AIZ

An unexplored domain: Researching value communication in architectural design studio

Yasemin KESKİN ENGİNÖZ¹*, Belkıs ULUOĞLU²
¹ keskinenginoz@itu.edu.tr • Architectural Design, Graduate School, Istanbul Technical University, Istanbul, Türkiye
ORCID: 0009-0007-6106-9799
² uluoglub@itu.edu.tr • Department of Architecture, Faculty of Architecture, Istanbul Technical University, Istanbul, Türkiye
ORCID: 0000-0001-9773-2977

Abstract
Architectural education is an enculturation process which enables students to acquire the required architectural skills and values to apply expert knowledge. Values, as cognitive structures, play an important role in determining architectural design decisions. Researchers emphasize the importance of values and the urgency to develop a studio based on making values explicit. An architectural design education that considers values and value differences is necessary for the education of the architect, for architecture to serve society better. Therefore, we need to depict how values related to design knowledge operate during design activity, how students externalize these values, and how the tutor responds professionally and pedagogically.

This article aims to propose a model to be employed in researching value communication in design education, in the studio. It is based on Bourdieu's agency-structure theory which considers values in the context of subject and object relationship. While values exist independently within the *habitus* of both the student and the tutor, they become operational during their practices of design or education and become externalized in the subject's embodied actions and the (body extension) objects in the field, specifically in the studio. It explains the existence of values through *ethos, eidos,* and *hexis* as mental schemata together with cultural, social, and symbolic capital as the content of the *habitus*. To evaluate the future of architectural design studios, the model considers current value communication through the dialogues that take place in the studio between students and tutors, by establishing a relationship with the tutors' and students' *habitus*.

1. Introduction

Formal architectural education is an enculturation process which is not limited to the transfer of professional knowledge. It enables students to acquire the required architectural skills and values to execute this expert knowledge (Stevens, 1998; Webster, 2008; Dutton, 1987). Architectural design studios are environments for students' learning of design. Design is a value-laden activity; personal skills and values determine and distinguish designs of architects from each other, given the same design brief, rather than the professional knowledge used (Lera, 1980; Pedgley, 1999). These values, as cognitive structures, play an important role in determining architectural design decisions, judgments, evaluations, and choices. At the same time, if they are communicated in the manner of architectural knowledge during architectural education, they form an important component of students' acquisition of design skills.

Studio tutors emphasize the importance of values and the urgency to develop a studio based on making values explicit in architectural design. Uluoğlu (2016) criticizes the schools for conducting studios within a structure that often neglects to address values, value systems, and the ethical, historical, cultural, social, economic, and political dimensions of architecture and its education. Çil and Demirel-Özer (2021) assert that the studio goals of the tutors in terms of values, attitudes, and expectations from the students often do not find their counterpart in the students and remain implicit during the course. Moreover, conflicting values between the profession, formal education, and society limit the profession's role and effectiveness (Ledewitz, 1980). So, an architectural education that considers values and value differences is necessary for the personal education of the architect, for architecture to serve society better, and for better architecture. There is a vast literature comprising studies that reveal the nature of the design process in the architectural design studio. However, there are a few attempts conducting studies on values communicated in the studio; such as, value-driven architectural design stu-dio methodology (Ledewitz, 1980) or reconceptualizing value in urban design through an urban design studio approach (Chiaradia et al., 2017).

There are values of society, values of architecture schools, values of tutors, values of students, etc. Some of them are written in the curricula, some are spoken in the studio, and some are worded in architectural manifestos. However, there are implicit and hidden values that we may express or detect during practicing (Espedal et al., 2022). So, value, as a term, should be clearly defined, and how values are communicated in the architectural design studio as well.

Values hierarchize knowledge, based on importance; and they are not isolated from the knowledge of what and how (Pedgley, 1999; Gouvinhas & Costa, 2003). These values guide human thought and action for good design (Middleton, 2003), and serve as criteria in comparing, choosing, and evaluating alternatives. Whether designers have explicit ethical or aesthetical values, these need to be related to design knowledge. This is carried out via design actions during the design process. There are studies revealing values involved in the design process and how the individual designer employs them. These studies were conducted both with professionals and students (Lera, 1980; Pedgley, 1999; Trimingham, 2008; Holm, 2006). However, neither the architectural design process nor the construction process is an individual practice independently carried out. They are social production processes in which different actors discuss, evaluate, and make choices together in design decision-making. Communication of values between actors is very important in the process of decision-making, selection of alternatives, and evaluation of design.

Recent studies on values that guide design are advancing either through taxonomy and operation of personal (Trimingham, 2008) or professional values (Holm, 2006) in design practice, or through Value Sensitive Design framework. All these new studies are within the "design and technology" tradition that emerged in the late 20th century except for a small number of

past efforts to address values, particularly in architectural design and architectural design studios (Lera, 1980; Ledewitz, 1980). Moreover, their recognition of designing with values and acquisition of values, differ from that of the conventions of architectural design and the dialogue-based conception of architectural design studio. They mainly focus on translating values into design requirements (van de Poel, 2014) or creating conditions for students to go from knowledge to action through the teaching of values for design (Nilsson & Hansen, 2021) and aim at incorporating values of ethical importance into engineering design.

Tutors and researchers revealed that values are not discussed enough in the studio (Uluoğlu, 2016), and when they are, the values of society and architectural education do not overlap, or the values of the tutors do not resonate with the student's values (Çil & Demirel-Özer, 2021). Only if we elucidate the problems with their causes, we eliminate the value-related problems, incompatibilities, and failures pointed out in education and the profession, starting from the studio (Ledewitz, 1980). Therefore, we need to depict how values related to design knowledge operate during design activity, how students externalize these values, and how the instructor responds professionally and pedagogically to students.

Thus, we propose modeling value communication in the studio environment to investigate how values operate within architectural design education which is a social reproduction field. We employed Bourdieu's conception of agency-structure theory for the model.

The study positions itself among studies on value research in architectural design. The section that proceeds, summarizes the problems of defining values in design and architecture and then introduces important determinants of values for this study. We based on value literature rooted in philosophy, social and behavioral sciences, and economics. Subsequent sections first, explain the method for value research in architectural education; second, propose a model for investigating communication of values in architectural design studio; and finally, discuss the contribution of the proposed model in value research and possible research trajectories in architectural education.

2. Literature review
2.1. The problem: Which values to design with

When we debate on designing with values in architecture there is a problem concerning the intentions behind the values. Any set of acts in practicing design is value-driven (Ledewitz, 1980; Askeland et al., 2020). Designers or architects express their principles explicitly (Lera, 1980) or architectural associations declare ethical norms of the profession (e.g. Code of Ethics and Professional Conduct of AIA) when asked (Fisher, 2010). However, elaborated values are diverse and not consistent with the professional *ethos*. In short, values are difficult to research in practice as they are multiple, diverse, abstract, tacit, hidden, and temporary by nature.

On the other hand, definitions and classifications of values are settled upon dual distinctions/dualities such as explicit-implicit, fact-value, subjective-objective; instrumental-result (goal); intrinsic-extrinsic, atomism-holism, ethical-aesthetic etc. Descriptive questions concerning value also follow the same path such as, whether value is single or more than one (monism-pluralism), or whether values are cognitive or emotional. Therefore, it becomes imperative to determine in what context or route the research is addressing the issue.

Value refers to standards, beliefs, principles, moral obligations, and social norms. It also serves to express desires, wishes, needs, or interests (Pauls, 1990). Value means importance while also indicating the prominent features of something. Value as a term is the set of standards or criteria upon which to evaluate objects or facts (Pauls, 1990). Within the literature, terms such as *object value* or *determined value* signify the result achieved in the evaluation of an object or phenomenon while *held value* or *value as a criterion* means what is performed by the subject during the evaluation process. Emphasis on evaluation may be on the evaluated object or the evaluation criteria (Pauls, 1990).

In psychology, values are internalized cognitive structures that guide choices by evoking a sense of basic principles of right and wrong (e.g., moral values), a sense of priorities (e.g., personal achievement vs. group well-being), and a desire to see patterns (e.g., trust vs. distrust) and create meaning. At the individual level, values include cognitive and emotional elements and have a selective or directive nature. In a general sense, values help to explain choices, judgments, and actions (Oyserman, 2015).

Two important distinctions in value studies are determinative for this study and are included for defining the value in the scope of it: Values of the subject or values of object[1] and values being emotive or cognitive. The model that this study proposes is based on subject and object relationship rather than their distinction. Besides, the value definition of this model is based on the cognitive features of value since the focus of this study is placed on design decision-making as an intellectual practice (Lera, 1980).

2.2. Positioning ourselves: Value studies in Design and Architecture

Value studies in architecture are based on descriptive, normative, and meta-ethical theories and the teachings of axiology and value theory in economy, and social and behavioral sciences. We found that the source of value studies in architecture consists of mostly three subject areas based on our literature research: professional practice and theory in relationship with ethics (e.g. books by Wasserman, Sullivan, & Palermo and by Fisher), determination of criteria for the evaluation of the architectural product and/or design (e.g. book by Tapan & Sey, articles by Pultar) and finally the role of values as an active factor taking place in the architectural design decision process (e.g. researches conducted by Lera with different groups). Studies in the scope of the descriptive approach propound value definitions and taxonomies whereas studies within the normative approach try to clarify how to design with which values.

Value studies in architecture examine the values of the architect, values of the community, values employed by the designed object, evaluation criteria, the instrumentality of axiological approaches in design education, design knowledge, and value relationship as topics. Values that belong to the architect, guide the personal and social life of the agent, and the evaluation of objects is made according to the values of the agent. In other cases, the objective basis of the intrinsic values of designed objects is investigated.

However, value studies in design after the 1980s are based on design research in design and technology education specifically researching the decision-making skills of students (Hicks et al., 1982; Norman, 1998.). Most of this research has focused on design decision-making, whereas VSD (value sensitive design) is a theoretically grounded approach to the design of technology that addresses design issues within the fields of information systems design and human-computer interaction. It does this by emphasizing the ethical values of direct and indirect stakeholders' accounts for human values in a principled and comprehensive manner. The traditional VSD definition of values is "what a person or group of people consider important in life"; this definition is often criticized for being vague (Manders-Huits, 2011). In addition, formulating a predetermined list of values by their a-priori mapping runs the risk of ignoring important values that can be derived from any empirical situation (Le Dantec et al., 2009). A VSD approach modified by Umbrello and van de Poel uses Artificial Intelligence for Social Good (AI4SG) factors as norms to translate abstract philosophical values into tangible design requirements. A group of teachers and researchers at three European universities took this approach forward by developing an online Open Educational Resource (OER) that supports design teachers who are interested in teaching values in design as part of their pedagogical practices. They believe teachers in design education programs ought to create conditions for students to acquire skills and competencies in how to go from knowledge to action when working with values (Nilsson & Hansen, 2021).

2.2.1. Architectural ethics

Architectural ethics fall under the overarching subject of architectural theory or architectural philosophy. It is considered as the moral and social qualities of both architectural practice and architectural objects. Architectural ethics inspect typical moral dilemmas of architects which are either agent-centered or norms-oriented (Fisher, 2016). The source consulted to untangle each dilemma is based on the four main approaches of Western ethics: Virtue Ethics, which states the necessity of being a good person; Social Contract, which lays the foundation for the formation of a good society; Duty Ethics, which tells what the right action is for the individual, and Utilitarian Ethics, which shows what is the best course of action for the interests of the group (Fisher, 2010). While Virtue Ethics and Duty Ethics determine the individual actions of the moral agent as an architect, Social Contract and Utilitarian Ethics tell responsibilities or what the architect should do regarding the architectural professional community and the society.

The responsibilities or obligations of an architect are; general obligations, obligations to the public, to the client, to the profession, to the colleagues, and towards the environment (Fisher, 2010). Although not clearly expressed, values are collected as codes and norms under professional ethics due to their normative structure. However, gathering them under professional ethical codes carries the risk of transforming the value into a value judgment (Kuçuradi, 1971) such as good or bad, and reducing its situation-specific nature to a fixed ascription for every situation.

The relationship between ethics and aesthetic values in architecture is another important argument of architectural philosophy. Vitruvian principles, one of the foundations on which architectural theory is based, tend to relate aesthetics with utility. Concordantly, the theory of functional beauty (Aesthetic Functionalism) also proposes that aesthetic and ethical considerations in architecture are related. According to the *moralist* view, these two types of values are or should be connected (Carroll, 1996; Gaut, 1998), but the *autonomist* view, handles these two values independently (Anderson & Dean, 1998; Kieran, 2001). A third approach proposes *pluralism*: In some cases, ethical and aesthetic values are related, whereas in others they are not due to the coupling of these values which appear in variety and are based on different aspects. Writers such as Fisher (2000), Koller (2013), Lagueux (2004), Schrijver (2013), and others assert that ethical values have not been a topic of discussion for a long time since architecture has been treated as a branch of aesthetics for many years. For this reason, the reduction of ethical values to aesthetic values is at the center of the value debate in architecture.

Wasserman, Sullivan, and Palermo (2000), propose that architectural ethics should be discussed under the headings of *Architect*, *Architectural processes* and *Buildings*, which are the three states of architecture because "Architects and buildings, architectural processes, and the relationships among and with the people whom architects engage, have ethical impacts and results." (p. 7).

2.2.2. Evaluation process of the architectural product

Some researchers work within the framework of evaluating the value of architectural products, as bearers of the values of the subject or as entities with inherent values, or by measuring their environmental impact. In this context, they benefit from the value theories of economics, business, social, and behavioral sciences when proposing methods for evaluating and measuring (Pultar, 2004; Tapan & Sey, 1982). Evaluation is the value judgment regarding how much an architectural product, or a design solution (object) meets the needs of a person or society (subject) (Pultar, 2004). Ethical propositions, that state how the requirements should be met, and which behaviors or qualities are good, determine the evaluation activity. Pultar (2004) states that to examine ethical propositions regarding the architectural object, the values related to the object must be defined

and then resolved within a meaningful framework.

2.2.3. Decision-making through values in architectural design

This article defines value as an important component of design together with knowledge and skill, whereas considering it as a cognitive structure administrating decisions and choices made during architectural design and construction practices. Therefore, it can be classified as an extension of studies investigating the role of values in decision-making in architectural design.

Design researchers such as Pedgley (1999), and Trimingham (2007) have examined the role of values in decision-making, selection, and prioritization of available alternatives. Their studies are based on Hicks et al.'s (1982) categorization of the factors that affect decision-making in design under the titles of knowledge, skills, and values. They investigate and reveal the values with which designers work in the design process in the form of taxonomies as Trimingham (2007) has shown and how they use them.

Understanding knowledge is not enough to understand the decision-making processes in design. Design activity is the interaction of knowing what, knowing how, and values; therefore, knowledge of what, knowledge of how, and values cannot exist in isolation (Pedgley, 1999, p. 50). Lera (1980) suggests that design is a form of decision-making. Designers, given the same design brief, may propose different designs. These design alternatives result from each designer's own configuration of that design problem: how they prioritize competing goals and make value judgments. It is the result of the same approach when architects evaluate the alternatives and choose the design solutions which reflect their own priorities. When interpreting a design that is attributed to be a *good job* is not just a result of intelligence and creativity. It is because architects think and act intelligently through something Middleton (2003) referenced as ethics or values or as goodness (p. 111). It is often that designers and architects make their decisions based on their experience, skills, and framework of values.

Nelson and Stolterman (2003) describe design decision-making as a process of narrowing down a whole to create a new whole. The most notable effect of values in the process of design decisions is to direct a designer by reducing the number of various explored paths to inquiry (Pedgley, 1999). Framing the design problem enables architects to understand complex information, interpret the world, represent the world to others, and organize complex phenomena into coherent understandable categories. Frames are built on intentions, beliefs, and values, even though the framer is unaware of them due to the implicit nature of some of those frames (Schön & Rein, 1994). Values hierarchize options, therefore are more important than knowledge in design decision-making. These assertions emphasize this role of values.

Previously, researchers have approached the phenomenon of value from two perspectives as values of the subject and/or of the object and have classified them accordingly as outlined in the literature review. However, it is not easy to separate values from actors, practices, products, or even from culture. They are in relationships and embedded in actions. Moreover, architecture is a social production process in which different actors discuss, evaluate, and make choices together in design decision-making. Communication of values between actors is very important in the process of decision-making, selection of alternatives, and evaluation of design. The architect acquires values and representation of them mostly through the practice of design in architectural education, specifically in the architectural design studio. So, this study aims to define value by positioning it within the subject-object relationship in architectural design studio/education as a social and cultural reproduction medium and employs an integrative method.

3. Methodology

The representation of values within the process of learning how to design and how they are communicated between actors with different roles in

formal architectural education needs to be investigated. As reported in many studies, it is not easy to determine values unless they are clearly expressed or represented, observed, and recorded using scientific methods during the design process. Researchers have addressed the difficulty of unveiling values in practice due to the implicit character of value. However, as values are important for actions, practice, decisions, policies, and communication on both individual and organizational levels, as mentioned by Espedal et al. (2022), a solid methodological basis for research is essential.

Agency-structure approach as one of the integrative developments within sociological theory is employed as the methodology of the study. This study employs Bourdieu's approach and concepts (field-*habitus*, capital, practice, and strategies) among agency-structure theory as a method to investigate the communication of values in architectural education.

Bourdieu's theory is found to be a pertinent method because he investigates the relationships of components of the social structure rather than aparting them and adjusting the focus on the perspective of a single component. By employing this approach, the study discusses the value phenomenon through the subject-object relationship, or rather actor and structure, as it is referred to within this study.

3.1. *Field* and *Habitus*

Habitus is a mental or cognitive structure through which people-actors-deal with the social world. Actors perceive, understand, appreciate, and evaluate the social world, internalize and embody it through their *habitus*. On one hand, *habitus* is structured by the social world. On the other hand, *habitus* is a *structuring structure*; that is

people externalize themselves through practices in the social world and produce the social world (Bourdieu, 1989, p. 18; Bourdieu, 1984, p. 468). A *habitus* is acquired as a result of long-term occupation of an objective position within the social world. A *field* is a specific part of social space (Bourdieu, 2019); for example, law, religion, philosophy, etc. are fundamental fields. In fact, field as an abstract concept can be represented as a system (i.e. education system), it can be represented as an institution (2019, pp. 35-36) (i.e. schools) in the form of monuments, sculptures, artifacts, books, (i.e. curricula), etc., which can also take the form of physical objects. Cultural production as a field includes sub-fields such as art, literature, poetry, drama, theater, novels, etc. The *field* is a network of relations among the objective positions of actors within it (Bourdieu & Wacquant, 1992, p. 97). Actors are situated in these objective positions and perform actions of practice. The social world is created as a result of practices (Ritzer, 2011) (Figure 1).

Bourdieu, in his *field-habitus* theoretical statement; establishes the relationship of the social subject with the social structure through *practice*. Practice includes both the act of encountering a new situation for production and the act of getting better at something by repeating the same thing over and over again. In this sense, we can consider it as including the experience of repeating an action. When we consider architecture as a *field* from a Bourdieusian perspective, the positioning of an actor as an architect within the profession is mainly obtained through architectural design and/or architectural practice. Concurrently, each actor positioned within the field exists with their own *habitus* and is also positioned in different *fields* other than architecture. Fields are also in relationship with other fields in social space. When necessary, *habitus* sometimes serves as a connection that will translate capital from one field to another where it is functional.

Actor in its position in the said field is a sociological agent rather than a psychological one. The *habitus* exists in the mind of the actor, while the
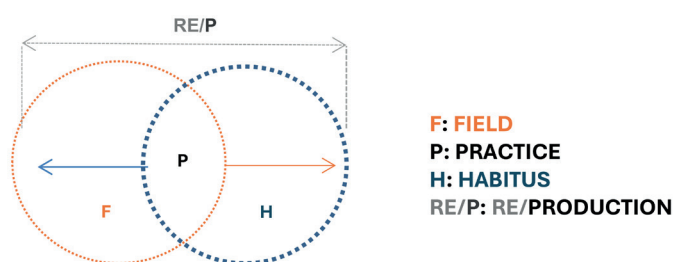

Figure 1. *Relationship of habitus and field through practice (Yasemin Keskin Enginöz, 2024).*

F: FIELD
P: PRACTICE
H: HABITUS
RE/P: RE/PRODUCTION

field exists outside of it. Habitus can be thought of as internalized, embodied social structures (Bourdieu, 1984), and at the same time a multidimensional dynamic system consisting of schemas that perceive a field and guide actors to practice in that field. For example, the architect's production of words, aesthetic preferences, gestures, or all other possible related actions in the field of architecture are produced through *habitus*.

3.2. *Habitus* and Capital

According to Bourdieu, *habitus* refers to what has been acquired subsequently, it may even be property or capital. Actors are positioned at various degrees of gravity at certain points of the social space, in terms of four types of capital that they have according to the ratios of these capitals, and the position of the *field* (in which they are practicing), within the general social space (Bourdieu, 1989, p. 17).

He divides capital into economic capital, cultural capital, social capital, and symbolic capital. Symbolic production, accumulated as symbolic capital, is the process by which people, especially those who dominate society, create values or reshape the values created in social space. Types of capital *accumulate* in the *habitus* and can be *converted* into each other from the field to the habitus and from the habitus to the field. He adds that some of them can even be *institutionalized* in the field. Although different types of capital are conceptualized separately from each other, they are related to each other with the feature of *conversion*.

According to Bourdieu, economic capital can be converted into money and be institutionalized in terms of property rights. Cultural capital can be institutionalized within educational systems and even transformed into economic capital under special conditions. Social capital has the feature that creates social obligations (connections), allows conversion into economic capital under certain conditions, and is institutionalized in forms such as titles of nobility (Bourdieu, 1986, p. 243).

Bourdieu divides cultural capital into three forms, the first of which exists as embodied, when thought and body materialized in the form of long-term preparation, i.e. knowledge, skills, et al. In the second case, it is objectified in the form of cultural goods such as books, pictures, dictionaries, tools, sketches, etc. Architectural projects are the best examples of objectified forms of cultural good in architecture. Thirdly, it is institutionalized, such as educational degrees in the case of diplomas in architecture (Bourdieu, 1986).

Bourdieu's notion of social capital conceptualizes and explains the agent's ability to action or discourse within a field such as a society, community, group, etc., and the group relationships of the agent and the social prospect of the positions they hold within these relationships.

3.3. *Habitus* and classification principles

According to Bourdieu, human behavior depends on both external causes as assented by structuralism; and internal causes as advocated by existential thought. He thinks that the categorical approach of structuralism that classifies people annihilates the agent, that is a working and practicing body, and even ignores the fact that individuals are creative, talented beings. The creative, active subject with an original capacity is not a transcendental subject, but a performer actuator agent (Bourdieu, 1990, pp. 10-13). Because of this reason, Bourdieu states that over time he has given up on dividing *Habitus* into separate sections as *ethos, eidos,* and *hexis* according to its different dimensions. He emphasizes that the basis of his theory is relational thinking, and habitus is a concept that integrates these principles that are in relationship with each other (Bourdieu, 2019).

However, Bourdieu states that both the individual and the collective classification struggles constitute an overlooked dimension of the class struggle; they intend to alter the social world by transforming categories of perception and evaluation of the social world. "*Position in the classification struggle depends on position in the class structure; these principles of division are common to all the agents of the society*" (Bourdieu, 1984, pp. 466-484).

The practical classification principles that are the constituent elements of *habitus* are inextricably logical and axiological as well as theoretical and practical according to Bourdieu. "The logic of practice is practical, and because it is practical, it is inevitably related to values" (Bourdieu, 2019, pp. 161-162). These constitutive elements of *habitus* are 1) *eidos* as a system of logical schemes, 2) *ethos* as a system of practical and axiomatic schemes, and 3) *hexis*. All the principles of choice have been translated into embodied postures and bodily dispositions. In this sense, values are represented through hand-arm-head movements, standing, walking, and speaking styles. For Bourdieu, *Ethos* is *Hexis*; morality incarnate.

Habitus provides the principles (values) for actors to choose their strategies in the social world. These strategies are revealed through the experience gained by solving each problem the field poses. So, strategies are products of practices and experience that enable the intersection of habitus and field as an outcome. Actors act by choosing a set of strategies when they encounter a situation whether unexpected or new, in practice in the field.

To summarize, values are accommodated in the agent's habitus and become visible due to *hexis*. In this respect, when we conceive values by means of Bourdieusian theory; it seems that *habitus*, field, values, capital, mental and embodied schemes/systems, (*ethos, eidos*, and *hexis*), practices and strategies cannot be considered disconnected from each other.

So far, previous studies adopting Bourdieu's field-habitus theory in architectural education (Stevens, 1998; Payne, 2015; Webster, 2008) have focused on class struggle. Differently, this study aims to define and position values according to the practice of classification.

3.4. Existence and representation of values in practice

While values exist within the *habitus* of an actor as a unified form of capital (cultural, social, and symbolic capital) and mental schemes (*ethos, eidos*, and *hexis*) they become operational during practice (i.e. architectural design or education) and even become represented in the subject's embodied actions such as drawing, speaking, gestures, etc., and their body extension objects in the field. The design outcomes as products are also value carriers in this sense.

The foundations of these values are laid in childhood and later mature in their *habitus* through their practices in the cultural and social fields before professional education (Stevens, 1998; Kohlberg et al., 1983). It is because each field imposes its dominant culture and values on the actors and structures them in this way. Values are implicit in social acts in practice and need to be elucidated. In the field of architecture and its education, values inherent to the profession are gained through both formal and informal ways. Educators are the dominant class, and first-year students are new actors entering this field. But during enculturation in the education which Bourdieu mentions as materialization of thought and body in the form of long-term preparation, students behave more and more aligned with the dominant class. From this point of view, values are essential components that enable the actor to be an architect and to practice architecture in the field of education, rather than knowledge.

4. A model for value research: communication of values in the architectural design studio

The concepts on which the model is based are explained in the Methodology section in detail. We will outline how the model was constructed. *Habitus* and Field are related through the actor's practice in the field. The field and *habitus* are constantly in a transformative relationship with each other. This structuring relationship is a social and cultural reproduction in which actors try to fit into this established field. Habitus includes cognitive and embodied aspects of the actor and guides to represent them, as a notion of identity (Webster, 2005). The actors' values as cognitive structures are determinative of this identity and guide the actions of the actors practicing. Values that exist in

the *habitus* of the actor have different dimensions as mental schemata and capital intertwined. Actors represent their values when practicing either through embodied actions such as speaking, walking, gestures, mimics, or body extensions objects they wear, carry, or produce in the field. Actors might declare their values explicitly when speaking but action-guiding values might be implicit and embedded in embodied actions or body extension objects and need to be investigated. Architect (actor) designing/constructing architecture (the field) is distinguished by the way s/he draws, talks, its gestures, etc. (embodied actions), and what s/he wears, draws with (bodily extensions), and products as models, sketches, etc. The values of the architect, values of architecture, values of the architectural school s/he got a degree from, etc. are carried in *habitus* as mental schemes intertwined with capital. In *habitus*, body and mind are also inseparable and values are projected onto the field through practice. This is a model of an actor designing with values (Figure 2).

Architecture is a cultural and social reproduction field. The values should be negotiated. It is important to be aware of the values guiding the design practice however it is more important to represent and explain the values to other stakeholders of design practice and debate on which values to design with. Architect enculturation professionally begins with formal education. So, we assume that architects learn to communicate values with design stakeholders starting from school. Design studios at the center of formal architectural education are mediums where architects learn designing with values and representing values through practice.

4.1. Field: Studio
Architecture and education are two important fields of social space. However, architectural education can be considered a sub-field under these fields. We can draw architectural education as a field spreading along two axes: formal-informal and theoretical-practical, intersecting at right angles. The axis between formal and informal

aspects defines the relationship between actor and structure whereas the content of the school program spreads along a theoretical-practical axis (Figure 3).

Formal educational institutions are structured institutions consisting of actors in different positions such as academics, students, and administrative staff. Intentions, purposes, knowledge, values, attitudes, etc. are objectified as the curricula together with the physical environment, and learning outcomes as project submissions, diplomas, etc.
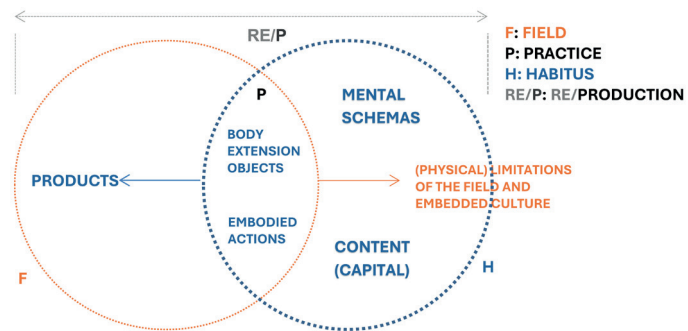

Figure 2. Relationship of architect habitus and architecture (field) through design (practice) (Yasemin Keskin Enginöz, 2024).
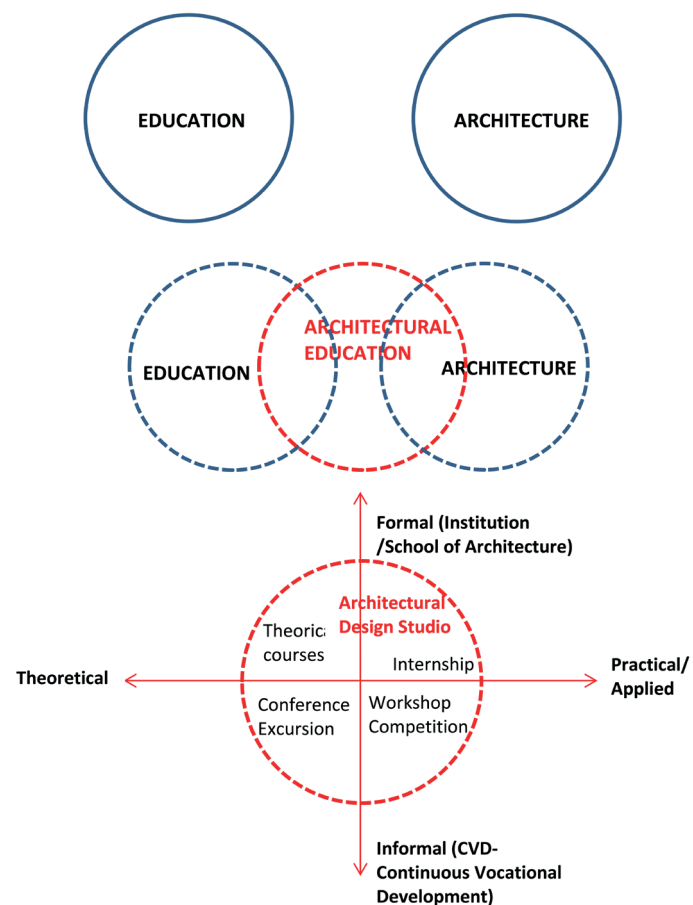

Figure 3. Architectural education as the field (Yasemin Keskin Enginöz, 2024).

structure the institution. Academics and administration continuously reproduce the architectural culture and students acquire it unconsciously, almost without control and awareness through their habitus.

Formal architectural education puts architectural design at the center of architectural education. Today, the programs of architecture schools consist of courses that can be grouped under 4 categories: The first group of these are basic courses that strengthen architectural formation. The second group includes theoretical and knowledge-oriented, practical courses that form the scientific basis of architecture. The third group of courses are theoretical and practical courses that strengthen the design basis and expression of architecture (Uluoğlu, 1990). These first three categories of courses are mainly based on instructional learning of mostly domain-specific, *secondary knowledge* (Geary, 2007). All secondary knowledge tends to require conscious effort on the part of the learner and explicit instruction on the part of an instructor. These mostly domain-specific, biologically secondary skills need to be explicitly taught and actively learned. Working memory which can only process a limited number of information elements at a time, processes all these new information. Because of this, cognitive load increases for novice learners, and it hampers learning and transfer of the epistemological base of architecture. But as students move to upper grades, they become more familiar with it and new information related to previous knowledge decreases cognitive load (Kirschner et al., 2006; Sweller et al., 2007).

Architectural design studios are different from other 3 categories of courses. They aim to recall the knowledge learned in other courses, mentioned above, to synthesize and relate to each other and students' internalization through design practice (Uluoğlu, 1990). The capacity and duration limits of working memory disappear when it deals with information transferred from long-term memory which was learned in other courses. (Sweller et al., 2019). A very large number of biologically primary skills are generic-cognitive such as general problem-solving skills or even our ability to construct knowledge (Sweller, 2015; Sweller, 2016; Tricot & Sweller, 2014). Generic-cognitive skills tend to be more concerned with how we learn, think, and solve problems rather than the specific subject matter itself. Most of the learning is through biologically primary knowledge and secondary knowledge recalled from long-term memory in the studio.

The architectural design studio (i.e. the field) transforms along with architectural education. Architectural education has been transformed based on the changing definition of architecture, the changing character and content of the environment, and the emergence of new ways of learning and new pedagogies. Today, architecture goes beyond building design and construction as a field of cultural communication, social reproduction, and scholarly research (Kararmaz & Ciravoğlu, 2017). And the architectural design studio is where students deal with ill-defined problems through reflection-in-action (Schön, 1985). Traditional studio teaching in architectural education assumes that the educator is in the instructor position, the student is in the learner position, and design knowledge is transferred through a master-apprentice relationship. This kind of apprenticeship model benefits from behavioral and cognitive instructional design (ID) strategies. Mastery of the content (knowing what) is important in the behavioral ID approach whereas teaching problem-solving tactics where defined facts and rules are applied in unfamiliar situations (knowing how) is important in cognitive ID. Students progress along a low-to-high knowledge continuum as they become more familiar with a given content. From an instructional design perspective, a change in learners' knowledge means students move along the behaviorist-cognitivist-constructivist continuum (Ertmer & Newby, 2013). The focus of instruction shifts from teaching to learning, from the passive transfer of facts and routines to the active application of ideas to problems.

Learning-oriented education aims to learn how to learn (to show students

to construct knowledge), and the tutors' effort is to create the necessary conditions for this. Tutors mostly benefit from constructivist strategies from ID literature. Strategies such as situated learning, cognitive apprenticeships, social negotiation (e.g. desk critics) help students to deal with design tasks. These tasks demand high levels of processing (e.g., heuristic problem-solving, personal selection, and monitoring of cognitive strategies) (Ertmer & Newby, 2013). Experimental studios founded on learning-oriented education assume that the tutor has a facilitating and supportive mission, and the learning process is participatory, interactive, experimental, and flexible. The tutor facilitates *systematic eclecticism* (Snelbecker, 1989); an appropriate instructional method according to learner and content; depending upon the context.

4.2. Actors: Tutors and students

When we model value communication in the studio, tutors and students are positioned as actors because the *habitus* of each of them contains and carries values. At the beginning of architectural education (i.e. first-year student) *habitus* of student and tutor are not alike. Suppose an architect-to-be student in their first year, did not acquire an architectural culture in the family or pre-vocational education. In that case, we can state that it has a *habitus* that is almost alien to this culture (Çil & Demirel-Özer, 2021). Besides they have no professional knowledge and their thinking habits in previous education are not suitable for architectural design education, most students do not come from an education that includes questioning, criticism, and creativity and they are conditioned to a mindset that seeks the only truth. In this context, first-year studios are a threshold environment where students from different *habituses* transition into the architectural *habitus* (Çil & Demirel-Özer, 2021; Cuff, 1991). However, although being a novice actor, the student has values and mental schema to process the capital of this new field. Research determined that students who are predisposed to architecture with the help of their

mental schema acquire the culture and knowledge of this field faster even if they are not familiar with this culture beforehand together with students who are familiar with the architectural culture (Stevens, 1998; Webster, 2008; Payne, 2015). Apart from these few students, there is a large group of students who are heterogeneous in terms of cultural predisposition. Depending on these studies, we assume students will relate their values with professional knowledge and express and represent values concerning architectural design knowledge better as they move to higher grades.

Tutors are usually practitioners who receive no pedagogical training, and the effectiveness of their teaching depends on experience, awareness, and talent (Goldschmidt et al., 2010). Values of tutor acquired through their family, preschool, primary, secondary education, and vocational education. As each instills a certain kind of culture in the tutor, common or similar backgrounds and experiences create similarity in *habitus* and therefore commonality in values (Ritzer, 2011). Tutors who graduated from the same school and work at the same institution will likely have a similar *habitus* called *Organizational Habitus*. *Organizational habitus* refers to "the class-based dispositions, perceptions, and appreciations transmitted to individuals in a common organizational culture" (Horvat & Antonio, 1999, p. 320) is an instilled form of the culture of architecture and school in tutor *habitus* (Payne, 2015).

4.3. Communication medium: Dialogue

The in-studio interaction and dialogues between the instructor and the student is the fundamental strategy determining the entire process in the architectural project course. This dynamic relationship, mostly in the form of desk crits, determines the construction of knowledge that shapes studio courses and also plays a role in the embodiment and transmission of the taste, culture, and value systems accepted by the profession (Cuff, 1991) (Figure 4).

While designing, the student's professional and personal values process

knowledge. They can put this into words while explaining their design outputs, point it out in their drawings, express it with the questions they ask, and even reflect it to the model technique. However, the tutors express how they operationalize personal and professional values as role models in their critiques, comments, questions, or sometimes sketches. On the other hand, for the instructor, every studio is a place of experience in teaching design. Here s/he practices both as a designer and as an educator. For this reason, some values in criticisms, questions, and preference to draw or not to draw also determine the tutor's approach to education. These form a set of values about architectural education that s/he shares with other tutors and also guide a *theory in use* in the studio. Based on tutors' theory in use, their reality definitions, behaviors, or communication ways, Dinham (1987), Quayle (1985), Goldschmidt (2002), and others proposed design teacher profile taxonomies. Bourdieu et al. (1994), claim that the educational system finds its expression in the communication between the teacher and the student. The special role of tutors is to constantly and methodologically minimize misunderstandings arising from the codes used to express a certain body of knowledge. Pedagogical communication is an effort to prevent misunderstanding of information. Therefore it distinguishes other forms of communication (Bourdieu et al., 1994, p. 5).

5. Conclusion and Discussion

Bourdieu's conceptions of agency-structure theory and the concept of *habitus* allow us to address the values that guide the actor's actions in a field without dividing them cognitively and corporeally. Thus, we can observe the projection of the values of the actors into the field both in the actions and explanations of these in practice and their corporeal behaviors. Likewise, it is possible to investigate the impact of the field on the tutor's and student's *habitus* through these actions. The model defines a research area where design studies, value studies, and institutional architectural education studies can benefit and it reveals subjects to conduct research related to the studio.

Tutors or students may declare explicit values, or intentions and aims might be implicit. The dialogues as speeches and/or attitudes and behaviors as gestures and mimics, etc., and/or design outputs i.e. drawings, sketches, and models can be investigated.

Many of the research questions to be asked with the help of this model will suggest trajectories and routes to explore. Each will need different research designs, methods, and techniques to be followed. Researchers need to design methods to investigate as the values operating in the design process are implicit and embedded. It is possible to anticipate that future studies may follow several trajectories as follows:

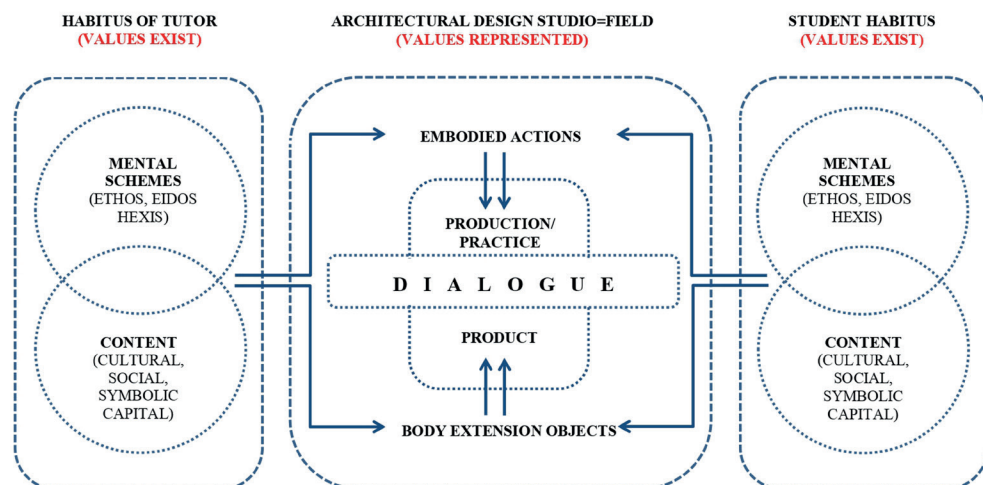Values in design-decision in architectural design education: The model

Figure 4. *Model of Communication and Representation of Values in the Field of Architectural Design Studio (Keskin Enginöz & Uluoğlu, 2023).*

An unexplored domain: Researching value communication in architectural design studio

can help to monitor the student's ability to recognize their values, use them concerning architectural knowledge in determining design decisions, and transfer them to design by revealing representation of values in different forms (spoken language, drawings, attitudes etc.). We can investigate how the values that guide design change at different grade levels in formal education. We can discuss whether the values expressed at the beginning of the studio are internalized in the *habitus* by observing whether they are decisive until the end of the design.

Value-related problems of architectural design education: We can identify student, tutor, and school-based problems in the field, or we can uncover the components of an enabling environment, to reveal the values of different types of (learning) students. We can investigate the failures in value communication and the reasons based on the actors.

Value conflicts between actors: We can investigate whether the values discussed in the studio and guiding the design coincide with current social problems. Or we can determine what are the values of architecture today that come up in the studio and determine the design. We can explore the personal and professional values of the actors and the overlapping or non-overlapping values of the tutor and the student. We can investigate methods to trace them in the *habitus*.

Organizational values: We can reveal the projection of the Organizational *Habitus* of schools, of accreditation, and the projection of *habitus* of different tutor models in the studio.

In the broadest sense, we can explore studio culture and its components. Moreover, we can use this model to investigate values in different fields or practices of social or cultural production by changing actors, fields, communication mediums, and tools.

To date, Webster, Stevens, Payne, and others implemented the class struggle discussion of Bourdieu's agency-structure theory for investigating the phenomenon of reproduction and acculturation in architectural education in the context of class struggle: The power relationship between the tutor and the student, as a reflection of traditional architectural education. However, the model proposed here describes values communicated in architectural education (specifically the studio) in terms of principles of classification practice (Bourdieu, 1984). Thus, it presents an approach to learning how the student uses or externalizes his/her values for practice and communicates them with the tutor. Moreover, it provides context to monitor and discuss the actions of the tutor, such as whether the tutor creates appropriate and conducive conditions for communication, such as listening to the student and encouraging the student to reflect on the values directing their design decisions. It also contributes to researching the process of instilling the culture of architecture schools into students through the tutor with the guidance of the proposed model.

Endnotes
[1] In the second half of the 19th century, Meinong (1894) divided the *value experience* into four components. Thus, he brought up two fundamental questions actuating two opposing approaches: (a) Is value a property of an object independent of any observer or valuing subject, or is it a relationship between the object and the valuing (value giver) subject? (Subjectivists' reply is "yes" to this.) (b) Is the perception of value a personal, entirely intuitive experience, or is there an objective basis that can be investigated using scientific methods? Objectivists (such as Plato, Scheler, Nicolai Hartman, and G. E. Moore) argue that value belongs to objects, regardless of whether they are desired, liked, or valued by people (Pauls, 1990, p. 16).

Acknowledgment

References
Abercrombie, M. L. J. (1960). *The Anatomy of Judgement*. London: Hutchinson.

Anderson, J. C. & Dean, J. T. (1998). Moderate Autonomism. *British Journal of Aesthetics*, *38*(2), 150–166.

Argyris, C., Putnam, R., & McLain Smith, D. (1985). *Action science: Concepts, methods, and skills for research and intervention.* San Francisco: Jossey-Bass Publishers.

Askeland, H., Espedal, G., Løvaas, B. J., & Sirris, S. (2020). *Understanding values work. Institutional perspectives in leadership and organization.* Palgrave Macmillan (eBook).

Borden, I., Crawford, C., Farren-Bradley, J., Heron, K., Low, J., Parnaby, R., Porter, D., Roberts, A., & Saxon, R. (2010). *Subject benchmark statement: Architecture.* Gloucester, UK: The Quality Assurance Agency for Higher Education.

Bourdieu, P. (1977). *Outline of a Theory of Practice.* London: Cambridge University Press.

Bourdieu, P. (1984). *Distinction: A Social Critique of the Judgment of Taste.* Cambridge, Mass.: Harvard University Press.

Bourdieu, P. (1986) The Forms Of Capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 24–58). Westport, CT: Greenwood.

Bourdieu, P. (1989). Social Space and Symbolic Power. *Sociological Theory*, *7*(1), 14–25. Spring, doi:10.2307/202060.

Bourdieu, P. (1990). *In Other Words: Essays toward a Reflexive Sociology.* Cambridge, England: Polity Press.

Bourdieu, P. & Wacquant, L. J. D. (1992). The Purpose of Reflexive Sociology (The Chicago Workshop). In P. Bourdieu, & L. J. D. Wacquant (Eds.), *An Invitation to Reflexive Sociology* (pp. 61-215). Chicago: University of Chicago Press.

Bourdieu, P. (1998). *Practical Reason, On The Theory of Action.* UK: Polity Press.

Bourdieu, P. (1999). Scattered Remarks. *European Journal of Social Theory, 2*(3), 334-340.

Bourdieu, P. (2019). *Sosyoloji Meseleleri.* Ankara: Heretik Basın Yayın.

Carless, D., Salter, D., Yang, M., & Lam, J. (2011). Developing sustainable feedback practices. *Studies in Higher Education*, *36*(4), 395–407.

Carroll, N. (1996). Moderate Moralism. *British Journal of Aesthetics*, *36*(3), 223–238.

Challis, D. (2002). Integrating the conceptual and practice worlds: A case study from Architecture. In A. Goody, J. Herrington, & M. Northcote (Eds.), *Quality conversations: Research and Development in Higher Education, Volume 25* (pp. 106-113). Jamison, ACT: HERDSA.

Chiaradia, A. J. F., Sieh, L., & Plimmer, F. (2017). Values in urban design: A design studio teaching approach. *Design Studies, 49*, 66-100. https://doi.org/10.1016/j.destud.2016.10.002

Cuff, D. (1991). *Architecture: The Story of Practice.* Cambridge: MIT Press.

Çil, E. & Demirel-Özer, S. (2021). Mimari *Habitus*un Eşiği Olarak İlk Yıl Mimari Tasarım Stüdyoları. *METU JFA 2021/1, 38*(1), 139-160.

Dinham, S. M. (1987). *An ongoing qualitative study of architecture studio teaching: analyzing teacher–student exchanges.* Proceedings of the ASHE Annual Meeting, November 21–24, Baltimore, MD.

Dutton, T. A. (1987). Design and Studio Pedagogy. *Journal of Architectural Education, 41*(1), 16-25.

Ertmer, P. A. & Newby, T. J. (2013). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly, 26*(2), 43-71.

Espedal, G., Løvaas, B. J., Sirris, S., & Waeraas, A. (2022). Researching Values in Organisations and Leadership. In G. Espedal, B. Jelstad Løvaas, S. Sirris, & A. Waeraas (Eds.), *Researching Values: Methodological Approaches for Understanding Values Work in Organisations and Leadership* (pp. 1-12). Switzerland: Palgrave Macmillan.

Findeli, A. (2001). Rethinking Design Education for 21st Century: Theoretical, Methodological, and Ethical. *Design Issues*, *17*(1), 5-17.

Fisher, S. (2016). Philosophy of Architecture. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition), (Retrieved: 31 Jan 2021), https://plato.stanford.edu/archives/win2016/entries/architecture/.

Fisher, T. (2010). *Ethics for Architects: 50 Dilemmas of Professional Prac-*

tice. New York: Princeton Architectural Press.

Freire, P. (2005). *Pedagogy of the Opressed*. USA: The Continuum International Publishing Group Inc.

Gaut, B. (1998). The Ethical Criticism of Art. In J. Levinson (Ed.), *Aesthetics and Ethics: Essays at the Intersection* (pp. 182–203). Cambridge: Cambridge University Press.

Geary, D. C. (2007). Educating the Evolved Mind: Conceptual Foundations for an Evolutionary Educational Psychology. In J. Carlson & J. R. Levin (Eds.), *Psychological Perspectives on Contemporary Educational Issues* (pp. 1-99). USA: IAP.

Goldschmidt, G. (2002). "One-on-One": a pedagogic base for design instruction in the studio. *Proc. Common Ground, Design Research Society Int. Conf.*, [CD]. Stoke-on-Trent: Staffordshire University Press, 430–437.

Goldschmidt, G., Hochman, H., & Dafni, I. (2010). The design studio 'crit': Teacher–student communication. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing, 24,* Cambridge University Press, 285–302.

Gouvinhas, R. P. & Costa, P. E. C. (2003). The Development of a Knowledge Management Model to Support Product Design Process Within Brazilian SME Companies' in Research for Practice: Innovation in Products. In A. Folkeson, K. Gralen, M. Norell, & U. Sellgren (Eds.), *DS 31: Proceedings of ICED 03.*

Griffin, A. (2020). *The Rise of Academic Architectural Education: The origins and enduring influence of the Académie d'Architecture.* Newyork: Routledge.

Hicks, G., Peaker, G. T., Archer, B., Bridge, P., Burridge., C. V., Eggleston, S. J., Harrison, G. B., Marjoram, D. T. E., Marshall, A. R., Nicholson, B. S., Potter, C. J. C., Prestt, B., Selby, C. H., Willett, B. C., & Hanmer, L. (1982). *Understanding Design and Technology.* UK: Assessment of Performance Unit.

Holm, I. (2006). Ideas and Beliefs in Architecture and Industrial Design (Unpublished doctoral dissertation). The Oslo School of Architecture and Design, Oslo.

Horvat, E. M. & Antonio, A. L. (1999) 'Hey, those shoes are out of uniform': African American girls in an elite high school and the importance of habitus, *Anthropology and Education Quarterly*, *30*(3), 317–342.

Kararmaz, Ö. & Ciravoğlu, A. (2017). Erken Dönem Mimari Tasarım Stüdyolarına Deneyim Tabanlı Yaklaşımların Bütünleştirilmesi Üzerine Bir Araştırma. *MEGARON, 12*(3), 409-419.

Keskin Enginöz, Y. & Uluoğlu, B. (2023). Communication Through Social Values in Architectural Education. In B. Başyazıcı (Ed.), *Encounters with the 21st Century Architectural Studies book of proceedings 1st International Conference, Architectural Studies-Foundations-Positions-Words* (pp. 91-110). İstanbul: Yeditepe University Press.

Kieran, M. (2001). In Defence of the Ethical Evaluation of Art. *British Journal of Aesthetics*, *41*(1), 26-38.

Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why Minimal Guidance During Instruction Does Not Work: An Analysis of the Failure of Constructivist, Discovery, Problem-Based, Experiential, and Inquiry-Based Teaching. *Educational Psychologist*, *41*(2), 75–86. https://doi.org/10.1207/s15326985ep4102_1

Kohlberg, L., Levine, C., & Hewer, A. (1983). *Moral stages: a current reformulation and a response to critics.* Basel: S. Karger.

Koller, S. (2013). Architects on Value: Reducing Ethics to Aesthetics? In C. Basta, & S. Moroni (Eds.), *Ethics, Design and Planning of The Built Environment, Urban and Landscape Perspectives 12*(4) (pp. 57-75). Springer Science+Business Media Dordrecht.

Kuçuradi, İ. (1971). İnsan ve Değerleri (Değer Problemi). İstanbul: Yankı Yayınları.

Lagueux, M. (2004). Ethics versus Aesthetics in Architecture. *The Philosophical Forum*, *35*(2), 117-133.

Le Dantec, C. A., Poole, E. S., & Wyche, S. P. (2009). Values as lived experience. *CHI '09: Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1141-1150. https://doi.org/10.1145/1518701.1518875

Ledewitz, S. (1980, May). *Developing a Studio Based on Making Values Explicit in Design, Importance of Values in Teaching* [ACSA Annual meeting

presentation].

Ledewitz, S. (1985). Models of Design in Studio Teaching. *Journal of Architectural Education, 38*(2), 2-8. https://doi.org/10.2307/1424811

Lera, S. G. (1980). Designers' Values and the Evaluation of Designs (Unpublished doctoral dissertation). Royal College of Art, Department of Design Research, London.

Manders-Huits, N. (2011). What Values in Design? The Challenge of Incorporating Moral Values into Design. *Science and Engineering Ethics, 17*(2), 271–287. https://doi.org/10.1007/s11948-010-9198-2

Meinong, A. (1894). *Psychologisch-Ethische Untersuchungen zur Wert-Theorie*. Graz: Leuschner & Lubensky. K. K. Universitätsbuchhandlung.

Middleton, H. (2003). Some new ideas on new ideas: Creative, inventive thinking, values and Design and Technology Education. In J. Dakers, & M. J. de Vries (Eds.), *Patt-13: International Conference on Design and Technology Education Research 2003*, (pp. 165-69). Faculty of Education University of Glasgow.

Nilsson, E. M. & Hansen, A. (2021). *Teaching for values in design. Creating conditions for students to go from knowledge to action*. In E. Bohemia, L. M. Nielsen, L. Pan, N. A. G. Z. Börekçi, & Y. Zhang (Eds.), *Proceedings of the DRS Learn X Design 2021: 6th International Conference for Design Education Researchers Vol. 4* (pp. 923–930). Design Research Society. doi:10.21606/drs_lxd2021.01.127

Norman, E. (1998). The nature of technology for design. *International Journal of Technology and Design Education, 8*(1), 67-87.

Oyserman, D. (2015). Values, Psychology of. In J. D. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences* (2nd ed., pp.36–40). Elsevier.

Pauls, R. (1990). Concepts of value: a multi-disciplinary clarification. *Information Paper No: 20,* Centre for Resource Management Lincoln University and University of Canterbury, New Zealand.

Payne, J. (2015). Investigating the Role of Cultural Capital and Organisational Habitus in Architectural Education: A Case Study Approach. *iJADE, NSEAD, 34*(1), 9-24.

Pedgley, O. F. (1999). Industrial Designers' Attention Materials and Manufacturing Processes: Analysis at Macroscophic and Microscopic Levels (Unpublished doctoral dissertation). Loughborough University, UK.

Pultar, M. (2004). Yapının Değerbilimsel Bir Çözümlemesi, In *A.* Şentürer, Ş. Ural, & F. Uz (Eds.), *Etik-Estetik* (pp. 80-89). Yapı Yayın.

Quayle, M. (1985). *Ideabook for Teaching Design*. Mesa, AZ: PDA Publisher Corporation.

Ritzer, G. (2011). *Sociological Theory*. USA: McGraw-Hill.

Schrijver, L. (2013). Architecture as an Object of Research: Incorporating Ethical Questions in Design Thinking. In C. Basta, & S. Moroni (Eds.), *Ethics, Design and Planning of The Built Environment* (pp. 79-91). Springer Dordrecht.

Schön, D. A. (1985). *The Design Studio: an Explanation of Its Traditions and Potentials*. London: RIBA Pub.

Schön, D. & Rein, M. (1994). *Frame reflection*. NewYork: BasicBooks.

Schwartz, S. H. (2015). Basic individual values: sources and consequences. In T. Brosch, & D. Sander (Eds.), *Handbook of Value: Perspectives from Economics, Neuroscience, Philosophy, Psychology and Sociology* (pp. 63-84). Oxford University Press.

Sey, Y. & Tapan, M. (1982). *Değerlendirmede Temel Sorunlar ve Mimarlıkta Değerlendirme* (2nd ed.). İTÜ Mim. Fak. Yapı Araştırma Kurumu Yayınları.

Snelbecker, G. E. (1989). Contrasting and complementary approaches to instructional design. In C. M. Reigeluth (Ed.), *Instructional theories in action* (pp. 321-337). Hillsdale, NJ: Lawrence Erlbaum Associates.

Stevens, G. (1998). *The Favored Circle: The Social Foundations of Architectural Distinction*. USA: MIT Press.

Sweller, J., van Merriënboer, J. J. G., & Paas, F. (2019). Cognitive Architecture and Instructional Design: 20 Years Later, *Educational Psychology Review, 31*(2), 261–292.

Sweller, J. (2015). In academe, what is learned and how is it learned? *Cur-*

rent Directions in Psychological Science, *24*(3), 190–194.

Sweller, J. (2016). Working memory, long-term memory and instructional design. *Journal of Applied Research in Memory and Cognition*, *5*(4), 360–367.

Tricot, A. & Sweller, J. (2014). Domain-specific knowledge and why teaching generic skills does not work, *Educational Psychology Review*, *26*(2), 265–283.

Trimingham, R. (2007). An Exploration of the Roles Values Play in Design Decision-making. (Unpublished doctoral dissertation). Loughborough University.

Trimingham, R. (2008). The Role of Values in Design Decision-making. *Design and Technology Education: An International Journal, 13*(2), 37-52.

Uluoğlu, B. (1990). Mimari Tasarım Eğitimi-Tasarım Bilgisi Bağlamında Stüdyo Eleştirileri (Unpublished doctoral dissertation). İ.T.Ü. Fen Bilimleri Enstitüsü, İstanbul.

Uluoğlu, B. (2016). Mimari Tasarım Stüdyosu ve Mimar Olmak… In G. Özorhon, İ. F. Özorhon, & Ü. C. Beyazıtoğlu (Eds.), *Mimari Tasarım Araştırmaları Ulusal Sempozyumu: 21. Yüzyıl* (pp. 364-367). İstanbul: Özyeğin Üniversitesi Yayınları.

Van de Poel, I. (2014). Translating Values into Design Requirements. In D. P. Michelfelder, et al. (Eds.), *Philosophy and Engineering: Reflections on Practice, Principles and Process, Philosophy of Engineering and Technology* (pp. 253-256). Springer Dordrecht. doi: 10.1007/978-94-007-7762-0_20

Vowles, H., Low, J., & Doron, H. R. (2012). Investigating Architecture Studio Culture in the UK: A Progress Report. *Journal for Education in the Built Environment, 7*(2), 26-49.

Wasserman, B., Sullivan, P., & Palermo, G. (2000). *Ethics and the practice of Architecture.* New York: John Wiley&Sons.

Webster, H. (2008). Architectural Education after Schön: Cracks, Blurs, Boundries and Beyond. *Journal for Education in the Built Environment*, *3*(2), 63-74.

Williams, A., Ostwald, M., & Fuller, S. (2007, November 12-15). *Issues confronting architectural education in Australia* [Conference presentation]. *International Association of Societies of Design Research: Emerging Trends in Design Research Conference*, The Hong Kong Polytechnic University, Hong Kong.