THE PHENOMENOLOGICAL EVALUATION OF TEACHING PROFESSIONALISM IN THE ARCHITECTURE DESIGN STUDIO CULTURE: A Case at the University of Kansas

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Abstract
This paper explores the phenomenology of professional teaching in the design studios of the School of Architecture at the University of Kansas. In contrast to previous general research, this study seeks to improve understanding of design studio instructors' teaching by employing a qualitative phenomenological methodology based on the theory of constructivism. The use of developed analytical analysis approach in ATLAS.ti 7 reveals two main themes and their sub-categories related to studio instructors' teaching professionalism, including four styles of teaching, four teaching methods, various teaching features, and factors that potentially influence teaching performance. Despite variations among studio instructors, the theoretical framework developed to assess teaching professionalism in the design studio characterizes instructors as street-level bureaucrats and as negotiators, shaping the quality of instruction provided. In bringing to light how studio instructors negotiate and develop their day-to-day professional teaching practices, the study aims to contribute to educational reform in support of the professional development of studio instructors.

Keywords: *Teaching Professionalism; Teaching Style; Teaching Methods; ATLAS.ti 7; Design Studio Culture; Architectural Education*

INTRODUCTION

Professional teaching and learning have been the subject of several extensive studies of higher education in undergraduate programs, encompassing lecture-type classrooms, laboratory settings and even distance learning settings (Crow, 1980; Eble, 1980; Mosston & Ashworth, 1990; Grasha, 2002; Taylor, 1993). However, there have been no such studies regarding design studios in architecture schools. Based on the traditional approach of the École des Beaux-Arts in France (Boyer & Mitgang, 1996), studios are commonly considered to be the focal point of the discipline (Pearce, 1995), but the role of instructors as educators and their professional teaching styles and methods have rarely been questioned or investigated.

This study seeks to enhance understanding of the lived teaching experiences of studio instructors in the School of Architecture at the University of Kansas, focusing on the teaching styles and strategies they develop in response to studio needs and how these strategies influence the quality of instruction that teachers are able to provide. These investigations then are developed into a theoretical framework based on two metaphors of instructors: as street-level bureaucrats and as negotiators. As professional teaching practice in higher education occurs in a natural context—in this case, the design studio environment—a qualitative and practical or experiential phenomenological approach is adopted, based on constructivist theory. For the purpose of triangulation, three data collection techniques—literature review, observations, and interviews (both formal and informal, with students and studio instructors)—will support an in-depth exploration of the phenomenon of professional design studio teaching.

Using this approach, the theoretical framework developed here describes professional instruction within the design studio culture as an accommodation between teaching styles and teaching methods. The themes emerging from this phenomenological study characterize studio teaching professionalism in terms of four teaching styles (studio instructor as facilitator, as delegator, as master or expert, and as formal authority) and four teaching methods (case-based, project-based, problem-based, and inquiry-based), along with other potential factors that include the context or school, lack of time and resources, and fear of unknowns and failures). These themes provide a framework for assessing essential differences among studio instructors and their possible impact on students' learning. The study provides an advanced (or new) horizon for studio instructors to rationalize their work in terms of producing the best possible teaching outcomes in order to maintain their self-esteem and identity as a teacher.

This paper is divided into four parts: 1) a brief overview of teaching professionalism in the design studio; 2) elaborations of the research design and analysis; 3) explanation of the derived teaching methods, teaching styles, and teaching features; 4) a brief discussion of the developed theoretical framework as representative of teaching professionalism in the design studio.

BACKGROUND

The idea of the architecture design studio (arch-design) was first developed at the École des Beaux Arts in France in the eighteenth century, as an archetype of teaching attitude: theory in the classroom and design in the ateliers (or studios) (Eigbeonan, 2013). The current system of teaching studios dates back to the period 1900–1914, when this alternative mode of design education departed from the previous tradition of pupillage, and universities became the only providers of architectural training (Ockman, 2012). According to Eigbenon (2013), although there are similarities in the curricula of training architects all over the world, educators go about them in their own convenient and suitable ways and styles. This is leading to inadequacy in the standards of teaching in arch-design studios today.

Crinson and Lubbock (1994) suggested that academic teaching in studios currently engages in "avant-garde elitism," which is more theoretically-based than education research-based. While scholars and practitioners like Westfall (2008; 2011), Kelbaugh (2004; 2006), and Nabih (2010) have vehemently argued for and against future architects or students' training in the Beaux Arts style, this study hypothesizes that the stand any school takes should be acceptable based on the idea of educationally research-based styles of teaching.

Moore (2001, p. 60) explains that pedagogical discussions and studies of teaching are not very popular in schools of architecture. At best, research typically focuses on such teaching methods as lectures (Quinlan et al., 2007), service learning (Salama, 2015), and so forth. For example, Babin and others (2002, p. 198) mentions that design studios essentially provide "a structured context for open-ended activity", based on the interplay between autonomy and collaborations of both instructors and students interactions. Design studio teachers attempt to support and enhance students' learning through their own teaching approaches and learning styles (Demirkan & Demirbas, 2008), fostering a learner-centered education (Huba & Freed, 2000). In recent years, several scholars have noted the absence of discussion among studio instructors and the relative lack of scholarly research in relation to the phenomenon of studio teaching. Ochsner (2000, p. 194) addresses the issue as follows:

> "The character of the interaction between students and instructors will best enhance the students' learning of design. Little is written on how faculty might enhance such an interaction or how they might improve the quality of their design studio instruction. Instead, as they begin to teach in design studio, the assumption seems to be that they will go through a process of "learning by doing" and everything will work out."

Nevertheless, the value of research in teaching studios has remained theoretical and did not inform professional teaching practice at all in design studios where Shulman (2005) described them as "signature pedagogy". Most of the studies conducted in the field of architectural

education are not necessarily practice-oriented (i.e., describing and clarifying the nature of instructor-to-student interactions). For example, the quantitative research of Quinlan et al. (2007) recall studio instructors to be reflexive on their teaching practice and aware of their presence as educators in the design studio.

Improving the quality of professional teaching practice in design studios could help architecture undergraduate students to gain lifelong learning skills (Boyer & Mitgang, 1996; Taylor, 1993), to become independent and competent citizens as well as productive architects, and to promote social efficiency. Hansen and Stephens (2000) elaborated the moral basis of collaborative learning as the critical essence of studios, based on the high quality of instructor-to-student interaction. In her book entitled Design Juries on Trial, Anthony (1991, p. 50) noted that because faculties do not receive or engage in any formal training in how to practice teaching, they remain unaware of their teaching style, teaching method, and the impact of their educational role on students' development. Instead, the majority of studio teachers have traditionally thought of themselves as professional educators, despite the absence of any apparatus for evaluation of their own teaching. In a number of studies, Salama (2015) highlighted several common negative factors among design instructors. Among these was the view that their teaching attitudes were unquestionable: "we have been teaching like this over and over and we produced high quality professionals (Salama, 2008, p. 105–106)." Other findings related to the low level of instructors' awareness and their discomfort in stating their teaching preferences and styles.

Sometimes, most scholars concern themselves with the nature of teaching methods rather than considering the importance of teaching styles. For example, Chu (2009) says that although students prefer to work alone, teachers should endeavor to encourage team spirit among students. He states that in the process of teaching practice, the teacher needs to cultivate team spirit among students. Again, in a more recent study, Carmel-Gilfilen (2012) demonstrated that students reflect on the actions of their instructor and the instructor reflects on the actions of the students—these mutual reflection activities form the critique process.

Although some studio instructors may, up to a point, be willing to introduce changes in their studios by collaborating in specific research approaches for educational purposes (Demirbas & Demirkan, 2003; Demirkan & Demirbas, 2008), the main current concerns of studio instructors relate explicitly to the relevance of social concerns in the design process and consideration of more realistic issues in the design studio rather than to the contribution of their own role as educators to students' learning (Wingler & Stein, 1969; Crinson & Lubbock, 1994). According to Wilkinson (2007, p. 75), the main differences to improve the quality of teaching in design studios have so far focused on responding to the problems of the profession, the rising demand for architectural services (e.g., design for user groups Canizaro, 2012), and the changing role of the architect in society.

Despite several scholarly efforts to reconsider the current culture of the design studio by emphasizing architects' social role and contribution to the community (Boyer & Mitgang, 1996; Salama & Wilkinson, 2007; Salama, 2008), the project-based or problem-solving learning process remains central to the concerns of instructors and to design studio structure.

Schwab (2013; 1969) defined the act of teaching as the "arts of the practical," reconciling theoretical issues with the demands of specific situations. Joyce and Weil (2000) insisted that the act of teaching—"the artistry aspect of teaching"—needs continuous adaptation and new learning about the dimensions of teaching on the part of instructors to equip them for a wide range of situations. The similarities between teaching and disciplined forms of artistic expression were described as follows by Dewey (1934, cited in Flinders & Eisner, 1994): "any endeavor that displays consummate skill and imaginative thought—that is practiced with interest and affection, and that offers satisfaction in a job well done—may be regarded as artistic in the full sense of what art involves."

Finally, a number of architectural education scholars (Moore, 2001; Attoe & Mugerauer, 1991; Green & Bonollo, 2003; Quinlan et al., 2007) have suggested that teachers' knowledge of teaching studios typically stems from three principal sources. The first of these is instructors' own past experiences as architecture students as taught by their mentors. On the basis of interviews with "highly admired" teachers, Jackson (1986) concluded that teachers tend to approach teaching intuitively, to hold an uncomplicated view of causality, to react closed-mindedly to alternative teaching practices, and to assign rather narrow definitions to complex teaching process and concepts. A third source of teaching knowledge is what teachers themselves have gradually learned through their cumulative experience of teaching over years when involving in the higher education. Consequently, they operate on the basis of an "internalized" model of teaching, distilled from their previous experience. Such practical knowledge, widely viewed as a subjective phenomenon, has often been excluded from the conventional scope of educational research on teaching (Shulman, 2005, p. 5). It could be concluded that while some studio instructors may have some sense of their teaching characteristics, they may find it difficult to identify them because there are no guiding literatures and resources that describe what instructors really do within the design studio culture.

RESEARCH DESIGN AND METHODOLOGY

Substantial parts of this paper are extracted from an ongoing PhD dissertation, which includes work based on the initial analysis of one year of data collection in the School of Architecture at the University of Kansas from Fall 2014 to Spring 2015, based on a practical phenomenological approach.

First, a framework was conceptualized to locate this phenomenological research design within the latest qualitative research literature (see Table 1). Lancy's framework (1993) explicitly acknowledges that the definition of qualitative research relies systematically on three perspectives: theoretical framework, strategy or method of inquiry, and tactics used to gather and analyze the data, and brings the researcher's own experience to bear on the study (Bloomberg & Volpe, 2008, p. 13).

Table 1. The research design: theoretical framework, method of enquiry, data collection (Source: Author, 2014).

The Process of inquiry	Rational and illustrative phases	This qualitative research study
Theoretical framework	The constructivist view of teaching can point towards a number of different teaching styles and methods in the studio environment. In the most general sense, it usually means encouraging students to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing.	Constructivism
Strategy/method/or convention of inquiry **The methodology**	"A strategy of inquiry consists of a package of assumptions, skills, and the practices the researcher uses as moving from paradigm to the empirical world. Research strategies put paradigms of interpretation into practice." (Denzin& Lincoln, 2000, p.22)	Practical or experimental phenomenology
Data collection techniques **The tactic(s)**	"Research strategies also unite the researcher to specific method of analyzing gathering empirical materials." (Denzin& Lincoln, 2000, p.22)	Review of pertinent documents (e.g. teachers' portfolios, NAAB accreditation document as essential guide to teaching at KU). Structured observation in three different fourth-year studios-ARCH 608; Semi-structures phenomenological interviews with 7 faculty members and 7students

Choosing “constructivism” as a theoretical framework was an essential part of the early stage of the research process in order to interpret and compare the emerging findings and themes with the principles of this theoretical framework. According to Schunk (1996, p. 234–238), the assumptions of constructivism are based on three dimensions: (a) reality, which is constructed through human interaction; (b) knowledge, which is socially and culturally constructed through interactions; and (c) learning, which occurs through participations in social activities. In general, the main assumption of constructivism (or constructivist learning; Nabih, 2010) is that no universal truth can be discovered; instead, there is an interaction between individuals and their physical and social environment, supporting the collective creation of truth by the learners (Crotty, 1998).

Rossman and Rallis (2003) discussed the philosophical origins of phenomenology as a tradition in German philosophy focused on the essence of lived experience. According to Van Manen (1990, p. 72), the aims of phenomenological investigations are description, interpretation, and critical self-reflection on the “world as world”.

In general, phenomenology has taken three routes that are relevant to social science (Aspers, 2004). The first of these is the approach taken by Schütz and his followers, which is essentially non-empirical. The second is ethnomethodology, which is only remotely related to phenomenology. Third and perhaps best-known is the integration of phenomenology into prevailing trends in social science. The present research takes a fourth route—empirical phenomenology, which is distinct from the other three approaches in that it is both grounded in philosophical conventions and encompasses basic insights from the social sciences such as unintended consequences.

Because the nature of education in design studio does not lend itself to immediate answers regarding the reality of teaching practices and process, full and meaningful interpretation of how an instructor teaches will require researcher engagement over a significant period of time, involving observations (see Figure 1) and in-depth phenomenological interviews with students and instructors (both informally and formally), in attempting to analyze the particular teaching task demands which comprise the teacher's work, count specific teaching behaviors, acknowledges personal values and record how teachers describe what they do.

Figure 1. (Left) Interim critique, SADP ;(Right) Formal or final critique, SADP (Source: Author, 2014).

RESEARCH APPROACH

Clearly, the task of assessing the nature, quantity, and quality of teaching is a highly complex activity. A transactional view of teaching demands is needed to explain how studio instructors manage their work in light of different working conditions and their own perceptions and character. The research plan (see Figure 2) includes several concurrent steps toward characterizing professional teaching as phenomenon and enhancing the quality of its results. To this end, two critical stages (observations and interviews), each built upon the other during a one-

year period of data collection, were simultaneously triangulated by reviewing continuously the relevant literatures (e.g., written documents, including such as course descriptions and sample curriculum materials). Additionally, to ensure the rigor of this research, the following three stages of data collection were logically systematized according to three kinds of reasoning: deductive, inductive, and abductive.

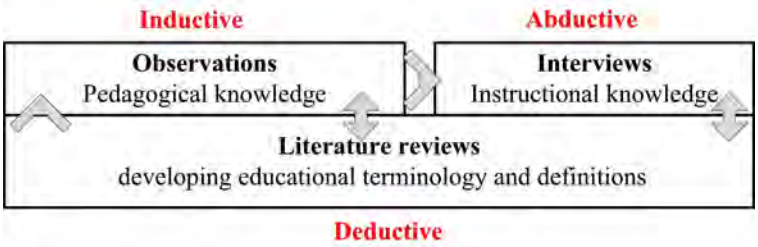
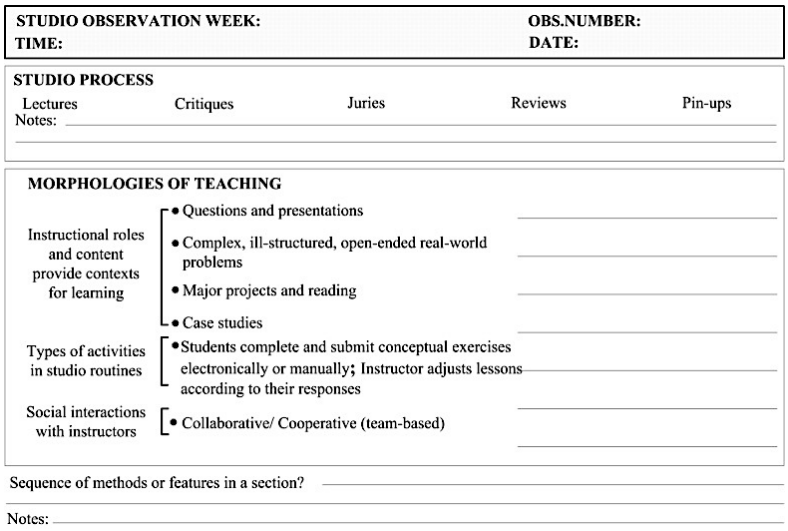


Figure 2. The organic process of research shown by changing of the focus of the study from specific to general (Source: Author, 2014).

The organic process commenced by reviewing the pertinent literature to establish a foundation for the research, including definitions and terminologies, in order to develop the observation sheet for the second stage of data collection. Using deduction, a conclusion derived from the data or reviewed literature was essentially regarded as true. At the second stage, the main goal of using observation as a data collection method was to develop a holistic understanding of the phenomenon of teaching practice or pedagogical knowledge of instructors (i.e., to facilitate student learning) (see Figure 3). Induction during irregular observations deals with facts and establishes rules (derived from those facts) that are actually operative for derivation of primary results and developing interview questions.

Figure 3. (Left) Interim critique, SADP; (Right) Group critique or pin-up, SADP (Source: Author, 2014).

The ideas of Wolcott (1994) were used as a methodological tool to develop the observation sheet (to facilitate transferring data into the software for coding), which emphasized the mechanical aspects of the process of observation as a nexus between “how to look” and “what to look for,” based on the following principles derived from the reviewed literature: studio process (lectures, critiques, juries, reviews, pin-ups) and morphologies of teaching. The morphologies of teaching indicate various instructors’ activities that provide contexts for learning (e.g., numbers of projects, given readings and case studies) (see Figure 4). Strategies for filling sheets were open and depended on the contexts.


STUDIO OBSERVATION WEEK: OBS.NUMBER:
TIME: DATE:

STUDIO PROCESS
Lectures Critiques Juries Reviews Pin-ups
Notes:

MORPHOLOGIES OF TEACHING
Instructional roles and content provide contexts for learning
- Questions and presentations
- Complex, ill-structured, open-ended real-world problems
- Major projects and reading
- Case studies

Types of activities in studio routines
- Students complete and submit conceptual exercises electronically or manually; Instructor adjusts lessons according to their responses

Social interactions with instructors
- Collaborative/ Cooperative (team-based)

Sequence of methods or features in a section?
Notes:

Figure 4. The designed observation sheet (Source: Author, 2014).

The observations of three fourth-year studios (ARCH 608) revealed that different instructors have various approaches to programming and structuring their studios based on their teaching styles, which were considered to be discovered through the development of interview questions. In this study, the structuring and programming of a design studio or "instructional knowledge" is defined as the arrangement of teaching methods, critiques' deadlines, class activities, readings, goals and objectives of the studios, and the consideration of any additional activities for students to facilitate their learning progress. For example, one observed instructor arranged his studio in such a way that students could gain a coherent experience of a variety of design issues during the semester. In this sense, for him, several interrelated projects were main milestones that facilitated students' learning process more effectively than other activities like critiques and readings. Furthermore, conducting unstructured and semi-structured interviews with seven students seemed important because understanding the student's learning experience corresponded to understanding the teacher's experience of teaching.

At the third stage of data collection, seven in-depth semi-structured interviews were conducted with faculty members during Spring 2015, including those whose studios I had previously observed. Studio instructors varied according to length of tenure and level of experience as studio instructors and as practitioners. Their ages ranged from about 35 to 80 and their teaching status varied (instructor, associated professor, and professor). Reasoning by abduction in this stage means the process of dealing with unexpected facts, mainly during the interview process, and analyzing them conventionally first on the basis of known premises that advance the research towards final development of a data analysis technique in ATLAS.ti 7, and further theoretical frame work development.

The researcher posited the interview questions in a framework that asked what and how an activity takes place based on the commonality of instructors' syllabus (Kvale, 1996) by consulting and reviewing a critical friend (Foulger, 2010; Gibbs & Angelides, 2008). This was because these types of questions are more likely to motivate the participants to first fully engage with the researcher in a discussion of actual behaviors and secondly to elicit participants' descriptions of specific situations and actions sequences rather than their opinions. The participants' differences emerged through indirect and follow-up questions.

The priority of the questions was changed from a more interpretive to a more descriptive question form, including instructors' self-perception of teaching, quality of teaching, teaching knowledge, rationale, and goals behind teaching in certain ways, and typical studio routines and

structures (objectives of studio, time allocations, arranging critiques, materials, activities of students and learning, supporting different students with various abilities). Kvale (1996) suggested that the later-developed method of computer-aided qualitative phenomenological data analysis should be taken into account when preparing the interview questions to structure the transcription texts prior to coding.

DATA ANALYSIS PROCEDURE

ATLAS.ti has been rightly acknowledged as an essential tool that facilitates researchers' ability more effectively to undertake well-organized, systematic, effective and efficient data analysis in many social studies than qualitative research in architecture does (Lewis, 2004; Lu & Shulman, 2008; Konopásek, 2007; Friese, 2014;2011, Rambaree & Faxelid, 2013). In the present study, ATLAS.ti 7 was used as a project management tool to make the thinking part of qualitative data analysis visible, adding transparency to the research work. ATLAS.ti 7 enables the researcher to work in a systematic manner to ignore partial and biased analysis. In this, a link between the code and the coded text is maintained so that by retrieving the code, the original words can be displayed (this is easily done on a computer, but is traditionally done by the extraction of file cards on which the text was written).

Four types of data emerged from the reviewed documents and interviews which were transferred to ATLAS ti.7 for the final coding and the derivation of themes: structured (including syllabus, articles, brief written summaries of books, NAAB documents), unstructured (including informal field notes from certain observed activities and observation sheets, conversations with students, copies of documents, transcriptions of interviews); audio recordings; and video recordings. The Seidel (1998) model (See Figure 5) was used as a useful guide to understand the nature of different cycles of coding approaches.

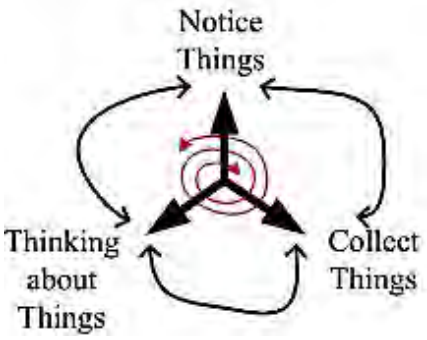


Figure 5. The cyclic process of data analysis, reproduced after Seidel (1998) by Author (2014).

However, the analysis and coding procedures for phenomenological research might appear in a somewhat different light (in comparison with constant comparative methods of ground theory). These more phenomenological approaches typically challenge the researcher to set aside or "bracket" all subjective preconceptions so that they can work inductively with the data to generate entirely new descriptions and conceptualizations. To do this, an advanced analytical model of phenomenological analysis was developed (see Figure 6) to minimize researcher subjectivity by staying at the text level rather than at the interpretation and reflection level of researcher. This showed that topic coding and open coding are essential steps in the progressive focusing of the analysis cycles in any phenomenological research. According to this developed model, the process of phenomenological analysis first starts by de-contextualizing the data. In this, the first cycle of phenomenological analysis started by listening to the entire collected data or topic coding. The researcher gradually becomes familiar with the reality and various dimensions of the phenomenon under study.

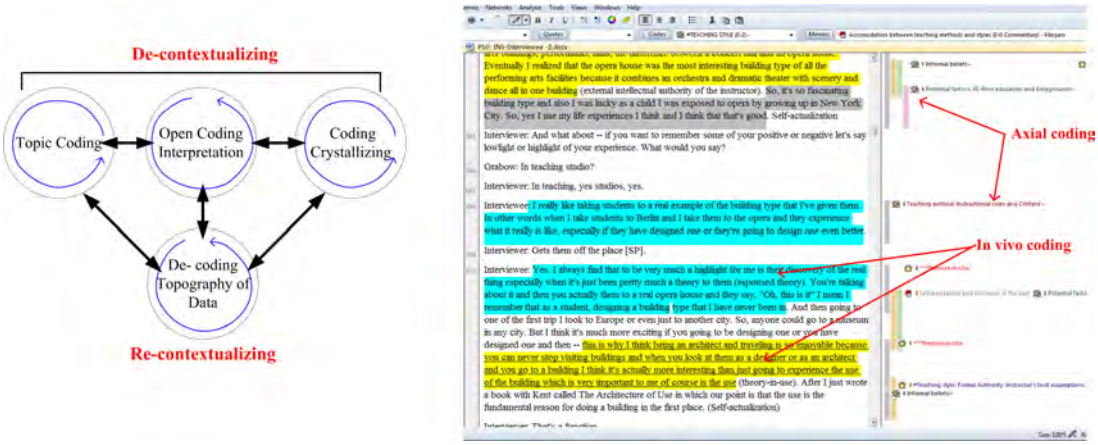


Figure 6. (Left) The developed analytical model of phenomenological analysis for computer-aided qualitative data analysis software; (Right) (Source: Author, 2015).

The second cycle consists of open coding whether by using “In vivo coding” or highlighting the text phrases through the text editor in the Atlas.ti 7 environment (see Figures 6 right and 7). The third step is crystallizing or main type of coding (axial coding in this study) by merging the highlighted texts. Axial coding (Saldaña, 2012) is then used to understand core categories and emerged themes (namely “Core Phenomenon”) like different types of teaching styles. At this level, sometimes, it is necessary to more narrowing down by merging codes. In this phenomenological research, coding was done through hybrid coding strategy—that is, fusing codes from earlier open coding into the codes derived from the literature review in the field of education.

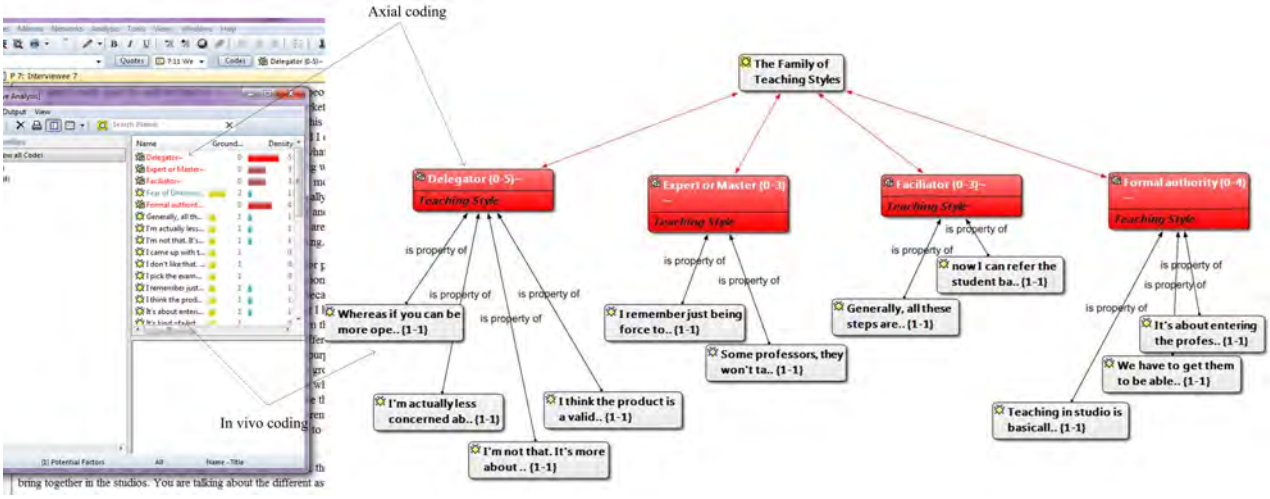


Figure 7. View of ATLAS. ti code manager and Network view showing the process of derivation of themes based on linked axial coding codes (Source: Author, 2015).

The final cycle involves re-contextualizing the data by using selective or “theoretical” coding (see Figure 8); these are teacher-centered and student-centered approaches of teaching styles. The derived core categories (teaching methods and styles) and their related sub-codes (e.g. instructor-as facilitator) are connected to create a final storyline of “teaching professionalism” in

the design studio culture that will be interpreted based on the use of metaphor—that is, studio instructors as negotiators and street-level bureaucrats.

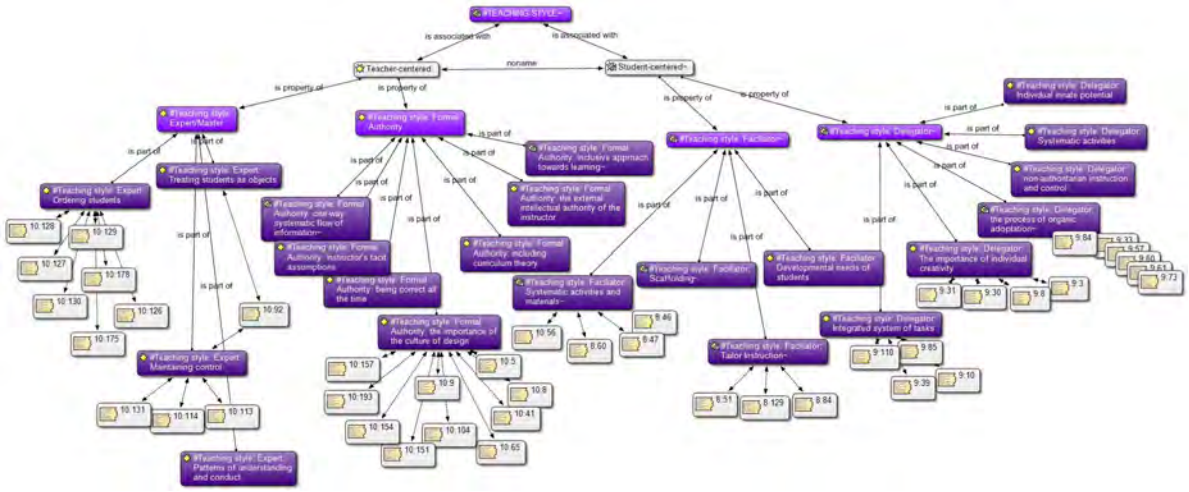


Figure 8. Network view showing some of "theoretical" codes and their non-directed and directed relations.

TRUSTWORTHINESS

The main research question regarding the "phenomenon of teaching professionalism" is answered using the methodology of experiential phenomenology, and the specific designed analytical approach to rich sources of data requires advanced creativity for its analysis and the use of metaphor as a methodological tool for its final result interpretation. Guba and Lincoln (2000; 1981) redefined qualitative rigor and validity with the concept of "trustworthiness," highlighting the following four aspects: credibility, transferability, dependability, and confirmability. 1) credibility means confidence in the reality and reliability of the findings; therefore, the triangulation technique is employed to provide corroborating evidence collected through observations, interviews, and review of pertinent documents (from both education and architecture). In this, ATLAS.ti 7 was used to establish a systematic process of sorting through several types of collected data to discover common themes or categories because photos, videos, voice recordings, and collected documents can be compiled together in a single project file or Hermeneutic Unit (HU). In terms of audit trial, while all segments of collected data need to be assorted and classified, the systematic process of coding through the developed analytical model comes in as a useful strategy. An audit trial is also established by the researcher through keeping the research various records of all activities, developing a chronological data collection, and recording data analysis sequences and assisting a critical friend (for developing interview questions). The coding and triangulation process can be accomplished more systematically and rigorously by using ATLAS.ti 7 in comparison to manual coding process of paper-and-pencil. 2) Transferability means the findings are applicable in other context; hence, the research could be conducted elsewhere because the researcher tried to take into account the common social and cultural environment of the studios under which research participants were providing their data.

3) Dependability means that the findings are consistent and repeatable; it is established by using the software to ensure that all thoughts and experiences are carefully recorded as Memos in the same Hermeneutic Unit in ATLAS. ti 7. In fact, the researcher reflexivity and personal thoughts are captured within the exact context because Memos can be directly linked to the quotations and codes. Also, external transcriptors transcribed all voice recordings to preserve the originality of the voices of participants and to avoid researcher bias and reflections on participant discretions. The organic structure and process of the research allowed me to understand the

phenomenon gradually (findings are built upon each other). 4) Confirmability means the findings of a study are shaped by the respondent and collected data than by researcher bias or interest. In this, Lincoln and Guba (1981) employed audit trial and triangulation as the techniques explained above.

An additional method that was employed in this study to increase the credibility and dependability of the study was based on Krefting's idea (1991) of a minimum of two weeks interval should be given to the data (after coding a segment of data) prior to recoding it over again, as if one is coding it for the first time. Consequently, codes were derived deductively. This procedure was performed during the different data analysis phases of the study based on a code-recode procedure during de-contextualizing of data (based on the developed analytical model) which was helpful in bracketing researcher's own thoughts, bias and judgment during data analysis.

The additional useful tools including the appropriateness of interpretation based on the constructivism perspective, the use of in-depth interview techniques and phenomenological methods (that is compatible to answer such an education question) may ensure the overall quality of the research findings. Finally, the emerging themes categories were organized and sorted in order to analyze the conceptual relationships using the "Network view" feature in ATLAS.ti (see Figure 8). Network views of the study facilitated the process of writing descriptions of the research by displaying linkages between the various sort of data. These networks visualize the findings of the researcher and become especially useful in this study, which contribute to the final theoretical framework building.

RESULTS

Commonality of teaching methods and styles within the design studio culture

For present purposes, the nature of teaching professionalism in the design studios was considered by focusing on the lived and weekly experiences of studio instructors at the University of Kansas. Specifically, an attempt was made to identify any shared dimensions of professional teaching among studio instructors in managing their task demands or teaching needs.

During the coding process, two main themes emerged in respect of instructors' communication with students; these were teaching styles and teaching methods. It is important to clarify that teaching styles are not teaching methods or techniques. A teaching method comprises various principles and features used for instruction, based on instructors' beliefs and values; a teaching style is a framework that includes various teaching methods and features. In this study, teaching style is viewed as the transmission of a studio instructor's personal character or identity, through which they are present to the students.

It is also important to note that the study captures more than teaching styles and methods. And while all participants can be said to have a teaching style, individuals may be found to possess more than one teaching style, depending on students' needs and studio situations. Although, teaching styles and teaching methods are paired and inseparable, more research is needed to establish whether or not any relationship exists between a specific teaching style and certain teaching methods.

TEACHING METHODS

Inductive teaching methods are referred to here as an umbrella term, encompassing a range of derived instructional methods within the design studio culture that including "inquiry teaching," "problem-based teaching," "project-based teaching," and "case-based teaching." These methods have many features in common other than the fact that they all qualify as inductive. For instance, they are all *learner-centered (*also known as *student-centered)* methods*,* meaning that they impose more responsibility on students for their own learning than does the traditional, teacher-based, deductive approach. According to constructivist assumptions, learning cannot accidentally

occur but follows from cooperative interactions involving the use of different strategies and features by instructor and learners to support the collective process of learning or knowledge construction. Table 2 summarizes teaching methods, teaching features, and frequency of associated features according to teaching methods.

Table 2: Derived teaching methods and associated features of design studio teaching based on the observation sheet (Source: Author, 2014)

Features that provide context for learning	Guided inquiry	Problem-based	Project-based	Case-based	Just-In-Time
Open-ended questions/ real problems/ill-defined problems	1	2	2	2	
Major projects	4	1	1	3	
Case studies	4	4	4	1	
Discovering the content of course for themselves	2	4	2	3	
Working on conceptual exercises both physically and electronically	4	3	1	4	
Primary self-directed learning	4	3	3	3	
Active learning	2	2	2	2	
Collaborative/ cooperative	4	3	3	4	

1.By definition; 2.Regularly; 3.Generally; 4.Probably.

Inquiry method

Given questions to be answered, problems to be solved, or a collection of observations to be elaborated (Bateman, 1990), students are required to work in a mostly self-directed manner to finish the given assignment in such a way that they "discover" the desired factual and conceptual design knowledge through their own learning process. If this teaching method is used effectively, by the end of the design studio, students should be able to develop good questions, to identify and collect relevant evidence, to demonstrate findings constructively, to analyze and interpret outcomes, to draw conclusions, and to evaluate the significance of those conclusions (Lee, 2004).

Problem-based method

This is the commonest form of design projects and other assignments within the studio culture. As a teaching method, instructors typically use it to confront students with an open-ended, ill-defined, authentic (real-world) problem, and teachers must work to determine what is needed (in terms of learning of students) and to propose a viable solution based on design standards. Instructors act as facilitators rather than primary sources of information (Barrows, 1980; Norman & Schmidt, 1992; Weiss, 2003). Most of the available studio time is likely to be allotted to: (a) groups reporting on their progress on previous learning issues and listing their current learning issues and plans of work collaboratively and cooperatively; (b) mini-lectures providing information on issues being dealt with by all groups, simplifying prevalent difficulties, and suggesting additional learning; and (c) whole studio discussion (Duch et al., 2001).

Project-based method

The instructor arranges for students to submit projects throughout the semester in addition to their final design assignments. These usually consist of one or more sub-projects leading to the construction of a final design product—a conceptual design, a model, a report, or a computer rendering. Students are often divided into teams during such tasks for presentation of reports (oral or written) summarizing the procedure implemented to generate the product.

Case-based method

Students are asked to examine either historical or hypothetical case-studies that may also contain problem-solving and/or decision-making learning situations for students provided by the instructor. Importantly, the given cases should be authentic or representative of situations that students are likely to encounter in their own professional practice or during design projects (Prince and Felder, 2007). This method is typically used in the design studio to require students to analyze precedents and work through readings. They are given case studies and prescribed texts involving ill-defined problems to be solved or which are generally considered unresolved. This method essentially relies on the problem-based nature of the design studio culture.

Features of inductive teaching methods

The design instructor will habitually use a certain number of activities with a certain frequency (ranging from *usually* to *always* to *seldom*) to manage and systemize the studio process. These can be based on different teaching methods, involving features such as open-ended questions, instructional roles and content, types of activities and physical facilities, skills, use of ill-defined problems, and social interactions (e.g., teamwork) (Joyce, Weil, & Calhom, 1972). These teaching features almost always involve the students in discussing questions and solving problems in the design studio (activities referred to as active learning) while working either inside or outside the studio, collaboratively or cooperatively.

These features provide the context for active constructivist learning through a combination of teaching methods. According to Prince and Felder (2007), a just-in-time approach might involve a combination of web-based technology (e.g. online homework, computer-based communication between and among instructor and students (e.g., Facebook, Virtual Studio, Blackboard). Just-in-time is a teaching characteristic applicable to all types of derived instructional methods and features; it can be defined as any live, in-class teaching activities that have not been preplanned by the instructor (e.g., course-related demonstrations, descriptions of familiar phenomena). This approach is typically employed without any prior planning by studio teachers during instructor-to-student interactions such as weekly discussions and critiques in response to teaching task demands or students' needs.

TEACHING STYLES

In this context, teaching styles generally embody the idea of the studio instructor as the source of knowledge, informed by their personal attitudes in their teaching interactions with students. This paradigm entails a sense of the instructor's personal conduct, which is about acting in a way that reflects their position as an educator. The four identifiable teaching styles are: 1) instructor as expert/master; 2) instructor as formal authority; 3) instructor as facilitator; and 4) instructor as delegator.

These teaching styles provide a degree of flexibility that allows the task of teaching to shift from more teacher-centered to more student-centered. These styles vary in their degree of compatibility with the essential principles of constructivism—for example, the instructors as a master or as a formal authority does not provide for a collective process of student learning and does not encourage students to become active learners as advocated by constructivism.

Instructor as expert or master.

Such teachers ("the studio master") are seen to possess knowledge, expertise, and some degree of power. One student described his experience of such an instructor as follows: "I remember just being forced to do my project in a certain way…I hated it and I fought the whole time." In his fourth year of study on the architecture program, another student said: "…some professors, they won't talk online or they won't be available to talk one-on-one ever, and that's just unfair…"

This deductive method of teaching contrasts sharply with the *constructivist* method, which builds on the widely accepted principle that students construct their own reality rather than simply

absorbing their instructors' versions. One of the interviewed instructors indicated that it is not uncommon to find one such teacher in every school, suggesting that the teacher-centered "master" model of teaching that originated at the École des Beaux-Arts has not yet been erased.

Instructor as formal authority

This kind of teacher is mainly concerned with correct and acceptable processes for completing design projects. They focus mainly on standards (e.g., building codes) that incline towards rigidity and standardization. One student in the third year program explained her experience of such an instructor as follows:

> "… there's so many times I would do something and then the instructor said like, "Okay, how wide this door needs to be?" and I look at the nearest door and I say, "Okay, that will be too small," or, "That will be too big." So learning how to compare with scales that I see around me and just understanding people's convenience, like, "Okay, I want this to be a nice open space, so then maybe I'll make the hallway seven, eight feet instead of four," something like that..."

Most studio instructors are strongly aligned to this model of teaching ("I have this to teach.") One of the interviewed instructors described how his teaching approach proceeded from his developed framework:

> "I have them work backwards, when I say, "Here's the program, I've done it for you but now …. I just give areas, square feet I say, "I want you to tell me what shapes and what sizes" in other words, to how square feet is not to say what the size of…."

The main difference between the *master* and *formal authority* styles is the amount of unconscious control exerted by the instructor over the students' learning process in the partnership between student and teacher, especially in the master style of teaching. In directing students' design projects, these instructors actively engage in teaching-oriented tasks because they have a great deal more knowledge than their students. In fact, the use of standards is the easiest way for studio teachers to deliver knowledge, establishing prototypes for how to think and act as well as what to do during the project process. This becomes apparent in one interviewee's description of her experiences with such an instructor:

> "…So many times I would do something and then professor would be like, "But how it the car, the car is going to hit, and it's a wall," and he would like joke about it and it make you not feel bad that you have done something wrong because he knows that we don't know and we're learning from him. So that kind of helps us remember things and understand like whenever I'm saying, …"

The use of this teaching style encourages architecture students to implement the given codes and to correct anything that fails to conform. In this approach, students often blindly follow their teacher's instructions without questioning *why*, and some students may be left feeling inadequate if they cannot meet these expectations. This style of teaching can be traced back to the evolution of teaching from the system of apprenticeship in the medieval society to the standardized university system of lectures and studios (Ockman, 2012, p. 89).

Instructor as facilitator

As facilitators, instructors do not base their studio teaching on their own knowledge; instead, they rely on students to take the initiative in their own learning process. Such instructors do not intervene in students' active learning process, but they do make comments, cooperate, and advise on any difficulties that the students may encounter. This teaching style commonly involves students in discussing questions and solving problems in the studio (whether individually or in groups). One fourth-year student characterized her studio professor as follows:

> "., for this instructor, what I like about him is that, as far as design goes, he's not forcing his design philosophy on anyone. He's laying it out and encourages it, and he references it a lot and everything, but ultimately, like you have a separate idea from his, as long as you can back it up, he's fine with it."

As mentors, these teachers encourage the students to actively and physically produce a final product by using the students own insights rather than the instructor's beliefs and framework to guide them. One such interviewee described his teaching approach:

> "…, I try to develop the next step of the process on an individual basis. So depending on the idea the student has, we discuss, … I think each student is very unique. So, you cannot have a kind of blanket teaching approach to [all] students…"

Involving continuous discourse between and among instructor and students in an exploratory mode of learning, this style of studio teaching is unlike the other styles in that it is not based on the transmission of facts from instructor to students. Although time-consuming, this teaching style focuses mainly on students' needs and goals and on a willingness to explore alternative courses of action autonomously rather than under instructions from the studio teacher.

Instructor as delegator

This teaching style mainly develops students' ability to function independently. For example, one interviewees was characterized as a delegator instructor because of his very loosely planned approach to studio teaching, to which he replied:

> "I'm not that. It's more about a voyage of discovery. I'm actually less concerned about the destination in some ways. No, I'm actually concerned about the destination when we get there…"

Such instructors enable their students to perceive themselves as independent and resourceful, developing autonomous abilities that may be suppressed by other styles of teaching. As a delegator, the instructor can exchange roles with students, accommodating mutual needs.

To sum up, while some might consider teaching styles minimal, in fact it reflects the instructor's values and beliefs, which may be hidden or actively espoused through instructors' teaching methods. For example, while delegator instructors are more likely to employ an inquiry-based teaching method, facilitator types tend to favor project-based and case-based methods. Status is another characteristic that varies from the master to delegator instructors, and the instructor's authority varies from formal to superficial according to their personal perspective. Interestingly, neither of the two extreme teaching styles is essentially compatible with the constructivist perspective in aiding students' understanding of how and what to do. While teaching for understanding is a central concern in current educational research (Walker, 1995), instructors with master, delegator, or formal authority styles do not press students to think much beyond what they already know. The findings of the present study suggest that the facilitator style may be the only way for studio instructors to teach more effectively; this style is entirely compatible with the tradition of constructivism.

DISCUSSION

The alternative perspectives of task-oriented and studio-oriented teaching practices are considered to reflect studio instructors' primary attitudes, which can be further described and clarified by a theoretical framework (see Figure 9) based on the developed context of two metaphors: 1) studio instructors as street-level bureaucrats and 2) studio instructors as negotiators.

Design studio instructors as street-level bureaucrats

The notion of street-level bureaucrats has been used to describe the interaction of public service workers with their clients (Lipsky, 2010), in which they have substantial discretion in deciding how such interactions are to be carried out in practice. Integral to these workers' activities is the issue of the *task demands* of providing a given service.

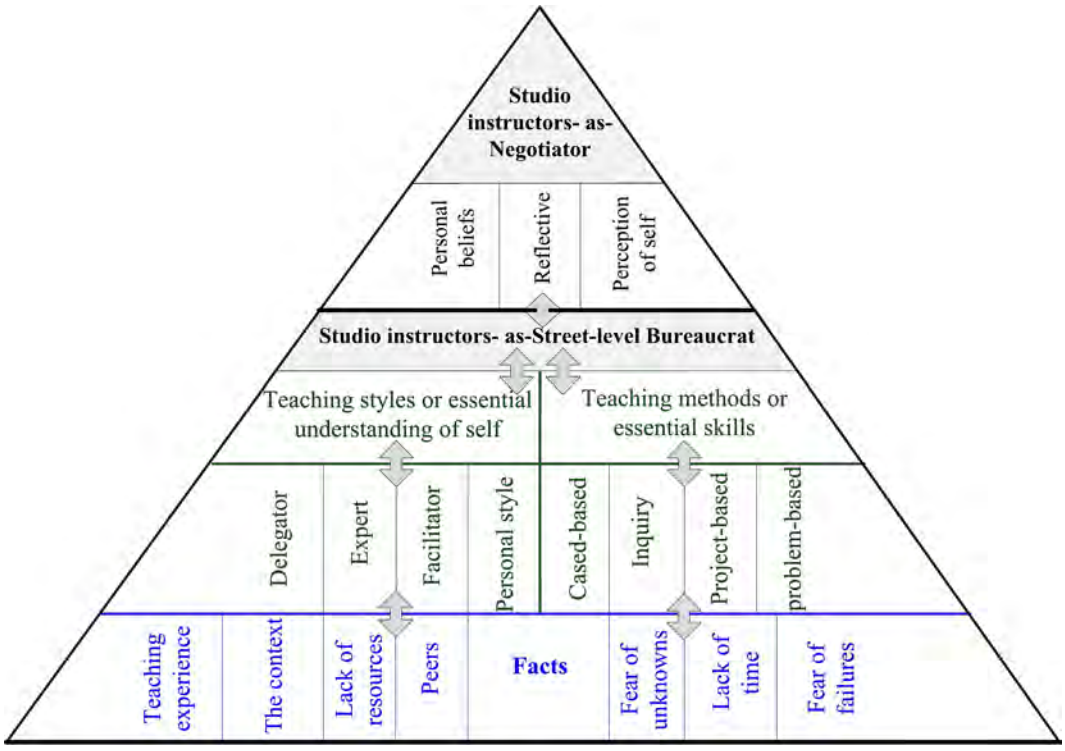


Figure 9. Development of a theoretical framework for teaching professionalism in the design studio based on the metaphors of studio instructors as street level bureaucrat and negotiator (Source: Author, 2015).

Within the studio culture, instructors may be considered primarily as street-level bureaucrats because they can vary the extent to which they enforce the curriculum in their typical teaching activities or weekly studio routines. This open-ended characteristic of studio teaching reflects available resources and the demands of teaching tasks, including the specific "chemistry" with students of varying ability.

The use of various teaching methods and styles reveals an analogous "processing" mentality in teaching practice that helps teachers to perform more efficiently and to develop a relationship with their students. This processing mentality can be understood as a consequence of the notion of street-level bureaucracies (Lipsky, 2010, p.130–157), and it is hardly surprising that studio instructors might view instructional quality as a matter of daily task demands for curriculum processing rather than in terms of intellectual engagement or the professional egos of being an instructor. The teaching methods and styles discussed above can in fact be called "survival teaching practices" used by the participating studio instructors at KU. As those teaching methods are established by studio instructors over years of teaching, design studio instruction becomes a matter of plugging in the appropriate information or following a known sequence. The majority of interviewed instructors have stuck to certain teaching methods and processes over the years without questioning their teaching approaches.

Interestingly, during interviews, they also described several factors that have influenced their experience of professional teaching over the years, including their "personal background," "colleagues," "teaching experiences since the beginning," "the lack of time," "fear of unknowns," "the lack of resources," "fear of failures," "colleagues," "the context (or the culture of school)." Choosing among the teaching methods mentioned above is a response to the practical demands of studio instructors' actual work environment, which is embedded within the larger institutional life and context of the school. Consequently, design instructors at KU have developed a more

task-oriented mentality to fulfill their teaching responsibilities rather than a student-oriented mentality (i.e., negotiating with themselves).

Design studio instructors as negotiators

The previous section suggests that the various teaching methods and features simply enable studio instructors to process their instructional task demands (that is, to operate in the design studio) as street-level bureaucrats. In contrast, studio instructors as negotiators are those street-level bureaucrats who additionally develop their teaching practice beyond fulfilling only their task demands. The metaphor of teacher as negotiator entails those interpersonal strategies (e.g., teaching styles) that involve greater give-and-take between and among instructors and students. As negotiators, studio instructors systematize or negotiate their teaching in such a way as to strike a balance among several additional dimensions such as being a reflective practitioner (Schön, 1983), instructor's perceptions of self (e.g., self-observer, self-efficacy, self-responsive), and personal beliefs as a teacher.

Negotiation strategies (such as including students in studio decision making and providing opportunities for one-to-one interaction) depend on flexibility, both in the use of studio time and in instructional planning through appropriate decision-making. Such flexibility also highlights the responsiveness of studio instructors through their teaching style to context-bound qualities and the dynamic of the studio culture. As one interviewee described it,

> "…the process [of my teaching]…actually evolved over time. I try to develop the next step of the process on an individual basis…but I think each student is very unique as a person. So, you cannot have a kind of blanket teaching approach to students…"

He is in fact backed up by this more cooperative approach, reflecting on how his own teaching strategies provide opportunities for individual recognition and student participation.

This in-depth consideration of teaching styles may additionally be used as a tool to examine more fundamental assumptions in instructors' views of themselves and their students, and their representative roles in the organic teaching-learning process. In this regard, Crow (1980) also mentioned that how teachers teach reflects their personal values, beliefs, and philosophy. For example, studio instructors using the expert and formal authority styles of teaching may be viewed as truly ineffective negotiators whose hands are tied by a rigid procedure and predefined outcomes. The facilitator studio instructors may play a fuller educational role as negotiators of knowledge, with themselves as well as with their audience. Alternatively, the studio teacher as negotiator brings a teaching philosophy to life to the extent that they convey a vivid portrait of a person who is reflective in their teaching practice and committed to their career.

Although the interviewed instructors at KU are characterized by differing attitudes toward teaching, none of them could clearly define their teaching styles or methods, precise teaching objectives, or advance or detailed planning of their teaching activities, and they typically reported deviating from their teaching plan. This does not imply a simple lack of preparation for assignments and weekly activities; instead, as street-level bureaucrats, they characterize their teaching strategies as based on more flexible and practical responses to the demands of their immediate studio environment—that is, to just-in-time needs. Most of these participants can be seen as street-level bureaucrats rather than as negotiators, whose rationale for teaching has evolved over years.

CONCLUSION

Studio instruction is central to architectural education. As the culture of the design studio evolved, instructors in the School of Architecture, Design, & Planning at the University of Kansas have sought a more actively adaptive process, modifying their teaching attitudes and materials to accommodate their own needs and the specific needs of their students.

The phenomenon of teaching professionalism centers mainly on two dimensions—teaching methods and teaching styles—that provide a constructivist learning context for students within the

design studio culture. In developing these two main themes, studio instructors as street-level bureaucrats typically use any available resources to process the curriculum and to meet studio needs. In contrast, studio teachers as negotiators have developed their teaching skills beyond studio routines to incorporate student-oriented teaching and learning, based on additional factors like time allocation, personal beliefs, and decision making.

This study aims to contribute to a phenomenology of teaching as professional practice to help studio instructors to understand how they might better relate to their students by understanding how they typically teach. This research also attempts to describe how studio instructors may vary in terms of their teaching qualities and dimensions, enabling instructors themselves to identify their own styles and to compare methods and types. However, it is limited to the three dimensions of design, development, and implementation of instructional design, excluding evolution and assessment of students in the design studio culture.

Finally, the theoretical model developed here can be used for a more general conceptual orientation toward educational change, which may require a deliberate shift of focus from physical studio issues to the occupational facts of teaching professionalism, including the teaching styles and methods of studio instructors and their correlation with other factors. This research may offer a foundation for educational policy makers, school administrators, and curriculum specialists in the search for a clearer understanding of the resources needed to enable studio instructors to redefine and develop their teaching professionalism. Future studies may focus on how instructors with different teaching styles are developing assessment criteria and evaluating their students in the design studio culture. The developed theoretical model can also be used as an action research framework for improving professional teaching practice within the design studio culture.

ACKNOWLEDGMENT

The author wishes to thank her doctoral advisor, Professors Kent Spreckelmeyer and Paola Sanguinetti, Chair of the School of Architecture; John Gaunt, the former Dean of the school; Mary Lynn Hamilton from the School of Education; Marie Alice L'Heureux and Kapila Silva from the School of Architecture for their insights and technical advice during the course of this research. The author is also very grateful to the interviewees who generously shared their teaching experiences and information—in particular Professor Chad Kruas, who provided the grounds to facilitate conducting this research.

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