of five locations and five flood mitigation strategies. This strategy partly predefined the rationale for each project. The second strategy was to work

with a detailed studio program. In week 1, the students took part in a one-week workshop in Vietnam. In week 2, they had to analyze existing projects that deal with flood mitigation. In week 4, they had to develop the spatial

concept. In week 7, they had to define the project layout. In week 9, they had to propose a physical structure. In week 11, they had to present the integration of technical systems. In week 12, they had to discuss technical details (scale 1/20). In week 15, they had to hand in their final material to the jury. These steps helped the students structure their argumentation. The third strategy was to ask the Belgian students to document all these steps in a research book. This task forced them to put their arguments on a paper. The fourth strategy was to organize an intermediate jury to train the students to present their design proposal and construct a narrative that explains why they explored particular options (in the solution space) and not the others. The fifth strategy was to work with presentation templates that define the amount and type of material that had to be created for the final jury. For example, students had to make a scale model (1/500), two collages, a plan of the larger context, and plans of their buildings. Each student had to study the visual language of an architectural office as the basis for the presentation. This task forced the students to consciously consider the visual appeal of their final documents.

In the questionnaire, the students argue that they are used to work this way: “Not a large difference from any other studio because I use the same method” or “We use the same methods in other design studios.” However, one student admits that he worked a bit more thorough this time: “We had to observe and record things more detailed than the previous ones.”

Question 2: Which strategies for synthesis did the studio provide? Which strategies did it introduce to help the students compare and synthesize design proposals (Table 1)? The tutors listed three strategies. The first strategy was to define five locations and five flood mitigation strategies. As a result, the problem space became small: each student now only had to address the negative impact of flooding on one concrete location with specific features. The same is true for the solution space, which narrowed down to one strategy. The second strategy was to collect all design proposals in one book and to ask each student to present his or her proposal within a given template. This strategy eased the comparison of proposals despite their difference. The third strategy was to organize an intermediate jury. This strategy allowed to exchange knowledge and accentuate or reduce differences.

Despite these strategies, the tutors acknowledge that synthesizing the very diverse design proposals is still difficult because of various reasons, such as not all plans are detailed, not all narratives are extensive, and not all visualizations are contextual. They point at the absence of clear evaluation criteria as a possible explanation, such as at which point does a design proposal successfully address the negative consequences of the expected increase in floods in Can Thanh and when does it successfully trigger a form of tourism that strengthens the local culture and economy of this small town. A second explanation may be that the studio program did not dedicate any time to the comparing (and integrating) of individual design proposals (as the student questionnaires clarify). For example, in the questionnaire, no students refer to the five flood mitigation strategies, and they only mention the workshop book (Fig. 3, left).

To overcome these challenges, we formulate four recommendations on the basis of the open interviews with the tutors. First, students must be provided with clear evaluation criteria. One option is to ask the doctoral researchers, who provide the context for the design studio, to define these criteria. The other (more educational) option is to iteratively define these criteria, with the students, along the course of the design process as spatial issues and opportunities become clear. A second recommendation is to use these criteria to document the design proposals and thus make the template for the final book. In this way, the projects can be compared systematically (to generate knowledge that is relevant to outsiders). A third recommendation is to organize a final debriefing moment (rather than a jury) during which the studio collectively discusses and compares the design proposals. The intermediate jury can be organized as such a workshop, thereby putting the focus on information exchange instead of on evaluation. A last recommendation is to present the book (or a draft of the book) to stakeholders to test the usefulness of the proposals. The following questions remain: Which images work? Which strategies work? How readable are the final products? Feedback from actual stakeholders on site can increase the societal relevance of the research-by-design approach in the design studio. At the same time, stakeholders can be inspired by new ideas or learn from the design exercise.

Question 3: Which strategies for knowledge transfer did the studio provide? The tutors came up with two strategies. The first strategy was to organize a one-week workshop in HCMC. As a first assignment in this workshop, the Belgian and the Vietnamese students had to present how architects worldwide are already addressing the issue of flooding. In this way, both groups of students gained an understanding of each other's frame of reference. A second assignment was to conduct fieldwork in the town of Can Thanh. In mixed groups, the students had to map the five locations, invite themselves in private homes, taste the local food, explore shops, and collect artifacts. A last assignment was to systematically document their impressions in a book entitled “Mapping Can Thanh” (Fig. 3). In between the assignments, all students took part in a series of social activities. Through these assignments, all students reached a shared understanding of the identity of the town of Can Thanh and of the potential impact of flooding and (mass) tourism on this identity at the end of the workshop. The collective mapping exercises and the book enabled the students to access a rich pool of data. The social activities maintained contact among students via social media throughout the entire studio and exchange of information among them, such as on how a primary school functions in Vietnam or on the specificities of Buddhist rituals. The second strategy was for the Belgian tutors to be present on the final jury of the Vietnamese students, and vice versa. This way enabled comparison of all design proposals and discussion on the appropriateness of the underlying flood mitigation and tourist plans.

Despite these strategies, both studios generated quite different design proposals. The Belgian students mainly proposed strategic projects, whereas the Vietnamese students proposed complete masterplans (Fig. 5). The tutors argue that this difference may be due to two reasons. On



**Figure 5** Belgian students' designed strategic projects (left, © Brecht Bosmans), and Vietnamese students' designed masterplans (right, © Tang The Dung).

the one hand, the educational objectives of these students slightly differ. The Belgian students had to learn to design a complex building, whereas the Vietnamese students had to learn to design on an urban scale. On the other hand, these students differ in planning culture. The Belgian students are focused on the (incremental) redevelopment of brownfields, whereas the Vietnamese students are focused on the fast development of greenfields.

A first recommendation is to incorporate these differences in the five proposed flood mitigation strategies and locations, either at the start of the design process or somewhere along this process as the differences become clear. The latter requires intense communication and intermediate exchange of (evolving) ideas between the studios in both countries (preferably facilitated by social media or blended learning platforms to reduce the environmental impact and other costs related to a parallel designs studio). A second recommendation is to organize the final jury as a workshop (as suggested under the second question), preferably including stakeholders. This way enables analysis of the design proposals against the studio objectives and determines the differences in educational and research culture. One can then consider these differences when developing an intercultural parallel design studio in the future.

## 5. Conclusions

Intercultural student exchange can positively impact education, research, and society. Research-by-design has been put forward in design education as an approach to explicitly address the integration of education and research. The problem is that design schools develop their own interpretation of this approach, which brings difficulty in virtually comparing and learning from the generated design data (Ghonim and Eweda, 2018). This case is evident for intercultural parallel architectural design studios that deal with socio-cultural and institutional differences. In addressing this problem and achieving the benefits of intercultural exchange, this study proposes to adopt a meta perspective

on research-by-design and suggests to adopt the design as co-evolution model (a/o described by Maher, 2000) as a framework for analyzing and comparing design data generated by different research-by-design approaches. The application of this model to the overall ambition to integrate educational and research objectives in one intercultural parallel design studio results in three challenges related to three levels to approach this studio: the level of the student, the single studio, and the parallel studio. The study reformulates these challenges as three questions that should facilitate the development of an intercultural parallel research-by-design studio. These questions are then applied to an actual parallel studio that took place for 4 months in 2017 as a cooperation between Ton Duc Thang University (Vietnam) and Hasselt University (Belgium).

The first question asks to map the strategies that the studio provided to systematically explore the problem and solution space of a given design assignment. The analysis of the parallel studio shows that it provided a diversity of strategies that support the students to develop design proposals that answer the research objective of the studio and that help the students formulate arguments that back up their design decisions. The second question asks to specify the strategies that the studio provided to compare and synthesize design decisions. The analysis clarifies that the studio provided these strategies but recommends to organize multiple collective debriefing sessions for defining criteria that will allow to structure this comparison and synthesis and increase the possibility of collective learning within the studio. The third question asks to look at the strategies that the studio provided for knowledge transfer between the Vietnamese and Belgian studios. The analysis indicates that the studio provided valuable strategies, but intermediate collective sessions are still needed. To increase the societal relevance, a suggestion is to involve stakeholders in these sessions.

The value of this case study lies less in the each of the strategies and in whether these strategies had the desired impact but more in assessing the meta framework. The case indicates that the three questions, put forward by this framework, help reflect on how to improve the integration



of education and research within an intercultural parallel design studio. It helps studio tutors be conscious about the design strategies that they develop for their respective design assignments. However, turning a design studio into a research lab requires not only a balanced set of strategies but also extra tutoring capacities and competences to introduce and supervise these strategies.

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