PROSTOR

31 [2023] 2 [66]

A SCHOLARLY JOURNAL OF ARCHITECTURE AND URBAN PLANNING
ZNANSTVENI ČASOPIS ZA ARHITEKTURU I URBANIZAM

UNIVERSITY OF ZAGREB FACULTY OF ARCHITECTURE
SVEUČILIŠTE U ZAGREBU ARHITEKTONSKI FAKULTET

ISSN 1330-0652
https://doi.org/10.31522/p
CODEN PORREV
UDC 71/72
31 [2023] 2 [66]
139-324
7-12 [2023]

Af

İkbal Erbaş

Akdeniz University Faculty of Architecture, Department of Architecture, Antalya, Turkey
orcid.org/0000-0002-6327-1399

iboyacilar@gmail.com

Scientific Subject Review
https://doi.org/10.31522/p.31.2(66).12
UDC 378:72
Technical Sciences / Architecture and Urban Planning
2.01.04. – History and Theory of Architecture and Preservation of the Built Heritage
Article Received / Accepted: 27. 9. 2023. / 20. 12. 2023.

The Influence of Construction Site Internships in Architecture Education

A Study on Kolb's Experiential Learning Theory

career development
construction site internship
construction site manager
experiential learning
Kolb
role model

This study examines the impact of internships and the influence of construction site manager (CSM) as a role model on students' educational and career paths, employing Kolb's experiential learning theory as a theoretical framework. To address the research objectives, a questionnaire was conducted on 93 architecture students, focusing on four key research questions: (1) Does the internship experience affect students' perception of CSMs? (2) Does it influence their career goals related to CSM positions? (3) Does the internship experience alter the career aspirations of intern students regarding the career as a construction site manager? and (4) Do students perceive CSMs as role models after completing their internships? The findings show how internships significantly affect students, improving their comprehension of the CSM role, influencing their aspirations for their careers, and offering life-changing experiences. It is anticipated that these findings will significantly advance the field of architecture education and have applications in curriculum development, internship program design and execution, and career counseling services, especially in underdeveloped or developing countries.

INTRODUCTION

Internship presents an important phase in the education of engineers and architects (Birhan and Merso, 2021; Çivici, 2021). During these times, students may use their theoretical knowledge practically and obtain essential real-world experience by interacting directly with professionals in their particular fields of study and industry (Çivici, 2021). Internships, as noted by Inkster and Ross (1995) and Tener et al. (2001), create a clear link between the workplace and the academic institution, forming a partnership in which the academic advisor, site supervisor, and intern all play crucial roles in the educational process. By giving students access to a learning environment that offers them special learning opportunities outside of the regular classroom setting, this relationship dramatically enhances the entire educational experience (Cord and Clements, 2010; Bae et al., 2020).

Internships also provide valuable opportunities for students to connect with inspiring professionals who can serve as role models, offering guidance for achieving professional success and shaping their career aspirations beyond graduation. According to Yates (2001) role models serve as good examples to be inspired by and are also valuable sources of support for inexperienced participants when they encounter difficulties. Construction site manager[1] (CSM) is one of these role models that students connect with at the construction site. Existing studies have revealed that one of the main expectations of the students from the construction site internship is the observation of the CSM profession (Şekerci et al., 2021) and some of them have revealed that the internship experience ensures benefit to improve students' knowledge about possible carrier options (Roever, 2000; Mihail, 2006; Sapp and Zhang, 2009; Maertz et al., 2014). Maertz et al. stated (2014) that interns could use this knowledge for pursuing better person-organization and person-job fit earlier in their careers different from non-interns. In parallel, Chen and Chen (2011) defined internship as a critical part of a student's career development because it prepares students for successful and fulfilling careers. From this point of view, it is crucial to observe the impact of CSMs as role models on students' professional career choices.

The role of construction in the architectural profession plays a pivotal role in bridging the difference between theoretical knowledge and practical application. The construction serves as the tangible manifestation of architectural concepts, converting design ideas into physical structures. This phase, often regarded as the realization point for architectural visions, allows architects to witness the translation of their creative concepts into the built environment. The construction process serves as a robust testing ground for architectural theories and concepts, providing architects with invaluable opportunities for refinement and improvement based on real-world functionality and considerations. Furthermore, collaboration, problem-solving, and innovation, inherent in the construction phase, are crucial components that enrich the built environment. Construction site internships provide significant opportunities for architecture students to familiarize themselves with the construction process.

Despite the growing body of research on internships and their impact on student's educational and career development (Silva and Teixeira, 2013; Gündeş and Atakul, 2017; Gamboa et al., 2021), there is a noticeable gap in the literature regarding the specific influence of construction site internship experiences on students' perceptions of Construction Site Managers (CSMs). This gap presents a significant opportunity for exploration, as understanding the nuanced relationship between architectural internships and students' perceptions of CSMs is crucial for comprehensively shaping their educational and career paths. The construction phase not only acts as a practical testing ground for theoretical concepts but also influences students'

1 Also called "Construction site engineer" in the literature.

perspectives on CSMs, who play a pivotal role in the construction field. Addressing this research gap is paramount for a holistic understanding of the impact of internships on students' perceptions and career goals within the architectural profession. Given the significance of CSMs as influential figures in the construction field and the lack of comprehensive research on their impact on students' perceptions, it becomes essential to address this research gap. This study aims to examine the impact of architecture students' construction site internship experiences on their perception of CSMs as role models and career goals in students' educational and career paths, through the lens of Kolb's experiential learning theory.

In this study, the primary objective is to investigate the influence of internships at construction sites on the career interests of architecture students, particularly with respect to their inclination towards the CSM profession. In most European countries architecture students have not been systematically guided towards a career path in CSM, a field predominantly inhabited by civil engineers. Nevertheless, in underdeveloped or developing countries where the distinction between professions is not that clear, this situation differs. Working as a CSM constitutes an alternative employment area for architects in countries such as Turkey. This highlights a significant gap in the literature on the situation in other developing countries, particularly due to the density of studies focusing on engineering students, and also developed countries regarding the CSM profession. What is even more, there are limited studies that reveal the consideration of CSM as a career choice among architecture students (Fulani et al., 2017; Olanrewaju and Ogunmakinde, 2021) and most research is conducted in underdeveloped countries.

Due to the fact that in most countries, the CSM profession is usually performed by civil engineers, architecture students are often not exposed to CSM as part of their educational curriculum or practical training. By narrowing the focus to architecture students, a perspective distinct from the prevalent literature predominantly centered on civil engineering students is intended to be provided. This study intends to fill this gap and reflect a deeper insight into the level of interest architecture students have in the CSM profession and underline the factors influencing their career decisions. Nevertheless, the limitations of the study are acknowledged as limited exposure of architecture students to CSM education and experience, which may affect the extent of their interest and understanding in this field.

The fundamental basis of this study revolves around two key aspects: the significant active experiential learning opportunities provided by internships, and the potential of CSMs to serve as role models for students. Kolb's theory emphasizes the importance of active experimentation and reflective observation in the learning process (Kolb, 1984). Through their internships, students engage in real-world experiences, actively applying their theoretical knowledge and skills in practical settings (Bae et al., 2020; Tener et al., 2001). By incorporating Kolb's experiential learning theory, the research seeks to understand the differences in perceptions of interns and non-interns about (1) CSM as a metaphor, (2) CSM as a career goal, and (3) CSM as a role model. The findings can provide valuable insights into how experiential learning, as facilitated through internships, influences students' perception and understanding of the CSM role, contributing to the existing body of knowledge on both experiential learning and the construction industry. Moreover, by investigating the influence of CSMs as role models on students' professional career choices, the study aligns with the holistic approach of Kolb's theory, which emphasizes the integration of knowledge, experience, and reflection. Understanding the impact of CSMs as role models can inform educational institutions, industry professionals, and students themselves about the significance of mentorship and positive role modeling in career development and decision-making processes.

The study introduces novelty and originality in several ways that distinguish it from previous research. Firstly, while the impact of short-term internships on students is a known concept, this study focuses on the specific influence of construction site internships on architecture students' perceptions of the CSM profession. This specific emphasis on CSM within the context of architectural education is not extensively covered in existing literature. Secondly, the study delves into the nuances of architecture students' career decisions, particularly with regard to CSM, which is an underexplored area. By narrowing the focus to architecture students, the research offers a distinctive perspective, distinct from the majority of studies centered on civil engineering students. This unique angle contributes to a deeper understanding of architecture students' interest in the CSM profession and the factors influencing their career choices. Additionally, while it may seem self-explanatory that practice on a construction site would enhance the understanding of the CSM profession, the paper aims to empirically demonstrate and provide insights into the extent of

this impact. It explores how experiential learning, facilitated through internships, influences students' perceptions and comprehension of the CSM role, thus adding valuable empirical evidence to the field.

THEORETICAL BACKGROUND

In the context of undergraduate education, students are often influenced by role models, including academic professionals and professionals from specific industries, whom they perceive as exemplars (Rask and Bailey, 2002; Bettinger and Long, 2005). According to Gibson (2004), the concept of role models encompasses two theoretical traditions. The first tradition, role identification theories, emphasizes individuals' attraction to those who share similarities in attitudes, behaviors, goals, and status, leading to the motivation to enhance their own similarities through observation and emulation (Kohlberg, 1963; Bell, 1970; Katz & Kahn, 1978). The second tradition, social learning or modeling theories, highlights the role of models in facilitating the acquisition of new skills, tasks, and norms, emphasizing the learning aspects of role models (Bandura, 1977; Miller & Dollard, 1941; Wood & Bandura, 1989). Gibson (2004) defined a role model as a mental representation shaped by an individual's perception of shared attributes with people occupying social roles. The individual views these role models as somewhat similar to themselves and aims to enhance this perceived similarity by imitating the qualities and behaviors they possess.

The internship is an experiential learning process (Davies, 1990; Aji, 2022), and design offices and construction sites could be assumed as social learning places for the interns. In this context, internship environments can also be seen as places of opportunities for encountering role models for developing future career goals. This study focuses on the relationship between construction site internship experiences and students' perceptions of CSMs, drawing on Kolb's experiential learning theory. Kolb's experiential learning theory suggests that learning occurs through a cyclical process involving four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984). Existing studies in the literature showed that these stages could be observed during internships across various disciplines (Jowdy et al., 2004; Stirling et al., 2017; Aji, 2022). Additionally, some studies have specifically focused on the construction industry concerning this topic (Bae et al., 2020; Tener et al., 2001).

During their internships, students engage in concrete experiences by working on construction sites, witnessing the responsibilities and tasks of CSMs firsthand. Through reflective observation, they reflect on these experiences, analyzing the behaviors, qualities, and characteristics of CSMs that influence their perceptions. This reflection allows them to abstractly conceptualize their understanding of effective managerial practices and develop mental models of what it means to be a CSM. It is possible to relate the student's reflective observation stage during the construction site internship experience to Gibson's (2004) definition of a role model. In this stage, the student carefully observes the CSM (reflective observation) and establishes a perceived similarity between themselves and the manager (abstract conceptualization). Therefore this research was closely associated with two key stages of Kolb's experiential learning theory: reflective observation and abstract conceptualization.

Specifically, this study focuses on addressing several research questions related to the impact of internships on students' perception of CSMs as role models and their consideration of CSM as a potential career choice. The perception of CSMs as role models and perception of CSM as a potential career choice by students were linked to the reflective observation phase, while their mental representations were associated with the abstract conceptualization phase (Fig. 1). Research questions are defined as (1) Does the internship experience have an impact on the students' perception of the CSM and (2) their perception of the CSM as a career goal? (3) Does internship experience change intern students' career aspirations regarding becoming CSMs? and (4) do they perceive the CSM as a role model after the internship? The hypotheses of the research would be defined as below.

H_1 – There is a significant difference between the metaphors about CSM generated by intern and non-intern students.

H_2 – There is a significant difference between intern and non-intern students in terms of perceiving CSM as a future career goal.

H_3 – There is a significant difference between intern students' pre-internship and post-internship aspirations in terms of becoming a CSM as a future career goal.

H_4: There is a significant difference between intern students' perceptions of CSM as a role model and their perceptions of CSM as a career goal.

ARCHITECTURAL EDUCATION IN TURKEY

Architectural education worldwide exhibits diverse approaches, with the classical European and North American schools emphasiz-

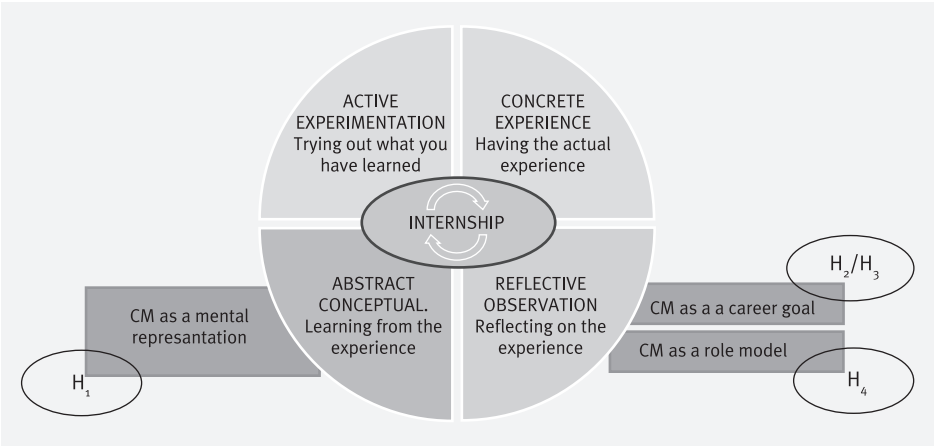

Fig. 1 Conceptual frame work and hypotheses of the research

ing artistic-aesthetic methods, focusing on creative design, and using selection criteria like art portfolios and artistic entrance examinations. Examples of these institutions include The Cooper Union School of Art, Moscow Architecture Institute, and various French and Scottish arts colleges. In contrast, several countries classify architectural professions within the engineering field, with leading schools affiliated with technological universities like Delft TU (Url-1, 2023), MIT (Url-2, 2023), and ETH Zurich. These universities implement innovative career guidance methods, such as non-formal additional architectural education, including OpenCourseWare, and programs tailored for first-year students known as "minors" (Irina, 2017). These distinct educational philosophies reflect the diversity in architectural pedagogy.

A variety of architectural education programs are available worldwide. The Western world predominantly employs a system combining three years of architectural training with two years of practical training, denoted as the 3+2 system (Gündeş and Atakul, 2017). Architectural education in Turkey remains a four-year program, with no standardized nationwide system in place (Biket and Sevimli, 2023). Typically, students are required to complete two distinct types of internships during their educational tenure. The first type involves practical experience in a conventional architectural design office, while the second entails a construction site internship, where students are expected to oversee and actively engage in construction activities. The duration of these internships is not standardized, although some universities prescribe a set duration. Throughout these internships, students must maintain a daily reports detailing their activities. Upon completion, these reports, validated by their employers, are submitted to the internship management commission of universities in a designated format. These reports are then evaluated by the internship management commission at the conclusion of each semester. Subsequent to their internship programs, students return to the university to complete their degrees. These internships are designed to equip students with fundamental specialized technical (hard) and generic (soft) skills requisite for the professional work environment. Historically, students were compelled to undertake these internships without earning any academic credits. Nevertheless, with a growing recognition of the benefits of internships in the architectural education system, many higher education institutions in Turkey have initiated revisions to their internship programs. These changes include the consideration of additional credits and the reevaluation of the duration required to attain essential skills (Gündeş and Atakul, 2017).

Erşen (2018) highlights that in Turkey, which is one of the countries with the shortest duration of education, graduates of architecture can enter their professional life directly without mandatory professional internships or qualification exams, aside from their "undergraduate education.

İlerisoy and Aycı (2019) found that in terms of career preferences among architecture students in Turkey, 37.7% of them expressed a desire to work within an office, while 21.7% showed an inclination to work in a construction site environment. One possible explanation for this result could be attributed to the fact that, in Turkey, the role of a CSM is fulfilled by architects besides other disciplines. According to the "Regulation on Construction Site Managers" in Turkey, while construction technicians may be involved in small-scale projects, this role primarily encompasses the professions of an architect, civil engineer, mechanical engineer, or electrical engineer (Turkish Ministry of Environment, Urban Planning, and Climate Change, 2019). There

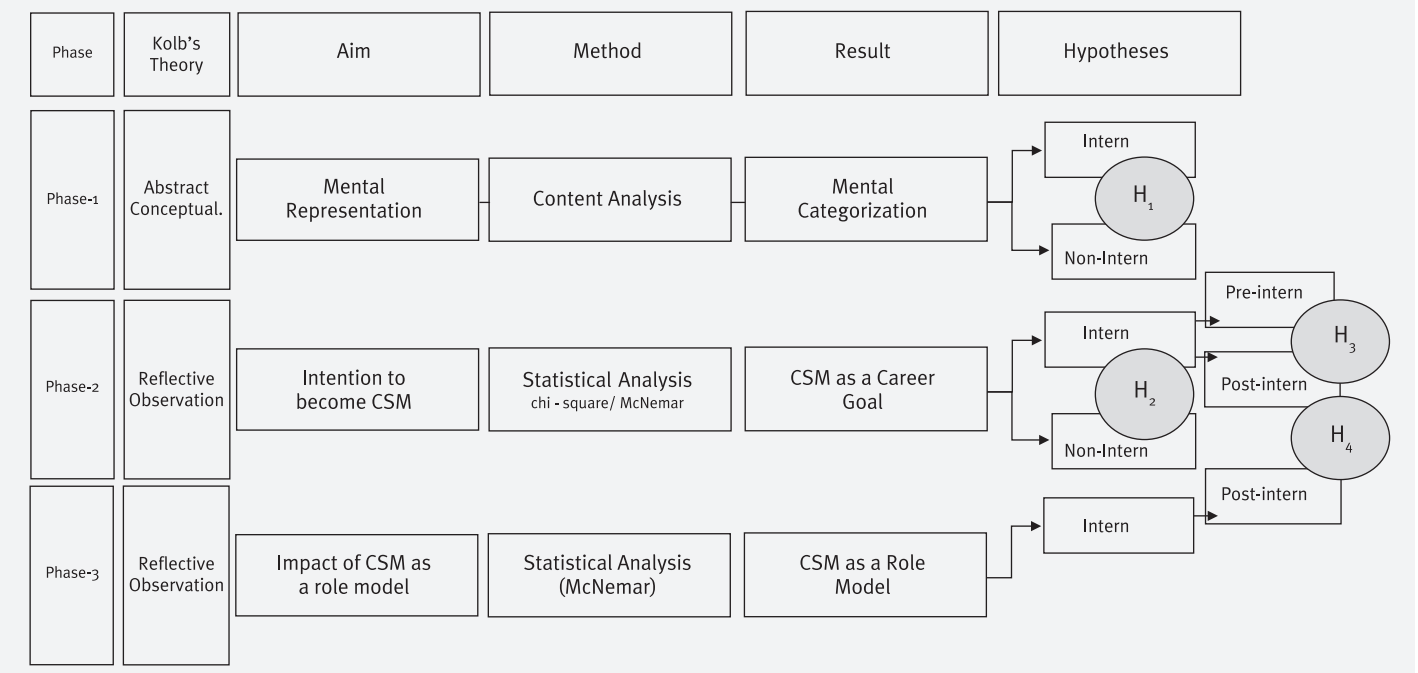

FIG. 2 WORK FLOW OF THE RESEARCH

is no experience requirement in these professional disciplines for undertaking the responsibilty of CSM. Data from the Antalya Chamber of Architects for the initial 7 months of 2023 indicates that among the 3060 construction sites in Antalya, architects serve as site managers in 1117 construction sites, accounting for 36.5% of the total. This notable prevalence in Antalya, which ranks as the third city with the highest number of architects in Turkey, underscores the significance of the CSM role as a viable career choice for architects.

METHODOLOGY

The research methodology employed a qualitative approach to explore the perceptions of students regarding CSMs. Phenomenology, a qualitative research design, was utilized to investigate the metaphorical perceptions of architecture students towards CSMs. Phenomenology aims to understand how individuals define objects and behaviors through categories by examining events or phenomena as directly perceived by social actors (Wallece and Wolf, 2004; Tezcan, 2013). The research comprised three main phases. The initial stage sought to determine how students conceptualized CSMs (H_1). The following stages looked at how students perceived CSMs as role models (H_4) and as a career goal (H_2 and H_3), respectively.

A survey using questionnaires was used to test the hypothesis. There were three primary sections to the questionnaire. Students' personal data, such as their age, gender, and whether or not they had ever worked as an intern at a construction site, was collected in the first section (Subsec.1). The second task required participants to fill in the gaps in the following sentence: "To me, the CSM is like... because...". The main source of data for the phenomenological analysis was the participant responses (Subsec. 2). The third section addressed the views of the students on CSMs as a possible career path. Additionally, the interns were asked if they had perceived CSMs as a career goal prior to their internship (Subsec.3). Finally, in the fourth section, intern students were asked about their perception of CSMs as role models. Work flow of the research was defined in Fig. 2.

SAMPLE GROUP AND POPULATION

The study employed the convenience sampling method, which is commonly used by researchers (Mugenda & Mugenda, 2003). Convenience sampling involves selecting individuals or groups who are readily available and willing to participate in the research at the given time. This sampling method is also known as "volunteer sampling" or "accidental sampling." According to Bal (2001) minimum sample size was formulated as;

$$n = \frac{N \times p \times p \times Z^2}{(N-1) \times t^2 + (p \times q \times Z^2)}$$

[N = Population (110), n = sample size, p = The frequency of occurrence of the feature interested in the population

(0,50), q = The frequency of non-occurrence of the feature interested in the population (1-p), Z = standart value for confidence level (1,96 for 95%), t = margin of error (0,10)]

Following this formulation, the research necessitated a minimum sample size of 27. A convenience sample of 93 architecture students from Akdeniz University was selected for the questionnaire administration. The sample size was deemed adequate in accordance with Bal's (2001) evaluation.

During their education, students are required to complete three main internship programs: site investigation internship (after the first year), construction site internship (after the second year), and architectural office internship (after the third year). The research group consists of students who have completed their third year of study. Among these students, there are also those who have not completed a construction site internship due to various reasons, such as their personal choice not to undertake an internship, difficulties in finding an internship placement, or missing the application deadline for internships (n=40).

Table 1 Demographic information and internship details of the participants

Gender	n	%	Internship	n	%
Female	55	59,1	Intern	53	57
Male	38	40,9	Non-intern	40	43

Procedure and Data Analysis

The students were informed about the purpose of the study, and the research instrument was distributed to them. A series of questions were posed to the participants. Instructions were provided to the participants on how to respond to the questions, as some subsections were measured using yes/no questions. Given that the participants belonged to a young age group and had limited experience with surveys, their questions were adequately addressed. Additionally, they were reminded that there were no right or wrong answers regarding the phenomenological definition of the CSM. Finally, the completed instruments were collected by the researcher.

The data obtained from the survey were analyzed using the statistical analysis software SPSS version 23.0. Descriptive statistics were utilized to examine the demographic characteristics of the participants by analyzing their responses to the questions in the first section of the questionnaire.

The process of analyzing and interpreting the metaphors created by the participants in the second section of the questionnaire involved several systematic stages. Firstly, each form obtained from the students was assigned a unique number for easy reference. Secondly, metaphors that were deemed inappropriate for the purpose of the study or were incompletely filled out were excluded from further analysis. In the next step, the metaphors specifically related to the CSM were transferred to an Excel sheet and organized in numerical order to facilitate systematic examination. Following this, the metaphors were carefully reviewed again, considering their suitability for the research objectives. Subsequently, the metaphors generated by the participants were categorized into conceptual groups to enhance the clarity of their intended meaning. Finally, the total number of participants was calculated, and the frequencies associated with each category and metaphors were interpreted to gain insights into the participants' perspectives (Gül, 2022). To ensure the reliability of the study, an independent researcher with experience in phenomenological analysis also participated in the data coding process. Inter-coder reliability was calculated using the formula: [(Agreements) / (Agreements + Disagreements)] × 100. The obtained value of 92, exceeding the critical level, indicates a high level of consistency in coding between the two researchers (Miles and Huberman, 2002; Taşçı, 2022). Generally, a reliability level of 70% and above is considered acceptable according to conventional standards (Yıldırım and Şimşek, 2016).

For the third and fourth parts of the questionnaire mean scores were computed, the data distribution was thoroughly examined. For most psychometric purposes, a kurtosis value within the range of ±1.0 is regarded as excellent. However, in many instances, a value within the range of ±2.0 is also deemed acceptable, depending on the specific context of its application (George and Mallery, 2010). It was assumed that the data followed a normal distribution and parametric tests were conducted. An independent chi-square test was conducted to determine whether there were statistically significant differences between the means of the groups. Besides, the McNemar test was conducted. The statistical significance level was set at $p<0.05$, indicating that results with a p-value below this threshold were considered statistically significant.

Results

The research findings are systematically presented and organized into three distinct thematic categories: mental categorization, intention to become a CSM, and perception as a role model. These categories serve as the overarching themes through which the results of the study are analyzed and discussed.

TABLE II METAPHORS CREATED BY INTERN STUDENTS

Metaphor	n	Metaphor	n	Metaphor	n	Metaphor	n
Intern							
Basketball coach	1	Dancing master	1	Main character of the book	1	Ship captain	2
Boss	1	Director	4	Manager	1	Steering wheel	1
Brain	1	Doctor	1	Maestro	5	Surgeon	1
Bridge	1	Group leader	1	Playmaker	1	Teacher	1
Brother	1	Guide	3	Queen bee	1	Team captain	3
Captain pilot	1	Head chef	4	Remote control	1	Thumb	1
Choir master	1	Head coach	1	Root of a plant	1	Vein	1
Chief engineer	1	Headmaster	1	Roots of a tree	1	Voltron (fictional character)	1
Chief physician	1	Intermolecular bond	1	School	1		
Compass	1	Latch key	1	Selfless person	1		
Non-intern							
Brain	4	Director	2	Legislator	1	Restaurant manager	1
CEO	1	Doctor	3	Lifeguard	1	Steering wheel	1
Clutch	1	Father	1	Manager	7	Team captain	3
Column	1	Foundation	1	Music producer	1	Tree	1
Commander	2	Heart	3	Organizer	1		
Dean	1	Inspector	2	Puzzle piece	1		

• Mental Categorization of CSM – The first research question aimed to identify the impact of internship experience on the students' perception of the CSM. For this purpose students' methapors were analyzed by content analyses. It was determined that all 93 students who participated in the study generated valid metaphors. Among the intern students, a total of 38 metaphors were created. It was observed that certain metaphors such as director, guide, head chef, maestro, ship captain, and team captain were used more than once. The most frequently used metaphor among these was "maestro". 40 non-intern students produced a total of 22 metaphors. The most frequently repeated metaphors among these were "brain", "commander", "director", "doctor", "heart", "inspector", "manager", and "team captain". Among these metaphors, the most commonly repeated one was "manager" (n=7; Table II).

In general, the metaphors were classified into 10 categories. These categories included concepts such as "manager", "trainer", "guide", "leader", "connection", "expert", "protector", "controller", "vital" and "other". The frequency and percentage of metaphors related to the CSM were presented in Table III.

The same metaphors used by students and their corresponding explanations have also been examined. According to this, in the manager category, the metaphors "director" and "manager"; in the guide category, the metaphor "steering wheel"; in the leader category, the metaphors "brain" and "team captain"; and in the expert category, the metaphor "doctor" were defined in both groups. However, it has been observed that non-intern students' explanations regarding these metaphors have more superficial content. Table IV displays explanations of the same metaphors in both groups.

The statistical analysis aimed to examine whether there were differences in the mental categorization of the CSM among the students, based on the qualitative analysis of the metaphors they created. To investigate this, a chi-square analysis was conducted. A chi-square test of independence found a significant difference between students' mental categorization of the CSM, $X^2(9) = 35.9$, $p = 0.000$. The results indicate that non-intern students generated a higher proportion of metaphors under the "manager" (n=17; 42,5%) category compared to intern students. On the other hand, intern students produced more metaphors under the categories of "leadership" (n=15; 28,3%) and "expert" (n=11; 20,8%). In addition, non-intern students did not generate any metaphors under the categories of "trainer" and "connection," while intern students did not produce metaphors under the categories of "controller" and "vital." Furthermore, the metaphors produced by 5% (n=2) of the non intern students could not be associated with any category. Table V shows a summary of chi-square test results.

• Students' Intention to Become CSM – The second research question aimed to explore the differences in students' perceptions of

Table III Mental categorization of the metaphors

Metaphor Category	Intern			Non-intern		
	Methapors	Number of metaphors		Methapors	Number of methapors	
		n	%		n	%
Manager	boss director (4) headmaster manager	7	13,2	CEO commander (2) dean director (2) legislator manager (7) music producer organizer restaurant manager	1	42,5
Trainer	basketball coach head coach dancing master	3	5,7	–	–	–
Guide	compass guide (3) latch key remote control school steering wheel teacher	9	16,9	steering wheel	1	2,5
Leader	brain choir master group leader main character of the book maestro (5) playmaker queen bee team captain (3) thumb	15	28,3	brain (4) team captain (3)	7	17,5
Connection	bridge intermolecular bond root of a plant roots of a tree vein voltron (fictional character)	6	11,3	–	–	–
Expert	captain pilot chief engineer chief physician doctor head chef (4) ship captain (2) surgeon	11	20,8	doctor (3)	3	7,5
Protector	brother selfless person	2	3,8	father lifeguard	2	5,0
Controller	–	–	–	İnspector (2)	2	5,0
Vital	–	–	–	clutch column foundation heart (3)	6	15,0
Other	–	–	–	puzzle piece tree	2	5,0
TOTAL		53	100		40	100

the desirability of the CSM as a career goal. Chi-square tests were used to predict differences between interns and non-interns (Table VI). The results showed significant differences between the groups in terms of intention to become a CSM. A chi-square test of independence found a significant association between internships and CSM as a career goal, $X^2(1) = 11.5$, $p = 0.001$.

Among the students who completed their internships, an overwhelming majority (83%) expressed a strong desire to pursue a career as a CSM. In contrast, 50% of students who did not complete their internship expressed interest in working as CSM. Although this percentage is lower compared to the intern group, it still suggests a substantial portion of students without internship experience aspire to be CSM.

Furthermore, for the third question an analysis was conducted to examine whether there were any changes in the career aspirations of

TABLE IV EXAMPLE DEFINITIONS PROVIDED BY STUDENTS

	Intern	Non-intern
Manager	The CSM is like a director, because he oversees all stages of the production process and corrects any mistakes to ensure the final product is achieved.	The CSM is like a director, because without a director, even with a good screenplay, a great film cannot be produced.
	The CSM is like a manager, because he oversees and manages all processes at the construction site.	The CSM is like a manager, because he manages the project.
Guide	The CSM is like a steering wheel, because just as a car without a steering wheel cannot be directed, there will be no progress on a construction site without a CSM.	The CSM is like a steering wheel, because we cannot redirect the construction site to the desired location without him.
Leader	The CSM is like a brain, because just like the brain that controls the human body, there is a CSM who manages the construction site and oversees the events taking place there.	The CSM is like a brain, because without the him, the construction site would suffer and it would lose all meaning.
	The CSM is like a team captain, because he is the authorized person who is responsible for overseeing the construction site, tracking the employees, monitoring the progress of the work, and ensuring the necessary organization to ensure the proper execution of the project.	The CSM is like a team captain, because the team captain is the playmaker, determining and managing the game's structure. Without the captain, things become chaotic.
Expert	The CSM is like a doctor, because he performs final checks and ensures that the construction site is in a standing condition, ready for operation.	The CSM is like a doctor, because he is responsible.

intern students regarding becoming CSM. McNemar test was conducted to test the hypotheses. The McNemar test yielded a p-value of 0.000, indicating a statistically significant relationship between pre-internship and post-internship aspirations to become a CSM (Table VII).

The results revealed significant changes in the career aspirations of students who completed construction site internships. Among those who initially did not express a desire to become a CSM before the internship, 45% indicated a shift in their aspirations, expressing a desire to pursue this career path after the internship. Among the students who initially intended to become a CSM both before and after the internship, the percentage was determined to be 37.7%.

• Students' Perception of CSM as a Role Model – The final research question aimed to determine the relationship between students' perceptions of CSM as a role model and their perception of CSM as a career goal.

TABLE V CHI-SQUARE TEST RESULTS OF THE STUDENTS' MENTAL CATEGORIZATION

	Manager		Trainer		Guide		Leader		Connection		Expert		Protector		Controller		Vital		Other	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Intern	7	13,2	3	5,7	9	17,0	15	28,3	6	11,3	11	20,8	2	3,8	–	–	–		–	–
Non-intern	17	42,5	–	–	1	2,5	7	17,5	–	–	3	7,5	2	5,0	2	5,0	6	15,0	2	5,0

p: 0.000; X^2: 35.9; sd: 9

TABLE VI CHI-SQUARE TEST RESULTS ABOUT STUDENTS' INTENTION TO BECOME CSM

	Yes		No				
	n	%	n	%	X^2	df	p
Intern	44	83,0	9	17,0	11.5	1	***0.001****
Non-intern	20	50,0	20	50,0			
Total	64	68,8	29	31,2			

* p value < 0.05

TABLE VII THE MCNEMAR TEST RESULTS REGARDING DIFFERENCE IN PRE-INTERNSHIP AND POST-INTERNSHIP ASPIRATIONS TO BECOME CSM

Pre- internship	Post- internship				p
	Yes		No		
	n	%	n	%	
Yes	20	37,7	1	1,9	*0.000**
No	24	45,3	8	15,1	

* p value < 0.05

TABLE VIII THE MCNEMAR TEST RESULTS REGARDING THE RELATIONSHIP BETWEEN CSM AS A ROLE MODEL AND AS A CAREER

CSM as a Role model	CSM as a career in post-internship					Change of ideas in post-internship				
	Yes		No		p	Yes		No		p
	n	%	n	%		n	%	n	%	
Yes	17	32,1	4	7,5	0.745	10	18,9	11	20,8	0.690
No	27	50,9	5	9,5		14	26,4	18	33,9	
Total	44	83,0	9	17,0		24	45,3	29	54,7	

p value < 0.05

The responses of the students to the questions "Would you like to become a CSM?" and "Did you see your CSM as a role model?" were analyzed using McNemar analysis. No significant relationship was found between the students' perception of the CSM as a role model and their decision to become a CSM during the internship experience. Suprisingly the results revealed that 50.9% of the students, despite not seeing the CSM as a role model, considered CSM as a career option. Additionally, 32.1% of the students perceived the CSM both as a role model and considered CSM as a career. The results indicate that despite students not perceiving the CSM as a role model, they still have thoughts about pursuing a career as a CSM.

Furthermore, the change in students' desire to become a CSM before and after their internship, along with their perception of the CSM as a role model, was also subjected to the McNemar test. The results revealed that 26.4% of the students changed their stance regarding becoming a CSM after the internship, but these students did not consider the CSMs as role models. Additionally, it was determined that the proportion of students who changed their stance and also perceived the CSM as a role model was 18.9% (Table VIII).

Discussion

• CSM as a metaphor – The results of this study show a substantial difference between the metaphors created by intern and non-intern students, indicating that intern students have a greater comprehension of the numerous facets of the CSM's position. As per other studies (Tener et al., 2001; Bae et al., 2021), this lends credence to the adoption of Hypothesis-1. Intern students may watch and think back on their experiences throughout their internship, which helps them mentally classify CSMs in a more thorough way. Intern students may identify the essential characteristics of successful CSMs and abstractly understand good managing techniques through reflective observation. These results support Kolb's experiential learning theory and highlight the value of real-world experience gained through internships in helping students better understand and perceive the complex and multifaceted nature of the CSM role.

The metaphors employed by intern and non-intern students differ, indicating that intern students have a more nuanced understanding of the CSM function and associate it with ideas like "leadership" and "expertise." Non-intern students, on the other hand, place CSMs mostly in the "manager" group, suggesting a narrower perspective. The reason for this discrepancy is that intern students have less opportunity for contemplative observation, which allows them to synthesize their ideas and create abstract conceptualizations of their experiences. These conceptual frameworks provide a basis for guiding their future actions (Kolb & Kolb, 2005; Aji, 2022).

Furthermore, the finding that non-intern students offer more superficial explanations for their metaphors suggests a relatively shallower understanding of the multifaceted nature of the CSM's role. This finding reinforces the idea that practical experience gained through internships enhances students' capacity for critical reflection and comprehension of complex roles like that of a CSM. Consistent with Zehr and Korte's (2020) study, which emphasizes the importance of observational learning during internships and defines internships as a form of indirect guidance, it can be concluded that internships provide invaluable opportunities for students to develop a deeper understanding of the CSM role and its complexities.

• CSM as a Career Goal – The significant differences found between intern and non-intern students in terms of their intention to become a CSM support the acceptance of Hypothesis-2. The practical experience gained through internships positively influences students' inclination towards pursuing a career as a CSM. Students' career expectations are significantly impacted by completing an internship, especially when it comes to becoming a CSM. These results are consistent with other studies (Tener et al., 2001; Chen et al., 2011), which emphasize the value of internships in enabling students to identify their interests, set objectives for their careers, and make well-informed decisions based on real-world experience while receiving mentorship from seasoned professionals. The results highlight the significance of hands-on learning experiences, including internships, in molding students' professional aspirations and offering insightful perspectives into the realm of construction site management. As a result, students can benefit from the CSM position as a mentor in forming their future occupations.

The results further support the acceptance of Hypothesis 3 by showing a substantial difference in intern students' opinions of becoming CSMs before and after their internship experience. Their interest in becoming CSMs is piqued and their career objectives are influenced by their internship experience. Remarkably, some interns stuck to their career goals throughout the whole internship, while several students who hadn't planned to pursue this career route at all said they wanted to follow the internship. These results demonstrate how doing an internship on a construction site can significantly alter students' career goals. Students' interest in becoming CSMs is greatly influenced by their internship experiences, which highlights the necessity for businesses to offer worthwhile internship programs that allow students to explore and further their career goals in the field of construction site management. These results are consistent with those of other research that highlight the value of internships in the growth of students' career interests (Bullock et al., 2009; Simons, 2012).

• CSM as a Role Model – Contrary to the initial hypothesis, the study did not find a significant relationship between students' perception of CSMs as role models and their decision to pursue a career as CSMs. However, a substantial proportion of students who did not perceive CSMs as role models still considered CSM as a viable career option. Additionally, changes in students' career aspirations after their internships were observed, irrespective of their perception of CSMs as role models. These findings suggest that the perception of CSMs as role models may not be the sole determinant of students' decisions to pursue a career as CSMs. Other factors such as personal interests, job prospects

(Mishkin et al., 2016; Gómez et al., 2021), and the overall appeal of the CSM profession likely play significant roles in shaping students' career choices. Gomez et al. (2023) argue that in the case of an internship that is of very short duration, lasting less than a month, the constrained timeframe might not provide enough opportunity for students to acquire the essential skills and knowledge that could positively impact their employability prospects in the future. Future research should explore these additional factors to gain a more comprehensive understanding of the complex influences on students' career aspirations within the construction site management domain.

The study acknowledges the role of internships in providing students with concrete experiences of working on construction sites and interacting with CSMs (Bae et al., 2020; Tener et al., 2001). These concrete experiences form the basis for reflective observation, where students critically reflect on their experiences and observe the behaviors, qualities, and characteristics of CSMs. Through this process, students analyze and interpret their observations, seeking to understand the role and impact of CSMs as role models on their professional development.

The findings of this study further support the importance of experiential learning, reflection, and conceptual understanding in the context of construction site internships and the role of CSMs as role models. The study acknowledges the significance of educational interventions based on Kolb's (1984) experiential learning theory, as emphasized by France et al. (2022). The research aims to shed light on how the stages of experiential learning theory contribute to students' perceptions and learning outcomes, ultimately informing educational practices and career development strategies in the engineering and architectural fields.

• Limitations – Despite the significant contributions made by this study, there are several limitations that should be acknowledged. Firstly, in the context of this research, it is essential to clarify the specific environment in which the study was conducted. The originality of this article is limited to a particular geographic region, namely Turkey. Because Turkey according to the Architectural Profession in Europe 2022 Report of ACE has the third highest number of architects among Europe with the number of 72.500 which is more than total of 19 countries (ACE, 2023). Considering the number of architecture graduates, 7140 according to 2021 data and 7262 according to 2022 data (Url-3, 2023), it is crucial to examine architectural education in Turkey from different perspectives. It is also important to acknowledge that architectural education and the preferences of architecture students can be influenced by various factors, including the structure of educational systems and the demands of the local job market. As such, the study's focus on Turkey is a deliberate choice aimed at gaining in-depth insights into a distinctive setting.

The career preferences and goals of architecture students can differ significantly from those in other countries, given the variations in academic programs and the professional landscape. These considerations highlight the significance of studying the career interests of architecture students in their local context. By examining a particular environment, this study sheds light on the factors influencing architecture students' career decisions within that specific setting, which can serve as a valuable reference for similar regions. Moreover, it underscores the importance of recognizing the influence of local academic structures and industry demands on career preferences, providing a foundation for future comparative studies. Therefore, this research, while specific in its focus, serves as a stepping stone towards a broader understanding of architecture education and career aspirations in various international contexts.

Besides, it is possible to observe differences in career choices between developing and developed countries. Particularly in developing and underdeveloped countries, there are various studies that reveal the consideration of CSM as a career choice among architecture students (Fulani et al., 2017; Olanrewaju and Ogunmakinde, 2021).

Secondly, the study relied primarily on surveys as the method of data collection. While surveys offer the advantage of gathering large amounts of data efficiently, they may not capture the depth and richness of participants' experiences. To gain a more nuanced understanding of students' perceptions and experiences, the inclusion of qualitative methods such as interviews or focus groups would have been beneficial. Thirdly, the

study focused exclusively on the field of CSM, which may restrict the generalizability of the findings to other disciplines or industries. Although this narrow focus allowed for a comprehensive analysis within the specific domain, future research should consider exploring similar dynamics in different fields to provide a more comprehensive understanding of career decision-making processes.

Lastly, the application of Kolb's diagram and the concept of experiential learning faces limitations due to the restricted timeframe of students' internships. These relatively short internship periods may not allow students to fully engage in the role of a CSM due to their limited qualifications, leading to predominantly observational participation. Consequently, the utilization of Kolb's diagram within the scope of this study does not cover the entire learning cycle, potentially excluding certain elements of the experiential learning process, notably the phases involving active experimentation and hands-on experiences. Nevertheless, it's crucial to acknowledge that the brevity of the internship duration and the constraints imposed by the educational context impact the depth of their experiential learning.

In conclusion, while this study has provided valuable insights, it is important to recognize these limitations. Identifying these shortcomings through future studies will facilitate greater and comprehensive comprehension of the factors that shape students' attitudes and career aspirations across different contexts and fields.

Conclusion

This study aimed to contribute to a deeper understanding of the role of internships and the influence of CSMs as role models in students' educational and career journeys, drawing upon Kolb's experiential learning theory. The results of this study indicate that (1) interns have deeper comprehension and enriched perspective attributed to reflective observation during internships (2) practical internship experience significantly influences students' inclination toward pursuing a CSM career (3) multiple factors, distinct from role models, may contribute to influencing students' decisions about their career preferences. The findings highlighted the importance of internships in broadening students' understanding of the CSM role, influencing their career goals, and providing transformative experiences. The study also highlighted the complexity of architects' career decision-making processes in developing or underdeveloped nations, particularly in the construction industry, where it is difficult to distinguish between architecture and engineering, and the need for more research into the variables influencing students' decisions to pursue careers in CSM.

The experiential learning theory proposed by Kolb can be utilized to clarify the varying opinions of students who have and do not undertake construction site internships regarding CSMs. The internships provide students with practical experience and involve them in discussions alongside CSMs who play a crucial role. These interactions support students' experiential learning and help shape their professional identities.

The study advances the field in both practical and scientific sense. In practice, the results provide insightful information about how internships affect students' perceptions and comprehension of CSM roles. Educational institutions, business professionals, and students themselves can all benefit from knowing this information about the value of mentoring and positive role modeling in the development of careers and decision-making processes. It emphasizes how crucial internships are for developing students' professional identities and offering opportunities for hands-on learning. Scientifically, the study adds to the corpus of information already available on experiential learning and the construction sector. Examining how CSMs as role models affect students' career decisions, the study supports Kolb's holistic theory by highlighting the integration of experience, knowledge, and reflection. It broadens our comprehension of the ways in which internships and role models influence the career paths of students and offers a theoretical framework for more research in this field. In general, the research makes a practical contribution by providing knowledge that can be used to improve internship programs and mentoring practices in both professional and educational contexts. By advancing our understanding of experiential learning and its impact on students' perceptions and career development in the construction industry, it also presents a scientific contribution.

Bibliography

1. ACE (2023) Architectural Profession in Europe 2022 Report.
2. Aji, G.P. (2022) Students' Reflection On The Experience In Online School Internship Program Based On Experientıal Learning. *IJIET (International Journal of Indonesian Education and Teaching)*, 6(2), pp. 204-225. https://doi.org/10.24071/ijiet.v6i2.4820
3. Bae, H.; Polmear, M. & Simmons, D.R. (2020) The impact of internships on civil engineering students' exploration of learning styles. In: *2020 ASEE Virtual Annual Conference Content Access*. https://doi.org/10.18260/1-2--35330
4. Bal, Hüseyin (2001) *Bilimsel Arastırma Yöntem Ve Teknikleri*. Süleyman Demirel Üniversitesi Basımevi, SDÜYayın No:20:Isparta.
5. Bandura, A. (1977) *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
6. Bell, A.P. (1970) "Role modelship and interaction in adolescence and young adulthood". *Developmental Psychology,* 2, pp. 123-128. https://doi.org/10.1037/h0028613
7. Bettinger, E.P. & Long, B.T. (2005) "Do faculty serve as role models? The impact of instructor gender on female students". *American Economic Review*, 95(2), pp. 152-157. https://doi.org/10.1257/000282805774670149
8. Biket, A.P. & Sevimli, G. (2023) Türkiye'de Mimarlik Eğitimi Ve Proje Yönetimi. *Yakın Doğu Üniversitesi Yakın Mimarlık Dergisi*, 7(2). https://doi.org/10.32955/neujna202372714
9. Birhan, A.T. & Merso, T.A. (2021) "Supporting engineering education through internship mentoring program: approaches, perceptions and challenges". *Journal of technical education and training*, 13(1), pp. 185-194. https://doi.org/10.30880/jtet.2021.13.01.020
10. Bullock, K.; Gould, V.; Hejmadi, M. & Lock, G. (2009) "Work placement experience: Should I stay or should I go?" *Higher Education Research & Development*, 28(5), pp. 481-494. https://doi.org/10.1080/07294360903146833
11. Chen, C.T. & Chen, C.F. (2011) "The influence of internship experiences on the behavioral intentions of college students in Taiwan". *The Asia-Pacific Education Researcher*, 20(1), pp. 73-92.
12. Chen, C.T.; Hu, J.L.; Wang, C.C. & Chen, C.F. (2011) "A study of the effects of internship experiences on the behavioural intentions of college students majoring in leisure management in Taiwan". *Journal of Hospitality, Leisure, Sport and Tourism Education*, 10(2), pp. 61-73. https://doi.org/10.3794/johlste.102.294
13. Çivici, F. (2021) "İnşaat mühendislerinin kariyer planlamaları üzerine bir araştırma". *Balıkesir Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, 23(2), pp. 808-818. https://doi.org/10.25092/baunfbed.858666
14. Cord, B. & Clements, M. (2010) "Pathway for student self-development: A learning orientated internship approach". *Australian Journal of Adult Learning*, 50(2), pp. 287-307.
15. Davies, L. (1990) *Experience-based Learning within the Curriculum. A synthesis study*, Sheffield: Athenaeum Press.
16. Erşen, A.E. (2018) "Mimarlik ve Tasarim Eğitimi Üzerine". *Ejovoc (Electronic Journal of Vocational Colleges)*, 8(2), pp. 64-72.
17. France, J.; Milovanovic, J.; Shealy, T. & Godwin, A. (2022) "Engineering students' agency beliefs and career goals to engage in sustainable development: differences between first-year students and seniors". *International Journal of Sustainability in Higher Education*. https://doi.org/10.1108/IJSHE-04-2021-0161
18. Fulani, O.; Pase, O.; Omeiza, A.; Daniels, J.; Alagbe, O.; Aderonmu, P. & Udiminue, J. (2017) *Gender and career aspirations of architecture students*. In: *INTED2017 Proceedings,* pp. 5437-5442. IATED. https://doi.org/10.21125/inted.2017.1266
19. Gamboa, V.; Paixao, M.P.; Da Silva, J.T. & Taveira, M.D.C. (2021) "Career goals and internship quality among VET students". *Journal of Career Development*, 48(6), pp. 910-925. https://doi.org/10.1177/0894845320902269
20. George, D. & Mallery, P. (2010) *SPSS for Windows step by step : A simple guide and reference, 17.0 update*. Allyn & Bacon.
21. Gómez, J.; Tayebi, A. & Delgado, C. (2021) "Factors that influence career choice in engineering students in Spain: A gender perspective". *IEEE Transactions on Education*, 65(1), pp. 81-92. https://doi.org/10.1109/TE.2021.3093655
22. Gül, Y.E. (2022) "Metaphorical perceptions of teacher candidates regarding cultural diversity: a cross-cultural comparison". *Universidad y Sociedad*, 14(2), pp. 570-578.
23. Gündeş, S. & Atakul, N. (2017) "Internship Practices in Architectural Education: Student Perspectives". *Megaron*, 12(3). https://doi.org/10.5505/megaron.2017.86094
24. Inkster, R.P. & Gaye Ross R. (1995) *The Internship as a Partnership: A Handbook for Campus-based Coordinators and Advisors*. National Society for Experiential Education, Raleigh, North Carolina.
25. İlerisoy, Z.Y. & Ayci, H. (2019) "Mimarlık son sınıf öğrencilerinin alan seçimlerine yönelik bir değerlendirme". *Eğitim ve Toplum Araştırmaları Dergisi*, 6(2), pp. 192-214.
26. Irina, T. (2017) "Career guidance for the stable professional development of architects". *WIT Transactions on Ecology and the Environment*, 226, pp. 713-721. https://doi.org/10.2495/SDP170621

27. Jerez Gomez, M.P.; Bojica, A.; Martínez-del-Río, J. & Karaja, R. (2023) "Designing successful internships: exploring the role of duration, formalization and motivational practices". *Education+ Training*, 65(3), pp. 433-453. https://doi.org/10.1108/ET-12-2021-0480
28. Jowdy, E.; McDonald, M. & Spence, K. (2004) "An integral approach to sport management internships". *European Sport Management Quarterly*, 4(4), pp. 215-233. https://doi.org/10.1080/16184740408737478
29. Katz, D. & Kahn, R.L. (1978) *The social psychology of organizations*. New York: Wiley.
30. Kohlberg, L. (1963) *Moral development and identification*. In: Stevenson, H.W. (Ed.), *Child psychology: The sixty-second yearbook of the National Society for the Study of Education (Part 1)*, pp. 277-332. Chicago, IL: University of Chicago Press. https://doi.org/10.1037/13101-008
31. Kolb, D.A. (1984) *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
32. Kolb, A.Y. & Kolb, D.A. (2005) "Learning styles and learning spaces: Enhancing experiential learning in higher education". *Academy of Management Learning & Education*, 4(2), pp. 193-212. https://doi.org/10.5465/amle.2005.17268566
33. Maertz C.P. Jr; Stoeberl, P.A. & Marks, J. (2014) "Building successful internships: lessons from the research for interns, schools, and employers". *Career Development International*, 19(1), pp. 123-142. https://doi.org/10.1108/CDI-03-2013-0025
34. Mihail, D.M. (2006) "Internships at Greek universities: an exploratory study". *Journal of Workplace Learning*, 18(1), pp. 28-41. https://doi.org/10.1108/13665620610641292
35. Miles, M.B. & Huberman, A.M. (2002) *The qualitative researcher's companion*. Sage. https://doi.org/10.4135/9781412986274
36. Miller, N.E. & Dollard, J. (1941) *Social learning and imitation*. New Haven, CT: Yale University Press.
37. Mishkin, H.; Wangrowicz, N.; Dori, D. & Dori, Y.J. (2016) "Career choice of undergraduate engineering students". *Procedia-social and behavioral sciences*, 228, pp. 222-228. https://doi.org/10.1016/j.sbspro.2016.07.033
38. Mugenda, O.M. & Mugenda, A.G. (2003) *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: ACTS Press.
39. Olanrewaju, O.S. & Ogunmakinde, O.E. (2021) *Career Choice and Professional Preference of Architecture Students in Nigeria*. Proceedings of the 44th AUBEA Conference: Construction Education – Live the Future, p. 492.
40. Rask, K.N. & Bailey, E.M. (2002) "Are faculty role models? Evidence from major choice in an undergraduate institution". *The Journal of Economic Education*, 33(2), pp. 99-124. https://doi.org/10.1080/00220480209596461
41. Roever, C. (2000). "Mead corporation's creative approach to internships: success in a unionized manufacturing plant". *Business Communication Quarterly,* 63, pp. 90-100. https://doi.org/10.1177/108056990006300110
42. Sapp, D.A. & Zhang, Q. (2009) "Trends in industry supervisors' feedback on business communication internships". *Business Communication Quarterly*, 72(3), pp. 274-288. https://doi.org/10.1177/1080569909336450
43. Şekerci, Y.; Kahraman, M.U. & Çakmak, A. (2021) "Internship experience in architecture and interior architecture departments from students' point of views". *Online Journal of Art and Design*, 9(2), pp. 172-188.
44. Silva, C.S.C.D. & Teixeira, M.A.P. (2013) "Internship experiences: contributions to the school-to-work transition". *Paidéia (Ribeirão Preto)*, 23, pp. 103-112. https://doi.org/10.1590/1982-43272354201312
45. Simons, L.; Fehr, L.; Blank, N.; Connell, H.; Georganas, D.; Fernandez, D. & Peterson, V. (2012) "Lessons Learned from Experiential Learning: What Do Students Learn from a Practicum/Internship?" *International Journal of Teaching and Learning in Higher Education*, 24(3), pp. 325-334.
46. Stirling, A.; Kerr, G.; MacPherson, E.; Banwell, J.; Bandealy, A. & Battaglia, A. (2017) "Do Postsecondary Internships Address the Four Learning Modes of Experiential Learning Theory? An Exploration through Document Analysis". *Canadian Journal of Higher Education*, 47(1), pp. 27-48. https://doi.org/10.47678/cjhe.v47i1.186196
47. Taşçi, G. (2022) "Metaphorical Perceptions of Academicians in Administrative Positions in Higher Education Regarding the Concept of Sustainability". *International Journal of Curriculum and Instruction*, 14(1), pp. 138-154.
48. Tener, R.; Winstead, M. & Smaglik, E. (2001) *Experiential learning from internships in construction engineering*. 2001 Annual Conference, pp. 6-486.
49. Tezcan, M. (2013) *Sosyolojik kuramlarda eğitim*. Ankara: Anı Yayıncılık.
50. Turkish Ministry of Environment, Urban Planning, and Climate Change (2019) *Regulation on Construction Site Managers*.
51. Wallace, R.A. & Wolf, A. (2004) *Çağdaş sosyoloji kuramları. Çev. Leyla Elburuz & Rami Ayas. İzmir: Punto Yay*.
52. Wood, R. & Bandura, A. (1989) "Social cognitive theory of organizational management". *Academy of Management Review,* 14, pp. 361-384. https://doi.org/10.2307/258173
53. Yates, J.K. (2001) "Retention of nontraditional engineering and construction professionals". *Journal of Management in Engineering*, 17(1), pp. 41-48. https://doi.org/10.1061/(ASCE)0742-597X(2001)17:1(41)
54. Yildirim, A. & Şimşek, H. (2016) *Sosyal bilimlerde nitel arastirma yöntemleri*. Seckin.
55. Zehr, S.M. & Korte, R. (2020) "Student internship experiences: learning about the workplace". *Education+ Training*, 62(3), pp. 311-324. https://doi.org/10.1108/ET-11-2018-0236

Internet sources

Url-1 – https://ocw.tudelft.nl/programs/ (last retrieved: 5.11.2023.)

Url-2 – https://ocw.mit.edu/search/?d=Architecture&s=department_course_numbers.sort_coursenum (last retrieved: 5.11.2023)

Url-3 – https://www.drdatastats.com/turkiyede-universitelerin-mimarlik-bolumlerinden-her-yil-kac-kisi-mezun-oluyor/ (last retrieved: 5.11.2023)

Sources of illustrations and tables

Fig. 1	Author, adopted from: Kolb, 1984
Fig. 2	Author
Tables I-VIII	Author

Author's biography

İkbal Erbaş is currently working as an Associate Professor at Akdeniz University, Faculty of Architecture. She received her B.Sc. degree in Architecture from Istanbul Technical University. Subsequently, she earned her M.Sc. and Ph.D. degrees in Architecture from Istanbul Technical University in 2002 and 2013, respectively. Her areas of scientific interest include occupational safety and health, construction management, contract management, site management, and education.