

Design Process / Design-Based Research

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This chapter elaborates on different ways of architectural knowing and the constitution of knowledge by architectural means. The chapter equally takes into account the design process – as one of the key elements of the discipline – and design-based research attempts in the field of architecture. It seeks to reach beyond the ambiguity of the knowledge of architectural design and the conception of design as a process of knowledge creation. In this regard, the chapter aims to overcome the discrepancy between the inherent knowledge of architectural design and an implicated meta-level of design research. While the creation and production of knowledge has always been an inherent part of architectural design, the reflection of its methodological procedures, the specification of methodologies, and their significant application to referable questions constitute a contemporary thread in the field.

The particularity of design methods has only very recently become an explicit element of the discourse, alongside the growing debate on the scientific potentials and challenges facing the discipline. Throughout the discipline of architecture, the notion of methodological endeavors has foremost been directed at the challenges of the design task, aiming to find the most suitable procedures to solve the overarching challenges of the project. So far, superordinate topics from the disciplinary realm of architecture have merely been addressed by the transposition of methodologies established in other disciplines and fields of research.

The unraveling of an underlying methodological fabric of the design process holds the potential to increase awareness for genuine architectural knowledge and exploits its inherent working methods and acquaintance of comprehension – an aim which design-based research contributes to fruitfully. The design process itself resembles a cognitive structure of thoughts, ideas, and choices, dependent on the interrelating, consecutive development and draft of concretization; reconsideration, revision, specification, decision, and choice-making are essential to the processes of architectural design and conception. By tracing this stream of consciousness through the established methodologies and by addressing the tools and agencies involved in emphasizing specific architectural knowledge through architectural means, it becomes apparent that a greater awareness of the different dimensions of the design process fosters the integration of specific architectural ways of working in architectural research. Only very recently, a shift of perspective has occurred in the field of fundamental and superordinate architectural research, as genuine methodologies from the discipline of architecture are being applied to this research. The more we reflect on this notion, the more we can benefit from such methodological knowledge.

Design-based research provides an attempt to explore, define, access, and integrate genuine architectural methodologies and procedures in architectural research. The reconsideration of original architectural methodologies and the investigation into explored working methods

enable researchers to use their established tools and ways of working, their means of analysis, comparison, and evaluation, as well as their tools for the creation as well as the production and invention of profound – either scientific or applied – ideas and significant positions in the discourse. An analysis of established methodologies strives to discover inherent architectural tools for research, from which a discipline-specific methodological spectrum and ontology of architecture ensues. The broad variety of tools and media applied in the design process bears the potential to contribute as equally fruitful catalysts to the research process. In design research, the tools and results of the creation process – like sketches and drawings, different types of models, and all others – are treated as experimental findings, made explicit, critically examined and developed, and, if needed, are subject to further revision. The design itself and its corresponding creational processes appear as tools – as well as subjects – of research.

The four following contributions address different aspects of the broad field of potential adaptations from architectural design to research in architecture. They highlight the investigation of specific tools and techniques of the design process, emphasize the transfer, applicability, and adaptation of preconceived knowledge to specific design and research tasks. They also reflect the potential of genuine methodologies, inherent to the discipline, and their capacity to be just as productive in applied design and scientific research.

