Fostering Tactical Skills. Rethinking Competencies in Architectural Education

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Abstract
Assuring competencies in graduates from architecture school is a challenging task nowadays. The swift development of architectural-related technologies has staged an urgency for rethinking what the relevant competencies are. On the contrary, redefining competencies is unfavorable for architectural practices. Such circumstances put architectural education in an awkward position, especially as institutions are expected to produce future practicing architects; still, at the same time, graduates should be equipped with scholarly research tools. The former and the latter competencies are frequently incoherent.
In this visual essay, I would like to argue that repositioning architectural education – in the form of what Michel de Certeau calls 'tactics' – is in line with the nature of design knowledge. In this way, students would have sufficient knowledge and skills to navigate the current situation and have no problem in the compliance with standardization.

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Problems in setting competencies

Architectural education is commonly expressed through various adjectives; exciting, creative, demanding, challenging, and most likely, troublesome. The 2014 documentary *Archiculture*[1] highlights these qualities crystal-clearly. Yet, the documentary does not stop there. The main agenda of the movie is to expose the discrepancy in expectations between architectural schools and architectural practices. Such a gap is evident if we observe design studios at the pedagogical level. The activities of the academic design studio are unlikely to help students deal with practical problems in professional architectural practice. For instance, in the design studio, students are assessed based on the demonstration of their individual design skills. This denotes that nearly all decisions throughout the design process were made based on personal judgment. On the contrary, in architectural practice, collaboration and teamwork skills make important prerequisites and decisions are made through negotiations of various parties' concerns. Nevertheless, whether this sort of accusation is legitimate is to be verified.

Consequently, in which way should we respond to these complexities? One broadly acknowledged method is by setting competencies that would serve both academic and practice worlds sufficiently. Utilizing 'competencies' as a bridge to connect the two fields is comprehensible: competency is a term rooted in the Latin etymology *competentia* means 'meeting together, in agreement and symmetry'. This delivers a noble message about harmony and order – it is probably the latter that has been translated into the English word 'competence'. Later, the present participle of the Latin verb *competere* has been used to describe 'sufficiency of qualification' since the 18th century.

At present, the term 'qualification', becomes a problematic term. The word implies an authoritarian agency whose power is to justify the accomplishment of competencies. Hence, the question would be, who or what has this agency? Setting a qualification implies the impossible notion of enforcement of a standardized measurement and standardized competencies in the divergent world of today. Consequently, we would at least encounter a two-fold problem: on the one hand is the discrepancy in the definition of competence between the practices and the educators due to the different expectations and goals of these parties respectively. The second is that competencies should come from a context where they are needed; otherwise, it would be pointless to clarify this matter.

It is inevitable to place the context of architectural education outside the capitalistic situation of architectural practices. Especially, suppose we depart from the premise that architectural education supposedly prepares and supports anyone to be a professional architect. In that case, the intersection between these two 'worlds' is the mechanism of how architecture operates. The practice is bound by cost, time, and quality/performance. Thus, the practice operates through the optimization of this triad. Consequently, in the design studio, which is the core of architectural education,

1 – *Archiculture* is a 25-minutes documentary film scrutinizing the strength and perils of architectural education.

the triad is unlikely imposed. Students are given a brief and a time frame to complete a design project. Within education, the cost is often presumed omitted or has no limit. Apparently, this omission makes a drastic detour in terms of the output of education. The graduates are ingrained in a design process that revolves around an individualistic, idea-centric, and speculative atmosphere instead of gravitating toward teamwork, functionality, and practical value. On the opposite side, tailoring the education only to prepare them to be practicing architects would change the nature of education back into a vocational school. Hence, the primary question which encapsulates the problem is: is there any way to incorporate how architectural practices operate into a college-level education? Or is architectural education truly just vocational training?

Fig. 1 - Diagram is the author's interpretation on the "Epistemic Freedom" diagram by Horst Rittel, in Rittel (1987).

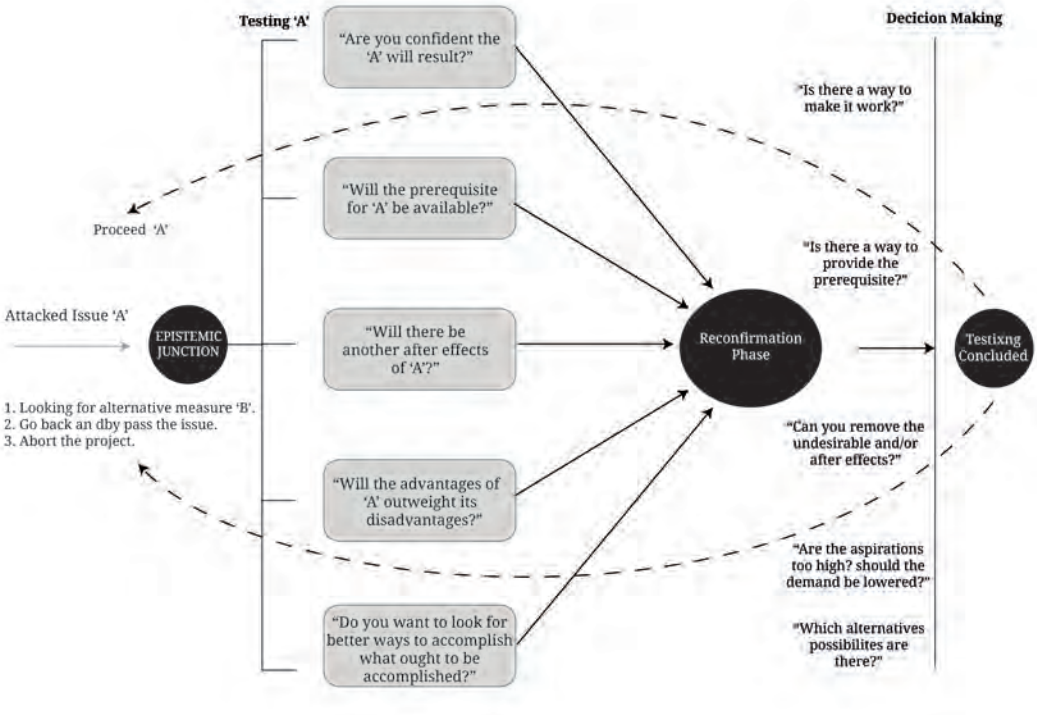


Fig. 2 - (Top) Observation on a Balinese beach.
The students only need to sketch a particular part of what they found in the landscapes and magnify it – their sketch would work as a telescope.

Fig. 3-4 - (Right) Understanding an interplay between scale and texture through observation.

Revisiting the nature of architecture education

Horst Rittel argued there was a misunderstanding in the planning field, specifically, the understanding of the type of problem they were encountering. According to Rittel (1972: 391), the misunderstanding occurred through attempting to approach the planning problem as a scientific one. Such methods that rely on rationality are problematic because they tend to anticipate "the consequences of contemplated actions". The issue with this approach is in its misunderstanding of what sort of problem might be encountered in the planning field. Due to the nature of this wicked problem, approaching planning from a rationalistic point of view would lead to incapacitation.[2]

In *Designerly Ways of Knowing*, Nigel Cross (2006) shares Rittel's concern. Cross argues that designers, scientists, and scholars operate in completely different manners.

> The designer is constrained to produce a practicable result within a specific time limit, whereas the scientist and scholar are both able, and often required, to suspend their judgments and decisions until more is known – 'further research is needed' is always a justifiable conclusion for them. (Rittel, 1972: 392)

Rittel proposed to formulate design tactical skill by applying a sequence of thinking iteration called 'epistemic freedom' (Rittel, 1987: 5). The thinking iteration aims at evaluating the designer's making for any subject. Utilizing this method would liberate designers to develop agility in assessing any problems and to convince themselves that their decision is the best possible outcome (see Fig. 1).

Case study 1: Tactility and observation

The preseted exercise was part of the annual design pedagogy workshop *Critical Context*[3] in 2018, conducted by the Bali Unit in Ubud, Bali. The main intention of this exercise was straightforward. Participants were asked to observe their surroundings in detail for evoking their tactile sensibilities over textures and patterns.

The participants operated in groups of three. Each group was assigned to explore one of four types of common landscapes in Bali: forest, beach, paddy-field, and river. The students had to record their observations through sketches. In this exercise, sketching is instrumentalized as an observational tool – to clarify what they see and transcribe their observations into diagrams (see Fig. 2).

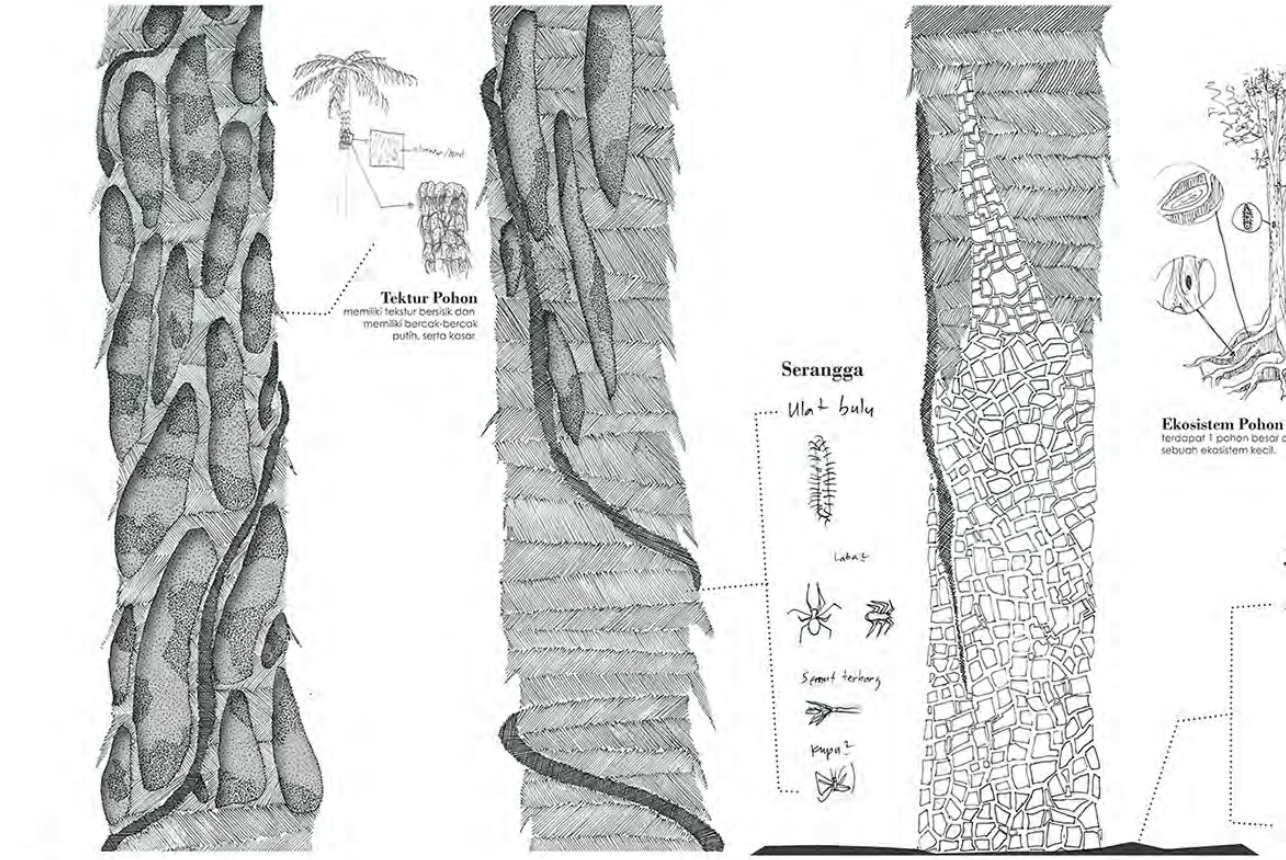
Betty Edwards, in her seminal book *Drawing on the Right Side of the Brain* utilized this exercise and showed that drawing skill is developed along with an observational attitude involving:

1. The perception of edges
2. The perception of spaces
3. The perception of relationships
4. The perception of lights and shadows.
5. the perception of the whole, or *gestalt*.

The key to learning to draw, therefore, is to set up conditions that cause you to make a mental shift to a different mode of information processing – the slightly altered state of consciousness – that enables you to see well (See Fig. 3 and 4) (Edwards, 2013: 5).

2 – The incapacitation happens because the approach would develop chains of consequences into the future, the more the effects of uncertainty would come into effects and the further into the future a chain of causal effects is developed, the less one can say which of these terminals will eventually become the case as a consequence of a particular course of action.

3 – *Critical Context* is an independent annual workshop organized by a group of architectural educators and architects whose interest in rethinking, experimenting, and exploring design method and pedagogy in Indonesia.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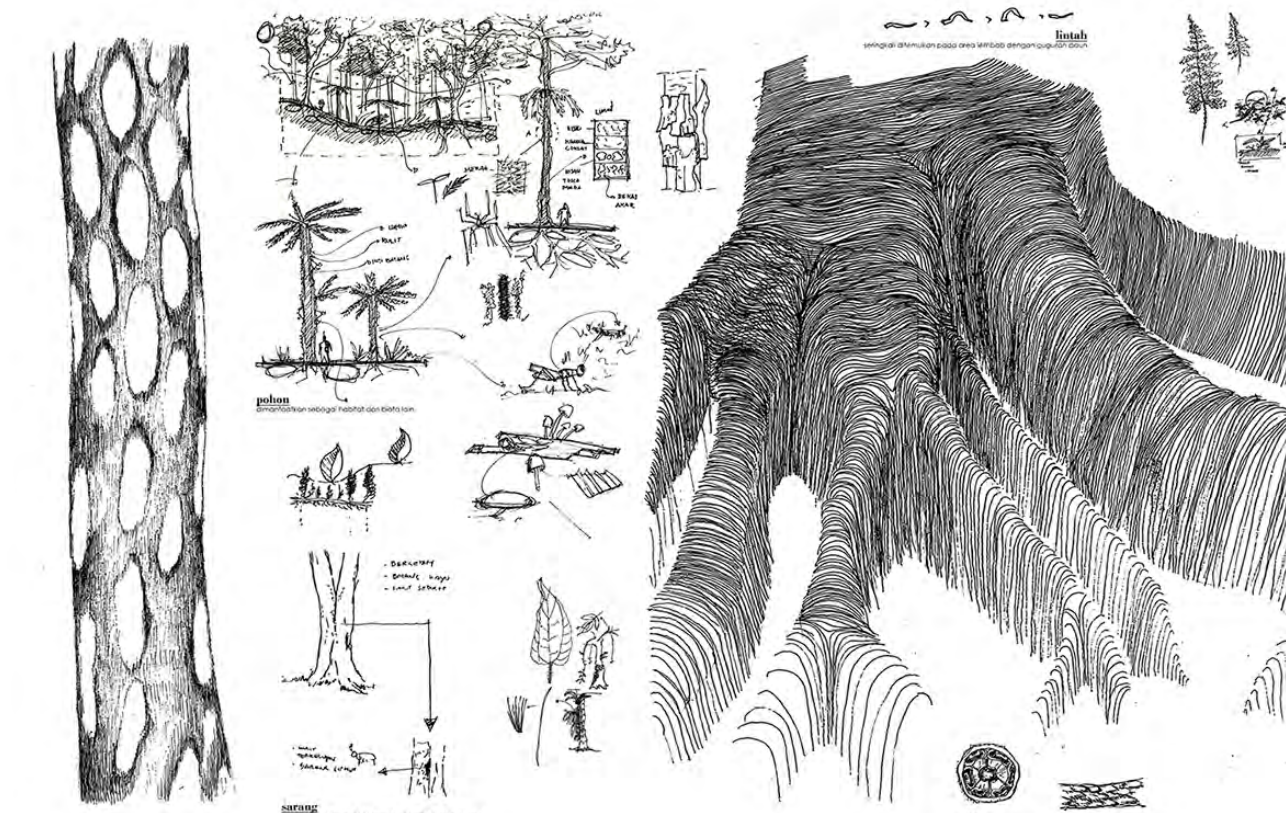
pohon
dimanfaatkan sebagai habitat dan biota lain.
sarang
sarang semut banyak ditemukan dibalik kulit pohon yang
mengelupas.
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seringkali ditemukan pada area lembab dengan guguran daun.
pola
terbentuk pola - pola unik yang dipengaruhi oleh lingkungan

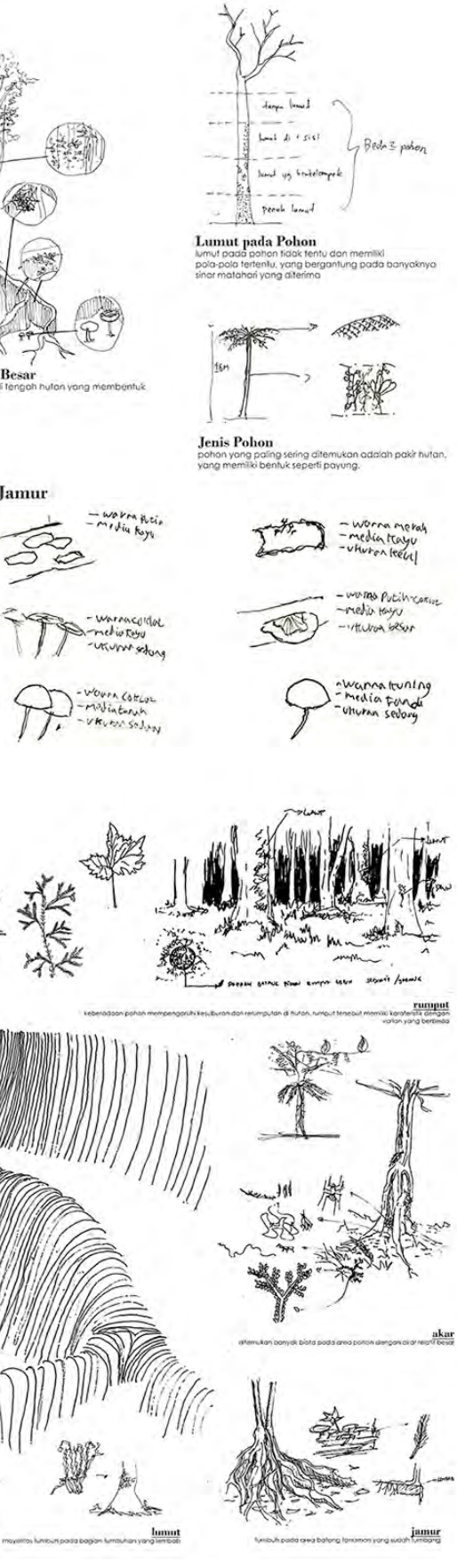
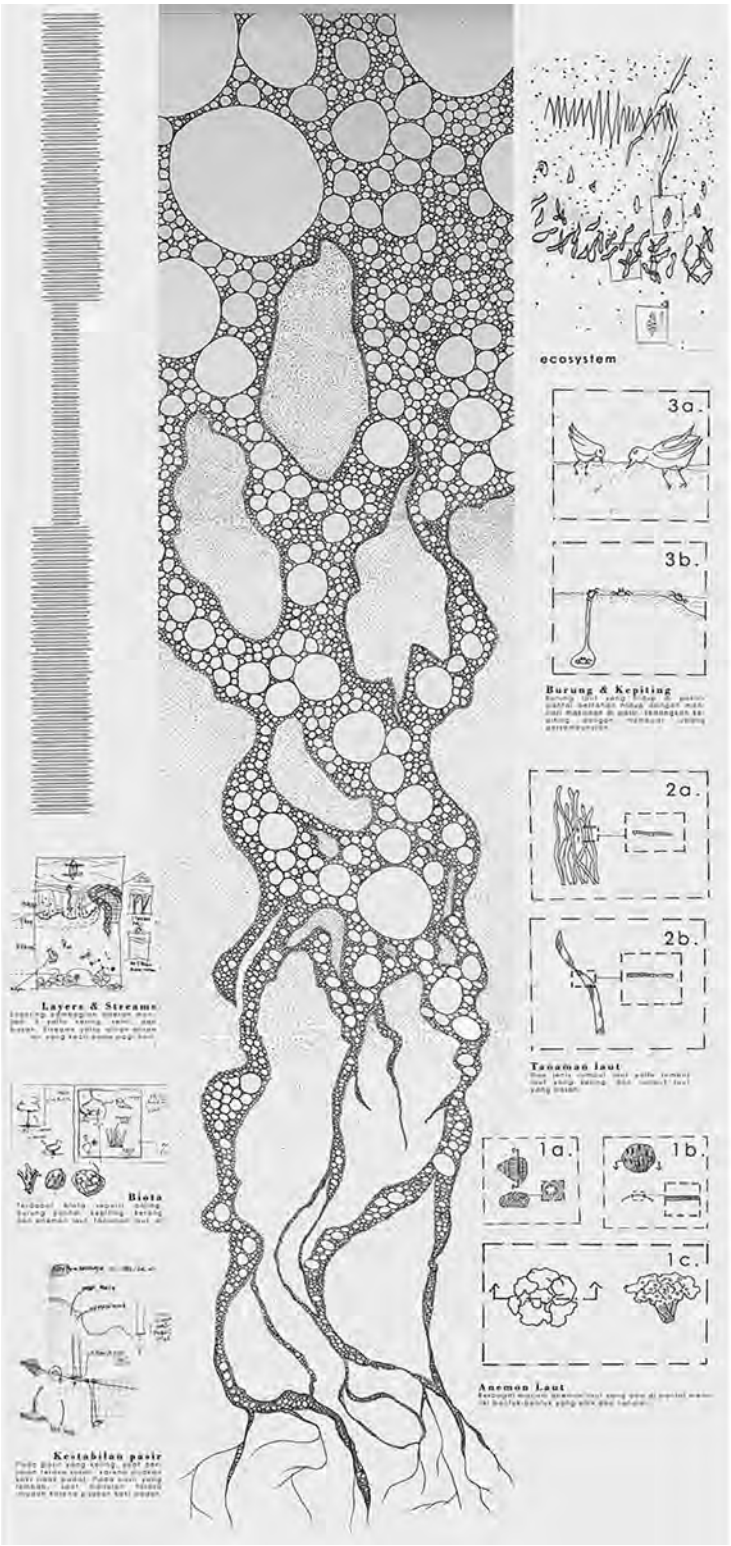


Fig. 5 - Reading and interpreting site. Departed from such observational environments, a set of skills could be constructed. Orientation, Observation, Drawing, Composition, and sharpened tactile sensibilities were trained in an integrated manner.

Fig. 6 - Here another example of the same process described in Fig. 5.



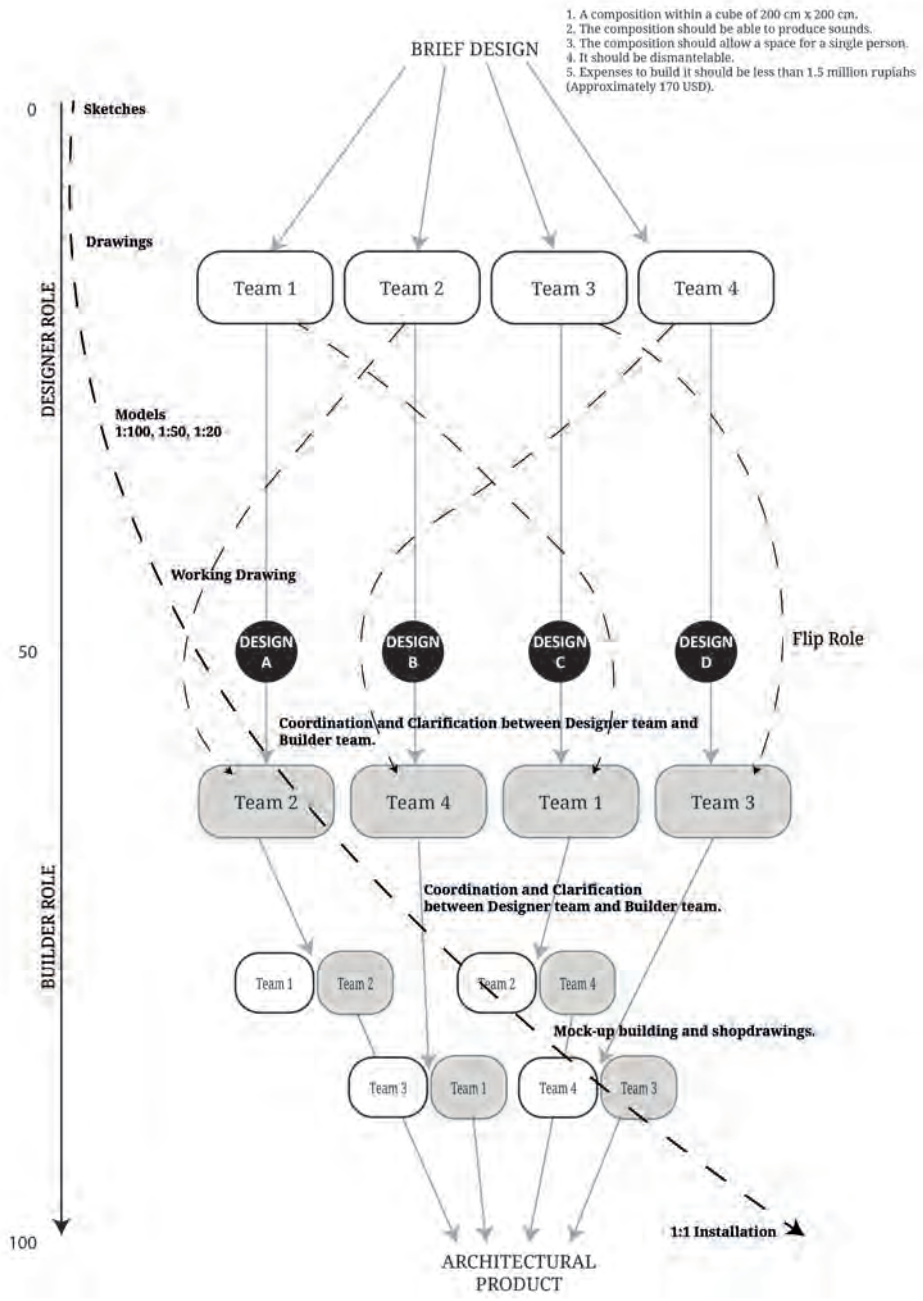
Case study 2: Notation and teamwork

Drawings and model-making are utilized to simulate the closest possible real-world problems of architecture. The interplay of scales in drawings and models intends to assist students in comprehending problems in architectural practices. Nevertheless, without gaining experience in constructing a building, it would be impossible to truly understand practical issues.

Therefore, I argue that introducing scale and a reflection on how a designer "plays" with scale in the design process is vital in architecture education. By exposing the agency of scale in the design process, students will directly tap into at least two complexities of real-world architectural problems: coordination of information and management of resources.

Fig. 7 - Presentation and Review. Experiencing for themselves is the best way for students to learn to consider various aspects of an architectural scheme.

Fig. 8 - Negotiation and Coordination. This diagram aims to explain underpinning idea of the brief in which the main idea is by flipping the role from designer to builder and vice versa, students would have a better clarity of how notation operates in a design process.



Further discussion

The purpose of the two cases is to ingrain a critical attitude in the participants' everyday activities. The exercises aim to stage activities and habits instead of emphasizing the output. In this way, the whole process is experienced not as a mere production process. The process is tailored by placing key activities such as, in case study 1 (not in hierarchical order):

- inter-scales closed observations on surrounding objects (everyday objects);
- making visual diaries;
- locating patterns in everyday objects, and;
- framing patterns in visual composition.

In the case study 2 (not in hierarchical order):

- understanding the dialogue between object dimensions and information scale of complexity;
- knowing the role of visual cues (notations) for collaborations, and;
- experiencing the needs for collaboration and teamwork in manifesting ideas.

These activities would yield a versatile habit for any design-related situation and condition. Accordingly, shifting the objective from output-oriented to the design-thinking-cum-attitude-oriented activities provides us a leeway to define competencies that will serve both domains of education and practice. Standardization and qualification would always be temporary in nature; therefore, setting competencies for the sake of standardization/qualification compliance would not be sustainable.

Acknowledgments

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