

Case Study

Relevance to Post-disaster Recovery in Undergraduate Architectural Education: A Case of Southern Turkish Universities

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ABSTRACT

Architectural graduates must undergo sufficient academic training in handling disaster aftermath so that they can fully participate in post-disaster recovery and respond effectively to increasing worldwide demand. This article attempts to examine the contents of the architectural curriculum and evaluate academic initiatives that are relevant to post-disaster recovery in a case study of three Turkish universities. A list of skills and knowledge required for efficient architectural learning on disaster aftermath was developed through three stages Delphi technique in which three foreign and 10 Turkish experts participated. Semi structured interview with selected academicians of the case study universities was conducted to enhance the examination of the curriculum and to evaluate relevant initiatives. The results show that the architectural curricula of the selected universities have limited

and indirect relevance. The required skills and knowledge may be embedded into the architectural curricula at the undergraduate level. Each university should then decide on the methods they can employ to achieve their respective curricular designs.

Keywords: Architectural education, post-disaster, refugees, shelter, undergraduate curriculum

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INTRODUCTION

Disasters: Turkey and the World

Persecutions and conflicts around the world resulted in a displacement of 45.2 million people. Apart from these, millions of people are displaced by other factors, such as natural disasters, desertification, and droughts (Korody, 2016). Turkey is one of the countries frequently suffering from events caused by natural factors or from inland and cross-border immigrations. The main natural disaster in Turkey is the earthquake. Between 1900 and 2015, more than 100,000 Turkish people were killed and about 600,000 buildings were severely damaged by 239 earthquakes equal to or greater than M 5.0 on the Richter. About 70% of the losses are in urban areas where a big proportion of Turkish people live and approximately 83% of the GDP are generated. Relevant studies are expecting an earthquake of magnitude up to 7.7 around Istanbul in the near future (Sukru & Ali, 2016). In addition to natural disasters, Turkey suffers from refugees from various countries. In April 2017, the number of registered refugees in Turkey was 3.2 million, of whom 2.9 million came from Syria (European Commission, 2017). Syrian refugees mainly target the following five Southern Turkey provinces that share the border with Syria: Sanliurfa, Mardin, Hatay, Gaziantep, and Killis. In 2014, 83% of the registered Syrian refugees were living in these provinces (Cagaptay & Menekse, 2014).

Sheltering the Victims of the Disaster: A Need for New Directions

The camps of the disasters victims are by no means temporary shelters, as proven by various experiences around the world. In fact, people spend an average of 17 years living in such camps. In Turkey, in 2018, Syrian refugees started their sixth year in the camps provided by Turkish government. Some of the camps are tented while the others comprised prefabricated containers (Dincer et al., 2013). Providing public facilities was not easy in the tented camps. The residents of both types of the camps in Turkey are dissatisfied due to the boredom associated with camp life (Nielsen & Mark, 2013). Most of the camps worldwide are frequently constructed informally with no proper expert's supervision and advice (Stephenson cited in Wagemann & Ramage, 2013). Even the permanent solutions to shelter the affected people were merely transplanted foreign architecture that neglected the local people as well as the specific cultural, climatic, and landscape characteristics of an area (Lyons et al., 2010). Accordingly, concerned stakeholders, researchers and decision makers around the world highlight the need for a new mindset that can cater the needs of the victims of natural and man-made disasters, especially in terms of building and organizing temporary and transitional housing areas (IRP, UNISDR, & UNDP-India, 2010; Manu et al., 2010). In such undertakings, the architect is the key contributor. As Allen (2013) wrote in the *Daily Architect*: "Indeed, if there's

anyone qualified to consider the long-term when rebuilding in post-disaster situations, its architects. And if there's anyone with a moral obligation to provide safe, affordable, and sustainable shelter, it's most definitely architects." Architects and other university graduates usually obtain the core part of their knowledge and skills during their university study.

Responses of Undergraduate Architectural Education around the World to Post-Disaster Recovery

Since the 1990s, architectural schools around the world have responded to the demand for qualified architects who can contribute to the disaster aftermath recovery by receiving education through the initiatives of university academics and students. However, these initiatives have yet to be integrated into the general architectural curriculum. To illustrate, a shelter project initiated at the University of Cambridge late in the 1990s is still going on. This project led to the establishment of The Shelter Centre as an NGO (Non-Governmental Organisation) in Geneva and, later in 2012, to the creation of guidelines for transitional shelters (Wagemann, & Ramage, 2013). In another example, third-year graduate students of the School of Architecture and Planning, Spring Studio, at the University at Buffalo, attempted to design a temporary housing community for refugees who resettled in Buffalo in 2016. The focus was on developing short- and long-term housing plans for these refugees (Inkumsah, 2016).

Turkish Undergraduate Architectural Education: Relevance to Post Disaster Recovery

The architectural education of Turkey consists of three stages: undergraduate (a four years program), Master's, and Doctorate levels. In 2012, the number of architectural departments in Turkish universities increased from 42 to 67 (Yuksekk, 2013). Like the education of other disciplines, Turkish architectural education is centralized and strongly controlled by the Higher Education Council (YOK). In the recent decades, relevant policies have led to a diminishing professional and academic impact of the Turkish Chamber of Architects. Further, accreditation of architectural programmes by the Chamber of Architects is not practiced in Turkey (Tunalı & Öztekin, 2015). The Turkish architectural education approach consists of an architectural design studio supported by theoretical and technical classes. The subjects under the architectural undergraduate curriculum (compulsory and optional) can be grouped into six categories: General Information; Constructional Sciences and Technology; Design Information: History, Theory, Culture, and Art; Environment and City and Vocational Studies; Management and Economy (Gökmen et al., 2007). Eight percent of the subjects are optional. Table 1 shows the subjects in each category. The successful completion of an undergraduate architectural program provides the graduates with a direct membership access to the Turkish Chamber of Architects and the opportunity to conduct their professional practice in Turkey (Özmen, 2013).

Table 1

Categories of architectural curriculum in turkey and their respective subjects

No.	Categories	Subjects
1	General Information	- Basic Sciences (Mathematics, Physics, Chemistry, Computer, etc.). - Social Sciences (Research Methods, Sociology, History, Economy, Psychology, Anthropology, etc.), and - Language Sciences (Turkish, English).
2	Constructional Sciences and Technology	Construction Materials, Building Systems, Construction Physics (lighting and air conditioning).
3	Design Information	Architectural Design, Presentation Techniques Indoor Design.
4	History, Theory, Culture, and Art	Art History, Architecture History and theories, city history, Typology, and Structure History.
5	Environment and City	Natural Environment-Natural Catastrophes, Ecology, Urban Environment, Historical Environment, Historical Design, Urban Design, Protection Restoration, Environment Control, Landscape, and Topography.
6	Vocational Studies, Management, and Economy	Management, Laws, and Constructional Economy.

Source: Constructed by authors based on Gökmen et al. (2007).

Each university can set up its own architectural curriculum, but the curriculum should be within the scope of the six categories shown in Table 1. This means that additions on post disaster recovery or other themes to the curriculum are possible as long as they are within the limits that are decided by the Higher Education Council (YOK). However, the very few available relevant studies have shown limited concerns. In Çankaya University, sophomore students carried out an experiment on the social context of structural design decisions throughout the second semester (14 weeks). The experiment results revealed that exploring the social context of the structural design work by

the students widened their perspective toward the societal role of architects. This finding led to the curricular reform in the Çankaya University Department of Architecture (Özmen, 2013). Two studies were presented in the “Architecture in Emergency: Re-thinking the Refugee Crises International Symposium” held at Istanbul Kultur University in 2016. The first research was established through a joint studio experiment, education, and space for mobile lives. The experiment was conducted in Ayvalık, a seaside town on the North-western Turkish Aegean coast (Ormecioglu, & Cakici, 2016). The second research by Pak and Schoonjans (2016), focused on embedding bottom-up practices in teaching

urban and architectural design to address post-disaster situations.

Based on this background, this article attempts to enhance the limitedly available literature on post-disaster recovery in Turkish undergraduate architectural education. Further, the article aims at examining whether Turkish universities provide their architectural graduates with the necessary knowledge and skills for the successful performance of their expected role in post-disaster recovery.

Objectives

To reach the above mentioned aim, the following objectives were identified:

- a. To examine the relevance to post-disaster recovery in the subjects content of the architectural curriculum of selected Turkish universities.
- b. To analyse academic initiatives made, in relevance to post-disaster recovery, in the departments of architecture of the selected Turkish universities.

METHODS

This research requires qualitative, case studies and multi-stage methods. Two public universities (Gaziantep and Cukorova) and a private one (Zirve) in the southern part of Turkey, the main target of refugees, were selected for this study. The criteria for the selection included the department age and English as a teaching medium. Using the Delphi technique, we developed a set of skills and knowledge required for architectural graduates to enable efficient participation in post-disaster recovery. Three

foreign and 10 Turkish experts from the case studies and other Turkish universities were involved. The set was developed through three stages that were coordinated by the authors via e-mail. In the first stage, each participant produced an individual list. From the individual lists, a list was compiled by the authors and sent, in the second stage, to the participants to individually comment on. Based on the comments, a refined list was prepared and sent again to the participants for comments in the third stage. The final list was then prepared by the authors. It consists of 3 dimensions and 16 components and covers the shelter, settlement, services, and amenities. The components were coded to facilitate an easy and accurate analysis (refer Table 2).

The developed set was used to analyse the architectural curriculum of each case study using the document analysis technique. The content of each subject of the curriculum was examined carefully in search for the presence of direct or indirect relevance to each of the criteria in the set. Based on the analysis outcome, suitable semi-structured interview questions were set up. Five staff members from Gaziantep University, two from Zerve University, and two from Cukorova University, were selected for the interview. The interviewees were required to meet any of the following criteria: knowing English language; teaching one of the major subjects in higher years, such as Architectural Design, City Planning, and Building Construction; or having an administrative position. Most of the interviewees requested anonymity so each

one was given a code name. The interviewees from Gaziantep University included a staff with an administrative position (GAZ1) and four staff members who teach major subjects (GAZ2, GAZ3, GAZ4, and GAZ5). The two staff members of Zerve University teach major subjects (ZER1 and ZER2). The two lecturers of Cukorova University also teach major subjects, and none of them holds an

administrative position (CUK1, CUK2). A 30 minutes face to face -Interview with each of the selected academic staff was conducted in the next stage. The interviews were recorded and notes were taken by the interviewer. Next, the outcome of the interviews was analysed. The conclusion was made based on all earlier analysis.

Table 2

Knowledge and skills necessary for architectural students in relevance to post-disaster recovery, as defined by the expert

Dimensions	Components	Code
Shelter	Temporary and transitional structures	TTS
	Construction technologies in the context of disaster response and preparedness	CTC
	Local building material	LBM
	Local construction practices	LCP
	Design needs for people with disabilities	DND
	Design requirements for emergency	DRE
	Design alternative assessments	DAA
Settlement	Transitional clusters	TCS
	Settlement Incremental development	SID
	Planning and design needs for emergency settlements	PDE
	Concepts of remove, reuse, and upgrade for post-reconstruction	RRP
	Impacts of emergency settlement on the local environment and culture	IES
Services and amenities	Emergency services	ESS
	Temporary and permanent service installations	TPS
	Service and amenity incremental development	SID
	Concepts of reusable and recyclable services and amenities	RRS

RESULTS AND DISCUSSION

Curriculum Content Analysis

Notably, after the military cope in the second half of 2016 in Turkey, Zirve University, one of the cases for this study was suspended on 23/7/2016. Thus, the outcome here covers only the other two universities, namely, Gaziantep and Cukurova. However, the interviews with the staff of Zirve University were retained in this article to enhance the academic perspective regarding the subject of this research. Architectural curricula were analysed to search for the presence of the components defined at the previous stage in any of the courses. Document analysis was used for this purpose. According to Stake (1995), as cited in Bowen (2009), document analysis is particularly employed in qualitative case studies targeting a full and thorough description of a phenomenon, program, and event. Moreover, "Document analysis involves skimming (superficial examination), reading (through examination) and interpretation" (Bowen, 2009).

Gaziantep University

The Department of Architecture of Gaziantep University started receiving students in the academic year 2009/2010. The website of the department shows that the department only offers an undergraduate program. Its curriculum consists of 48 compulsory subjects and 29 elective subjects. The electives can be taken in the third and fourth levels depending on the availability of a staff who can handle the offered subject.

While analysing the compulsory subjects, we found no components or any with corresponding relevance in the contents. However, we found two elective subjects, namely, Architectural Accessibility for Disabled People (ARCH 433) and the Components in Traditional Houses (ARCH 443), to have relevance to some components. The former focuses on people with disabilities, the problems they face, and the search for appropriate solutions. This content is indirectly related to the component of DND. The latter revolves around investigating the construction techniques and structural elements of traditional houses in the different regions of Turkey. This content partly covers local construction practice (LCP). However, the two elective subjects are not intended to train students on post-disaster recovery matters. Hence, the architectural curriculum of Gaziantep University has not yet introduced any direct relevance to post-disaster recovery education.

Çukurova University

The Department of Architecture of this university was established in 1989. The Department runs four-year undergraduate program along with master's and doctorate architectural programs. According to the department website, the curriculum consists of 60 compulsory subjects and 33 elective subjects. Students start taking electives in their third year.

Two compulsory subjects have relevance to the components of the developed set. The first subject is Reinforced Concrete

Practice in Architecture (MİM 228). In this subject, students learn how to design reinforced concrete structural systems that are resistant to earthquake. This course contributes to (CTC). The second subject is Building Elements 2 (MİM 266). This subject handles traditional, advanced-traditional, and contemporary construction systems with examples in terms of elements. It also includes an analysis of structural problems (motion, insulation, structure, and material life) and its solution in relation to architectural design. This subject is linked with the components of local construction practices (LCP).

In the third year, two elective subjects of the first semester, namely, Design without Barriers in Architecture (MIM 309) and Turkish House (MIM 377), contain relevant themes to some of the components. The former is relevant to DDN and focuses on the design for people with disabilities and relevant standards and issues. The latter contains some parts (e.g., typological construction systems of traditional Turkish house), which can be linked with LCP. The two subjects are a part of a group of seven elective subjects, where the students can select only one.

Table 3

Relevance of architectural curriculum of the case study universities to the skills and knowledge required for architectural graduates on post-disaster recovery

Dimension	Components	Gaziantep University		Cukurova University	
		Compulsory Subjects	Elective subjects	Compulsory subject	Elective subjects
Shelter	Temporary and transitional structures			No relevance	
	Construction technologies in the context of disaster response and preparedness		No relevance	MIM228 is partly relevant	No relevance
	Local building material			No relevance	
	Local construction practices	No relevance	ARCH433 is Partly relevant	MIM266 is Partly relevant	MIM377, MIM 386 are Partly relevant
	Design needs for people with disabilities		ARCH443 indirectly relevant		MIM309 is Partly relevant
	Design requirements for emergency				
	Design alternative assessments				

Table 3 (Continue)

Dimension	Components	Gaziantep University		Cukurova University	
		Compulsory Subjects	Elective subjects	Compulsory subject	Elective subjects
Settlement	Transitional clusters				
	Settlement Incremental development		No relevance	No relevance	No relevance
	Planning and design needs for emergency settlements				
	Concepts of remove, reuse, and upgrade for post-reconstruction				
	Impacts of emergency settlement on the local environment and culture				
Services and amenities	Emergency services				
	Temporary and permanent service installations				
	Service and amenity incremental development				
	Concepts of reusable and recyclable services and amenities				

In the second semester, some parts of Building Production Techniques II (MİM 386) provide students with knowledge on traditional construction techniques. This course offering is relevant to LCP. The opportunity of selecting this subject is one out of six. These subjects (MİM228, MİM266, MİM377 and MİM309) are, like the case of Gaziantep University, not intended to serve the purpose of educating the architectural students of Cukurova University on post-disaster recovery. Table 3 presents the outcome of curriculum content analysis in the two-case study university.

Interview with the Academic Staff

From the above analysis, the architectural curriculum of the case-study universities still clearly lacks direct concern for post-

disaster recovery. This result raises the need to investigate the staff’s understanding of the architect’s role in post-disaster recovery and to check the presence of any type of initiatives by the staff regarding the disaster aftermath. The result also raises the need to explore the staff’s opinion on how to incorporate the dimensions and components defined by this study into the architectural curriculum and on what level. These investigations were carried out through semi-structured interview in which the interviewer can delve further into a discussion whenever necessary. A semi-structured interview is an efficient tool used to provide reliable, comparable, and qualitative data (Bernard, 1988 cited in Cohen & Crabtree, 2006). The outcome of the interviews is summarised in Table 4.

The Role of the Architect in the Disaster Aftermath: A Staff's Perspective

The first question in the interview introduced a UN expert's opinion on how the current refugee camps could be converted into cities in the future. The interviewees were then asked the following question: In light of this vision, how can you envisage the role of architects?

All the interviewed staff believed in the important role of architects in the disaster aftermath and in the inefficiency of the current architect's role. The answers point at some considerations the architect needs to take into account when being involved in post-disaster recovery. Respondents GAZ3 and CUK1 emphasized on the special cultural, economic and social characteristics of the refugee's community before starting the design process. Respondents GAZ2, GAZ4, GAZ5, ZER1, ZER2 and CUK2 emphasis was on the special design requirements of refugees' shelters and settlements, such as mobility and flexibility. New technologies and new building materials, according to respondent GAZ1, assist architects and engineers in finding transitional structures rather than temporary ones. When asked regarding his understanding of a transitional shelter, he said that it would accommodate people for a longer time. This shelter can later be developed into either a permanent shelter or recycled.

Teaching and Training Initiative

The second question revolved around relevant teaching or training initiatives to post-disaster recovery, which have been

made in the interviewee's department, such as a lecture, an assignment, a design studio project, or others. If the answer was yes, then, the interviewee needed to explain the initiative. The answers revealed the absence of any direct initiatives for teaching and training architectural students on post-disaster situation in all the case-study universities. For example, respondent ZER1 said: "None has ever thought of this subject earlier" and respondent (CUK2) declared that: "There is nothing at all, any kind of elective course, compulsory, topic, or project about temporary structures or temporary buildings".

However, in the subject (ARCH 122), one of the themes given in the student of Gaziantep University assignment during the second semester (2015–2016) was on local building materials and local construction techniques. This theme is relevant to both LBM and LCP. The assignment was a group work for five students per group and was not intended for post-disaster recovery training. At this point, Turkey is clearly vulnerable to frequent earthquakes and, its location has made it the target of a huge number of refugees. Thus far, the case study universities have not started a serious training for their architectural students to cope with post-disaster recovery.

Incorporation of the Developed Set of Skills and Knowledge into Architectural Education

In the third question, the interviewee was asked to explain and express his/her vision on how to embed the required knowledge

and skills (the list developed in the Delphi method) into the architectural education of his/her university. The answers varied even in each university. Respondent ZER1 suggested a specialized mix-mode master's degree course in architecture, whereas the undergraduate architectural curriculum concentrates on creating awareness among the students regarding post-disaster recovery. Respondent ZER2 has a different view. She suggested incorporating this subject into the third-year architectural design studio. Respondent CUK2's opinion was in line with this suggestion; conversely, respondent CUK1 suggested that some concepts, such as temporary structures, can be introduced even to the first-year design studio. This respondent argued that:

“It should be in the first year. Why not start with temporary shelter rather than teach them (the students) the size of the brick and how we can build a brick wall. It would be easier to build a model because you can test it right away whether it stands or not and the way individual structures can be put together” (Personal communication, 2016).

When respondent CUK1 was asked on how to embed other knowledge and skills into the curriculum, her opinion was that each part of the required knowledge and skills can be embedded into the relevant part of the curriculum.

“I think the component of settlements can be introduced in the third year; the third year is the time when we start discussing about culture; third-year students may be ready to start such philosophical discussion; as for the services if you mean infrastructure,

it can be directly added to those courses related to infrastructure.”

When she was asked regarding the need for a relevant Master's degree program, the answer was yes. Meanwhile, respondent GAZ1 explained that his faculty still lacked the relevant staff and still depended on the curriculum of other universities of Turkey. He further clarified that “in the present compulsory and elective courses, we do not have any relevant content. According to the faculty circumstances, the best is to start with the graduate level and with relevant research to accumulate knowledge in the department. Then, we can move to the undergraduate level” (Personal communication, 2016). This opinion reveals the importance of establishing a strong background, that is, after gaining sufficient experience, the department can start teaching undergraduate students on post-recovery. Respondents GAZ5 and GAZ3 both opined that the current and expected future circumstances call for a specialized undergraduate architectural course, with main focus on design and management issues of post-disaster situation. Respondent GAZ4 favoured on injecting basic knowledge and skills into the undergraduate level program through design studio work. Despite his belief in the possibility of covering the main skills and knowledge through a new master's program, respondent GAZ2 did not have a clear idea regarding this point. A summary of these answers is presented in Table 4. It is clear from the table that all the interviewees (8 staff) who answered this set of questions gave importance to

undergraduate level in incorporating post-disaster recovery in architectural education. However, they differed on the method of incorporation. Two respondents suggested starting in the third year, one suggested the first year to start while the undergraduate level is for creating awareness on the subject according to another opinion. 4 out of 8 answers pointed out the need to inject post-disaster recovery into master's

as well as undergraduate levels. But, one called a specialised Master's Degree course and another one called for a Master's course by research. The answers of this part of the interview questions support the incorporation of the list of knowledge and skills into the undergraduate architectural level. However, further investigation is required on this point and on the way of incorporation.

Table 4
Summary of interviews with the academic staff of the selected universities

Question Staff	Incorporation of skills and knowledge into architectural curriculum	Teaching initiatives	Role of the architect	Short term training for architects	Stakeholders involvement
GAZ1	First, research in the graduate level. Then, undergraduate	No direct initiatives.	Important. Present role is not satisfactory	Needed in cooperation with the Turkish Board of Architects	Needed, first with research background.
GAZ2	No idea	An assignment contains some relevance			N.A.
GAZ3	Undergraduate specialized course				N.A.
GAZ4	Through undergraduate studio, along with master's level				N.A.
GAZ5	Undergraduate specialized course				N.A.
ZER1	Master's level while undergraduate is for creating awareness	No direct initiatives			N.A.
ZER2	At 3ed year studio				N.A.
CUK1	Gradually in undergraduate level, along with master's level	No direct initiatives			N.A.
CUK2	At 3ed year studio	An assignment contains some degree of relevance			N.A.

Emerging Questions

An emerging question was raised in all the interviews. The interviewees were asked whether they thought that the university can respond to the need for professionals trained on post-disaster recovery by running short-term training courses to interested government and private sector architects. Analysing the answers revealed that all the interviewees were in favour of running a short-term training course for architects. 5 out of 9 interviewees (GAZ1, GAZ4, ZER1, CUK1, and CUK2) acknowledged the need for proper collaboration with the concerned board of Turkish architects in running such type of courses.

During the interview with GAZ1, the first question emerged after answering the pre-prepared questions was: Are we required to obtain the participation of local and international stakeholders in making a relevant architectural curriculum for post-disaster recovery? How is it important? In his answer, GAZ1 pointed out the importance of such collaboration in enriching architectural curriculum. He highlighted the following reason: “the need for reliable data and feasible and practical solutions calls for such collaboration” (personal communication, 2916). This discussion led to the following question: What is the best approach to establish such communication and collaboration? GAZ1 suggested that a group of people/ researchers in the faculty can initially start the work to gain confidence. GAZ1 argued the following: “when going to people, we have to produce something; we have to show something to

tell them that we are able to do more. We have to show samples related to the topic. Then, working with other institutions (e.g., AFAT) may start. Conference activities may come next”. Finally, he suggested the creation of a specialized institute (Personal communication, May 2016). It is clear from the answers of this part that short-term training course for architects through professional channels is supported and can compensate for the current shortage of architects equipped for effective contribution to the disaster aftermath.

CONCLUSION

The importance of the role of architects in the disaster aftermath has been emphasized by researchers around the world as well as by the interviewees of the current study. Teaching and training undergraduate architectural students on disaster aftermath management around the world, including those from Turkey, are still in the form of initiatives made by students and academics. Examples can be found in the University of Cambridge, the UK, in the late 1990s; in the University at Buffalo, USA, 2016; and in Çankaya University, Turkey, in 2016. In the Turkish university, the initiatives have led to curricular revisions.

Settlement, shelter, services and amenities were the dimensions relevant to post-disaster recovery developed through the Delphi technique. Against these dimensions and components, the curriculum of the case-study universities was examined. No direct relevance to post-disaster education could be traced in any of the case studies.

However, in Cukorova University, two compulsory subjects, namely, Reinforced Concrete Practice in Architecture (MİM 228) and Building Elements 2 (MİM 266), have been found to have some degree of indirect relevance. Indirect relevance of some elective subjects could also be identified in Gaziantep University and Cukorova University. The former includes the following subjects: Architectural Accessibility for Disabled People (ARCH 433) and the Components in Traditional Houses (ARCH 443); whereas the latter includes the following subjects: Design without Barriers in Architecture (MIM 309) and Turkish House (MIM 377). However, the chance of teaching these subjects is slim. The interviewed staff suggested that the dimensions and their components can be embedded into the undergraduate architectural curriculum in southern Turkish universities. Each university can then decide on the suitable method to attain their curricular objective. Less than half of the staff supported the embedding at the master's level.

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