

## PROFILING OF TURKISH THIRD-CYCLE THESES IN DESIGN: BIBLIOMETRIC ANALYSIS OF THE YÖK THESIS CENTER

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### INTRODUCTION

This paper presents the results of research aiming to establish the prevalence and general profile of doctoral and doctoral-equivalent design theses from higher education institutions (HEIs) in Türkiye. Such theses are part of 'third-cycle' education, with 'second-cycle' being Master's level and 'first-cycle' being undergraduate level, respectively. With 29 active degree programs, Türkiye ranks as the second most prolific provider of third-cycle design education amongst 27 Erasmus+ countries (D.Doc, 2023), positioned between the United Kingdom (61 programs) and Italy (10 programs). This is a significant achievement given that 25 years ago, as a newly industrialized country, Türkiye was on the periphery of design practice and research, at least in industrial design (Er and Bayazit, 1999).

Third-cycle degrees require the submission and examination of a thesis following a substantial period of self-directed study. A distinctive character of the third-cycle thesis is to find out something 'new' – either personally new to the candidate, or new to a body of knowledge (EUA, 2005). Theses, therefore, hold clues to the profile of an academic discipline, such as its general size, distribution across HEIs, institutional organization, and areas of study. Systematic analyses of theses have been made in a variety of fields to achieve academic profiling, e.g., in blended learning (Drysdale et al., 2013), consultation (Dungan and Pryzwansky, 1988), educational leadership and management (Hallinger, 2011), educational technology (Caffarella, 1999), English language teaching (Özmen et al., 2016), information science (Baek and Suh, 2017) and public affairs and administration (Slagle and Williams, 2019). For facts and figures surrounding third-cycle design theses, three research questions were posed.

1. Whereabouts and in what quantities have third-cycle design theses been prepared in Türkiye?

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2. Which administrative units at Turkish HEIs support the supervision and approval of third-cycle design theses?
3. What areas of study are prominent amongst third-cycle design theses in Türkiye?

Multiple objectives were set:

- I. The primary objective was to raise awareness amongst stakeholders of the state-of-play and orientation of third-cycle design theses in Türkiye.
- II. The secondary objective was to provide an evidence base on which Turkish HEIs could self-evaluate their third-cycle design education (for example by identifying relative strengths or formulating new strategic areas), as well as facilitate new inter-HEI collaborations and research groups.
- III. The tertiary objective was to document a systematic approach to data collection and bibliometric analysis of a corpus of third-cycle theses, with data sourced exclusively from the Turkish Council of Higher Education Thesis Center (CoHE TC / YÖK Tez Merkezi).

Cizrelioglu Karaer (2011) conducted a study with some similarities to the current research, but with a narrower focus. In that study, an analysis of second- and third-cycle industrial design theses formed part of a larger study to characterize the landscape of industrial design literature in Türkiye. A major difference in the current work was to look at third-cycle design theses in general, with industrial design being one of the specialisms.

In design education, a longstanding discussion is the need for distinction and characterization between doctoral-level academic research degrees (e.g., Doctor of Philosophy, Ph.D.) and doctoral-level professional research or specialization degrees (e.g., Doctor of Arts, D.A.; Doctor of Design, D.Des.) (Davis et al., 2023). Considerable debate has been made on what does (or should) constitute a third-cycle degree in design, and in particular a Ph.D. (Friedman and Ox, 2017). Discussions have ensued on how designerly ways of thinking and modes of enquiry can shape the conduct and contents of a design thesis, distinguishing it from doctorates in other fields (Murphy and Jacobs, 2014; Margolin, 2010; Durling, 2002). Several researchers have investigated the nature of doctoral or doctoral-equivalent design theses, either at an overview level or through a detailed examination of thesis databases. For example, Vaughan and Morrison (2014) presented the generally expected components of a design Ph.D.; Costa et al. (2021) made a doctoral citation analysis of Portuguese design Ph.D. theses; Keitsch (2012) reported on initiatives within Nordic HEIs to develop doctoral degrees in design, as well as a pan-European understanding of the requirements of a Ph.D. in design. The distinctions between 'research doctorates' and 'professional doctorates' are somewhat present in Türkiye, but with caveats that will be explained later in the paper.

### **Third-Cycle Degrees for Design Research**

Design research emerged as a field of enquiry in the 1960s (Gemser and de Bont, 2016). Several highly competent and detailed histories of design research have been made (e.g., Beck and Stolterman, 2016; Bayazit, 2004), so for this paper, only a few salient points will be emphasized. Within an academic setting, design research refers to activities directed towards

the generation of new design knowledge and theory (Doordan, 2018; Bayazit, 2004; Buchanan, 2001; Cross, 1999). This is accompanied by the development of new generations of design-astute researchers who can build an intellectual culture that supports design enquiry (Margolin, 2018; Friedman, 2003).

The Ph.D. is the most common degree for conducting academic research and contributing to a body of knowledge. Ph.D. holders are qualified as researchers and theoreticians, contributing to what has been termed the knowledge society (UNESCO, 2005) whilst enriching their own intellect and capabilities (Pole, 2000). The Ph.D. degree fits into a global and economic model that views knowledge as a critical national resource both inside and outside of academia (Kehm, 2020; Nerad, 2020; Shin et al., 2018; Nerad and Heggelund, 2008).

A design Ph.D. makes an original and significant contribution to the knowledge base of design, for example, by seeking to develop new theories, methods, and tools that can relate to areas such as, design practice, design education, design business, or design and society. There may be a focus on pursuing new ways of enquiring into design or improving the communication of (academic) design concepts to interdisciplinary and professional audiences (Vaughan and Morrison, 2014). Specific Ph.D. requirements and expectations vary depending on the institution and country in which the work is undertaken. These matters have been investigated extensively in the context of higher education in Art and Design in the United Kingdom (Burgess, 1997).

The first Ph.D. in design, titled “Notes on the Synthesis of Form”, was awarded in 1964 at Harvard University to Christopher Alexander (Bayazit, 1998). However, it was not until much later – the late 1990s – that a rapid expansion in doctoral design studies occurred (Margolin, 2018; Friedman, 2003; Er and Bayazit, 1999). In this period, three international conferences specialized on doctoral design education were organized by the Design Research Society (DRS): in Ohio (Buchanan et al., 1998), La Clusaz (Durling and Friedman, 2000), and Tsukuba (Durling and Sugiyama, 2003). Doctoral design research is now well established globally.

### **Third-Cycle Degrees for Design Practice**

The D.A. degree, or similarly named awards (e.g., D.Des, Eng.D.), are terminal degrees usually associated with advanced professional practice. They are commonly awarded in fields where creative practice is the major output (e.g., design, art, music, and writing). The purpose of a third-cycle degree for design practice is for the candidate to become a better or more specialized designer. A specialization or proficiency degree in design usually consists of design works disseminated through exhibitions and formally documented and discussed through a thesis.

With the emphasis on personal development rather than academic contribution, the exact focus of advanced proficiency degrees in design can vary considerably. Many countries have a strong relation between design and visual arts – often expressed and practiced within the compound field of art and design. Sometimes design is referred to as applied art, emphasizing an artistic field that is directed usually towards the creation of functional artefacts. Some proficiency degrees set out to equip designers – traditionally creative and intuitive in their decision-making processes – with new skills in project-based research and analytical decision-making. For example, Davis et al. (2023, p283) suggest that a D.Des. should be

awarded for demonstrating proficiency in research "...in a [design] practice setting to frame a specific opportunity space, guide in-process design decisions, or evaluate outcomes". A D.Des. would omit the Ph.D. obligation to generate generalizable or transferable new knowledge outside the individual case(s) studied.

### THIRD-CYCLE DESIGN EDUCATION IN Türkiye

#### Turkish Education System

Figure 1 shows the structure of the Turkish education system. Higher education commences in the thirteenth year of formal education, with an expected enrolment age of 17 or 18. Türkiye has a large private university sector that complements the state sector. The mainstream route through the Turkish higher education system is: (i) a Bachelor's degree (*Lisans Derecesi*) of four years duration, followed by (ii) a Master's degree (*Yüksek Lisans Derecesi*) lasting one or two years, and then (iii) a doctoral degree (*Doktora Derecesi*) with a minimum duration of three years. Alternative routes outside the mainstream are also possible. For example, a two-year Associate's degree (*Önlisans Derecesi*) is offered, which can be used as a launch onto a Bachelor's degree. Long-cycle degrees equivalent to combined first- and second-cycle degrees are offered for medicine, pharmacy, veterinary studies, and dentistry. For some third-cycle degree programs, enrolment with no Master's degree (i.e. direct from undergraduate study) is permitted, called Integrated Ph.D. (*Bütünleşik Doktora programı*).

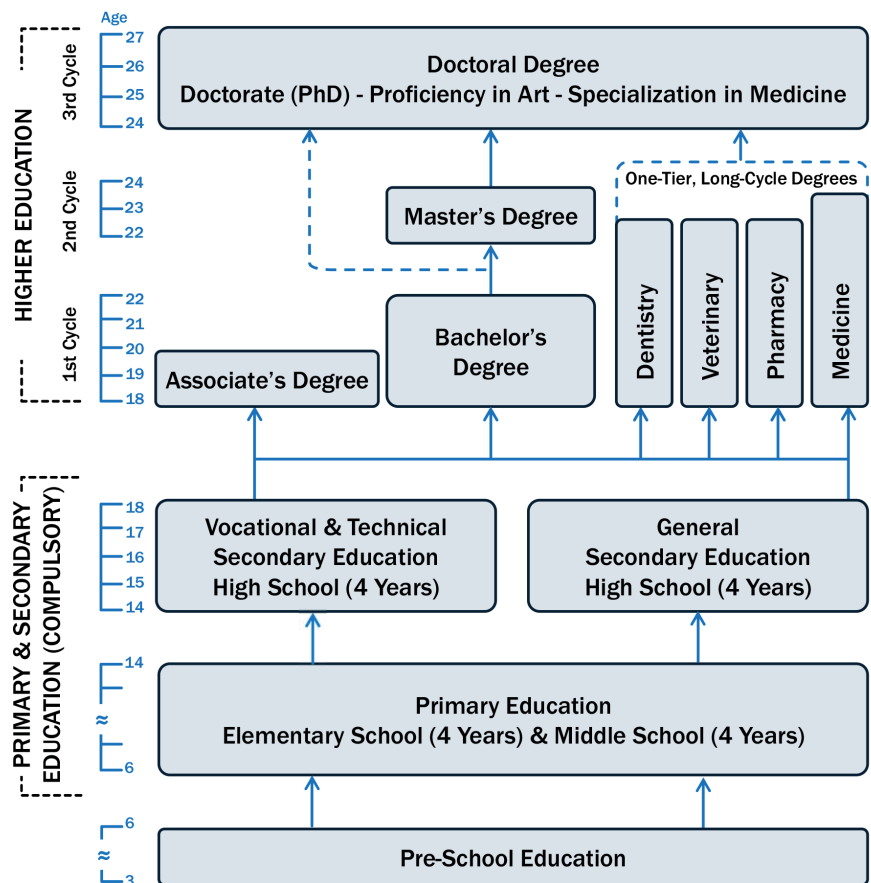


Figure 1. General structure of the Turkish education system based on information in YÖK (2021).



### Foundation of the Council of Higher Education (CoHE)

The modern era of university education and research in Türkiye is traced to the formation in 1981 of the Council of Higher Education (CoHE) (*Yükseköğretim Kurulu - YÖK*). From 1982, the CoHE brought in standardized processes at Turkish HEIs, regulated the administrative hierarchy, set rules and regulations for staff appointments and promotions, and placed centralized expectations on the management and delivery of third-cycle degrees. The foundation of the CoHE was a turning point in design education in Türkiye. Third-cycle design degrees were to be introduced based on bureaucratic initiatives and prerequisites for academic career progression, rather than a response to educational impetus, or a call from design industry to educate professional researchers (Er et al., 2003; Er and Bayazıt, 1999; Bayazıt, 1998).

### Institutional Hierarchy for Graduate Studies

Graduate studies in Türkiye are administered through the following units determined by the CoHE.

1. University (*Üniversite*)
2. Institute (*Enstitü*)
3. Division: Main Scientific Branch MSB / Main Artistic Branch MAB (*Ana Bilim Dalı ABD / Ana Sanat Dalı ASD*)
4. Discipline: Scientific Branch SB / Artistic Branch AB (*Bilim Dalı BD / Sanat Dalı SD*)

Divisions are analogous to degree programs (*Derece Programları*) whereas Disciplines are analogous to tracks within programs (*Derece Program Parkurları*). Although Institutes are the main administrative unit for graduate studies, usually the admission exams, course instruction, and thesis supervision for a Division/Discipline are the responsibility of a university Department (*Bölüm*).

### Turkish Ph.D. Degree in Design

Detailed histories of the Turkish context for design research may be consulted in Bayazıt (2009) and Er and Bayazıt (1999), so only salient points are mentioned here. As a country on the 'periphery', Türkiye's design research activities and communities initially emerged through academic conferences, research papers, and projects. These achievements significantly pre-dated the establishment of third- or second-cycle degree programs in design (Er and Er, 2006). The first design research in Türkiye can be traced to architectural studies, originally carried out in the 1940s at the Faculty of Architecture, Istanbul Technical University (ITU) and continuing through the 1960s and 70s (Bayazıt, 2009). In 1978, the first international conference on design in Türkiye was held at ITU, in collaboration with the DRS and was titled "Architectural Design: Interrelations among Theory, Research, and Practice". Despite good intentions, its reach beyond architectural design was limited. It was not until the subsequent conference in 1982, titled "First National Design Conference" that coverage extended to include engineering design and industrial design (Bayazıt, 2004). In the same year, following CoHE initiatives, the first Ph.D. and Master's programs in industrial design were launched at Istanbul State Academy of Fine Arts (now Mimar Sinan Fine Arts University) (Er and Er, 1996). Other Turkish HEIs opened Ph.D.

programs in design much later, such as ITU in 1996 and Middle East Technical University (METU) in 2004 (Cizrelioglu Karaer, 2011).

In the mid-1990s, some Turkish HEIs benefited from personal visits by Professor Bruce Archer to deliver staff development research training seminars. Archer drew upon extensive knowledge acquired during his tenure at the Royal College of Art, UK. He visited the Departments of Industrial Design at ITU and Marmara University in 1994, and at METU in both 1994 and 1997. He set out the nature of research in design, and of doctorates in design, helping to elevate their status and comprehension nationally (Archer, 1999). Mirroring degree regulations around the world, Turkish universities state that a Ph.D. thesis must fulfill one of the following routes: (1) demonstrate some new aspect of the field; (2) develop and use a new scientific method; or (3) apply a known method to a new field (Er and Bayazit, 1999).

### **Turkish 'Proficiency in Art' Degree in Design**

In Türkiye, advanced design practice in third-cycle education is awarded with the degree of 'Proficiency in Art' (*Sanatta Yeterlik*). The CoHE presents the Proficiency in Art as equivalent to a Ph.D. in so far as both degrees are third-cycle degrees. Within fine arts Institutes at HEIs, Proficiency in Art is accepted as the equivalent of a Ph.D., allowing holders to be promoted to the faculty position of Assistant Professor or higher. However, within other Institutes, such as social sciences or natural and applied sciences, this equivalence is not forthcoming (Er and Bayazit, 1999). In this case, holders of a Proficiency in Art cannot be promoted to a faculty position and therefore cannot undertake M.Sc. or Ph.D. thesis supervision or examinations. The degree also does not permit the bearer to use the academic prefix Dr. (Doctor).

## **METHODOLOGY**

Several routes can determine the profile of third-cycle design degree programs (e.g., consultation with research council reports, interviews with stakeholders, or analysis of exhibitions and publications). The current research narrowed its scope to a systematic evaluation of the output of third-cycle design education, i.e., its theses.

### **CoHE Thesis Center**

The Council of Higher Education Thesis Center (CoHE TC / *YÖK Tez Merkezi*) (YÖK, 2023) comprises an open-access repository of graduate degree theses. Its value to researchers is immense, saving huge efforts that would otherwise be needed to search individual HEI library catalogues for theses. Furthermore, being centralized, the database has standardized fields for every thesis entry, greatly increasing the efficiency of data collection (**Table 1**). An additional advantage that the CoHE TC has over a global database, such as provided by ProQuest (2023), is the retention of information on the administrative structure for each thesis entry.

By the end of 2021, the CoHE TC included approximately 506,000 Master's theses, 125,000 Ph.D. theses, 78,000 Specialization in Medicine theses, 2,500 Specialization in Dentistry theses, and 2,100 Proficiency in Art theses. The earliest thesis in the database is from 1959, significantly predating the establishment of the CoHE. Theses are held from 247 "Universities", with the term used as a catch-all phrase for a range of second/third-cycle degree awarding HEIs. Of these, 236 are classified as a University (*Üniversite*),

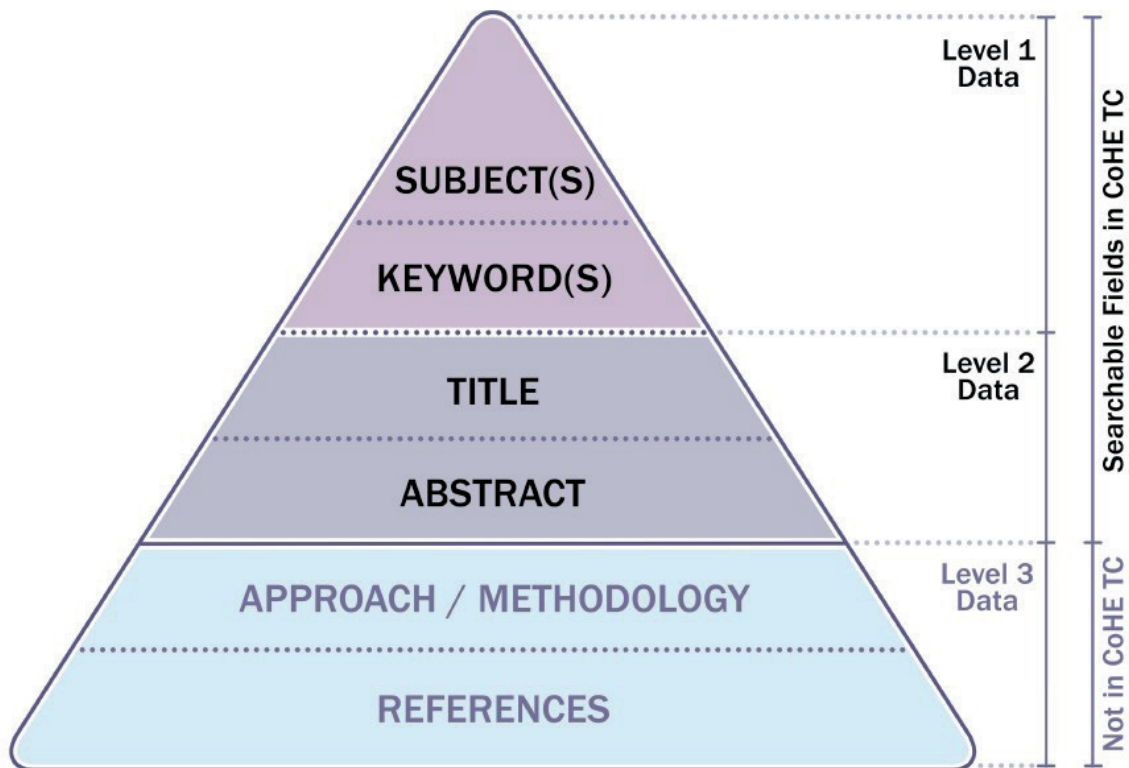
Field (English)	Field (Turkish)
Thesis Number	Tez No.
Access Type	İzin Durumu
Status	Durumu
Group	Grubu
Author	Yazar
Supervisor	Danışman
University	Üniversite
Institute	Enstitü
Division	Ana Bilim/Sanat Dalı
Discipline	Bilim/Sanat Dalı
Thesis Type	Tez Türü
Language	Dil
Year	Yıl
Subject 1..3	Konu 1..3
Keyword 1..n	Dizin 1..n
<i>Title</i>	<i>Tez Adı</i>
<i>Abstract</i>	<i>Özet</i>

Table 1. List of fields in CoHE TC

four as a Military Command (*Komutanlığı*), three as Law Enforcement Academy (*Akademisi*), and two each as Ministries (*Bakanlığı*) or Institute of Technology (*Yüksek Teknoloji Enstitüsü*). The database holds theses from 240 distinct “Institutes”, which are classified into five types: 114 are Graduate Schools (*Enstitü*), 101 are Hospitals (*Hastane*), 16 are Dentistry-Medical Faculties (*Fakülte*), six are Health-Medical Centers (*Merkez*), two are undefined (*Tanımsız*), and one is an Organization (*Kurum*). The database contains entries linked to over 2000 Divisions and 2000 Disciplines.

Academic content is classified via the Subject (*Konu*) and Keyword (*Dizin*) fields. These fields are recorded as Turkish-English pairs, e.g. “*Güzel Sanatlar* = Fine Arts” (for Subject) and “*Ergonomi* = Ergonomics” (for Keyword). Each thesis can be allocated up to three Subjects. The Subject field is surprisingly restricted, having only 190 choices. More detailed classifications can be made using the Keyword field, although its use is optional when submitting a thesis to the CoHE TC. Neither the total number nor the full list of Keywords is revealed by the database.

Researchers from other disciplines have used the CoHE TC as a source for Turkish academic profiling. For example, third- and second-cycle profiling studies have been completed in science, technology, engineering, and mathematics (STEM) education (Ormancı, 2020); big data (Yılmazel, 2019); English language teaching (Özmen et al., 2016); history education (Turan and Aslan, 2016); and gamification (Uzunboylu and Kocakoyun,



**Figure 2.** Levels of content analysis for academic theses

2016). Amongst these previous studies, referring to **Figure 2**, analyses have ranged from using only ‘level 1’ data (e.g. Yılmazel, 2019), through progressively more detailed studies at ‘level 2’ and ‘level 3’ (e.g. Ormanci, 2020; Özmen et al., 2016; Turan and Aslan, 2016; Uzunboylu and Kocakoyun, 2016). Cizrelioglu Karaer (2011) used the CoHE TC in her analysis of industrial design theses up to the year 2010. Yet, in all these studies, the data collection and analysis methods used to examine the CoHE TC have not been reported in detail for easy replication. Hence, one of the objectives of the current research was to propose and document a systematic and transparent approach for such examination.

### Defining the Scope of Design

Before starting CoHE TC searches, a boundary had to be set on what could reasonably be called a “design thesis”. Aside from specialisms that define professions within the design field (graphic design, industrial design), design as an activity is widespread across diverse fields, (design of workplace guidelines, educational materials, and synthetic compounds). In databases of theses, the term design is used widely. There is a necessity to be vigilant about the precise subject matter of theses and hence their closeness (or not) to the professions and practices of the design field (Casamayor, 2010). Scoping (inclusion / exclusion) rules therefore had to be defined. The Unit of Assessment (UoA) definitions provided for the UK’s Research Excellence Framework (REF, 2021) were helpful in this regard, in particular, the definition of UoA 32 “Art and Design History, Practice and Theory”. **Table 2** lists the subject areas included (“within scope”) and excluded (“outside scope”). All of the included areas fell within the category of design and applied arts specialisms, involving the creation (or

Within Scope	Outside Scope
<p><b>design and applied arts specialisms</b></p> <p>3D design                      automotive design                      brand identity                      ceramics                      clothing design                      digital media design                      exhibition design                      fashion design                      furniture design                      game design                      glass                      graphic design                      graphical user interface design                      handcrafts                      industrial design                      information design                      interaction design                      interior design                      jewelry design                      lighting design                      new media design                      product design                      service design                      stage design                      textile design                      toy design                      transportation design                      typography                      user experience design                      user interface design                      visual communication design                      woodwork</p>	<p><b>design within the built environment</b></p> <p>architecture                      building science                      city and regional planning                      environmental design                      landscape architecture                      spatial design                      urban design</p> <p><b>visual, plastic or compound arts focused on artistic expression</b></p> <p>advertising                      animation                      artistic ceramics                      artistic glass                      calligraphy                      cinematography                      costumes                      filmmaking                      illustration                      painting                      photography                      printmaking                      sculpture                      video</p> <p><b>all branches of performing arts</b></p> <p><b>all branches of engineering</b></p>

Table 2. Scoping of subject areas for third-cycle design theses

study) of functional artefacts, interior spaces, digital applications, services, etc. The excluded areas spanned the built environment, expressive arts, performing arts, and engineering.

The CoHE TC was searched using the English language option so that non-Turkish members of the research team could be fully involved. In principle, all fields were available in English and Turkish. However, it became apparent that some theses were entered with Turkish-only information, requiring the project team to work collaboratively and agree on appropriate translations. In other theses, English field data was incorrectly populated with Turkish, again requiring translation. Some of the earliest dated theses had multiple field data missing. The research process was organized across three consecutive phases: (i) search and record, (ii) fix, categorize and reduce, and (iii) analyze. Content analysis of level 1 data (Figure 2) was deemed appropriate for the aim of general academic profiling.

**Phase 1 - Search and Record**

The database was searched for theses deposited up to and including July 2021. The general strategy was to be ambitious in the initial capture of data and then to filter-down to a qualified shortlist of theses. Only theses where the Status (*Durumu*) was Confirmed (*Onaylandı*) and where the Access Type (*İzin Durumu*) was Authorized (*İzinli*) were searched. This approach included only completed theses in the public domain. It excluded works-in-progress and theses that are under embargo. Table 3 lists the 218 consecutive searches that were made (A-1 to A3; B-1 to B3).

Step	Search Language	Search Terms
A-1	English	Keyword "Design" + Thesis Type "Doctorate" (= 1247 theses)
	Turkish	Dizin "Tasarım" + Tez Türü "Doktora" (= 784 theses)
A-2	English	Division "99 x Divisions listed in Appendix A" + Thesis Type "Doctorate" (= 1299 theses)
A-3	English	Subject "8 x Subjects listed in Appendix B" + Thesis Type "Doctorate" (= 1381 theses)
B-1	English	Keyword "Design" + Thesis Type "Proficiency in Art" (= 336 theses)
	Turkish	Dizin "Tasarım" + Tez Türü "Sanatta Yeterlik" (= 208 theses)
B-2	English	Division "99 x Divisions listed in Appendix A" + Thesis Type "Proficiency in Art" (= 853 theses)
B-3	English	Subject "8 x Subjects listed in Appendix B" + Thesis Type "Proficiency in Art" (= 1675 theses)

Table 3. CoHE TC search strategy

Searches using the Keywords "design" and "tasarım" aimed to capture a broad range of design-related theses, including extended expressions such as "design management", "information design", "design-based research" etc. Being independent of the Subject and Division fields, the Keyword search was also expected to capture interdisciplinary, multidisciplinary, and academically distributed work. Division searches (Appendix A) were conducted based on 99 Divisions (of the total 2154 Divisions in the CoHE TC) that were matches or semantically very close to the "within scope" areas listed in **Table 2**. Subject searches (Appendix B) were conducted based on eight Subjects (of the total 190 Subjects in the CoHE TC) that were matches or semantically very close to the "within scope" areas listed in **Table 2**.

Collectively the full set of searches was intended to capture all relevant theses in the CoHE TC. A total of 4711 Ph.D. and 3072 Proficiency in Art theses were captured, though this included many redundant (duplicate) results as the rounds progressed. The redundancy was taken positively, as a verification that the general approach was effective. The data for each thesis (from **Table 1**) were cut-and-paste into Microsoft Excel. Using the unique Thesis Number (*Tez No.*), duplicate results could be easily identified and ignored. Subsequently, all data were imported into the online database/spreadsheet application Airtable. This was chosen for its user-friendly interface for data management and analysis. The additional fields City and Search Round (not part of the CoHE TC) were generated for each thesis. Phase 1 finalized with a total of 1644 theses.

### Phase 2 - Fix, Categorize and Reduce

Some of the Division data were erroneous since they included Department rather than Division names. The entries were corrected with the closest Division (especially by examining other theses from the same University/Institute, submitted at approximately the same time). Typo corrections and other minor edits were also made. An additional purpose of Phase 2 was to



impose a hierarchy on the dataset prior to detailed analysis, acknowledging that the wide search strategy of Phase 1 would have inevitably captured irrelevant theses. Each of the 1644 theses went through a triage evaluation, with the outcome recorded on Airtable under a new field titled Phase 2 Category.

- Core. Theses prepared within Divisions listed in Appendix A, considered at the core of design.
- Peripheral. Theses prepared within Divisions not listed in Appendix A, outside the core of design. As Margolin (2010, 74) notes, “a great deal of interesting work that might well be called design research is being carried out by experts who were not trained in that field.”
- Indeterminate. Theses prepared within unknown Divisions because of missing field data.

The triage process resulted in 929 core, 531 peripheral, and 184 indeterminate theses. Subsequently, the project team made an academic evaluation of the relevance of each thesis. Most often this was quick, using the Thesis Title (*Tez Adı*) as a check. In some cases, it was necessary to also check the Keywords (*Dizin*) and, very rarely, to check the Abstract (*Öz*) in the CoHE TC, to understand what a cryptic or unclear Thesis Title meant. Irrelevant theses were removed from the dataset: those with a focus on artistic expression rather than design; highly specialized and technical content related to engineering; and research and design of general education materials, where the target of the work was neither design practice nor design education. At the end of Phase 2, 716 of the 1644 theses (around 44%) were kept: 600 core (84%), 87 peripheral (12%), and 29 indeterminate (4%).

**Phase 3 - Analyze**

Phase 3 involved multiple rounds of data analysis making use of the grouping, filtering, and sorting functions of Airtable. The dataset was imported into Excel for more detailed analysis. Overall, the analysis was conducted across three clusters summarized in **Table 4**. The following sections provide the results of the analyses. Judgements about ‘pioneering’ or ‘high quality’ theses or HEIs for third-cycle design degrees were avoided: such qualitative information was neither searched for nor relevant to the research.

Table 4. Three clusters for data analysis

Research Question	Analysis Cluster	Metrics and Insights
RQ1. Whereabouts and in which quantities have third-cycle design theses been prepared in Turkey?	Completion Metrics	<ul style="list-style-type: none"> <li>• Number and Proportion of HEIs</li> <li>• Prominent HEIs</li> <li>• General Growth</li> <li>• Institutional Growth</li> <li>• Degree Type</li> <li>• Thesis Language</li> </ul>
RQ2. Which administrative units at Turkish HEIs support the supervision and approval of third-cycle design theses?	Administrative Units	<ul style="list-style-type: none"> <li>• Core Divisions and Institutes</li> <li>• Peripheral Divisions and Institutes</li> </ul>
RQ3. What areas of study are prominent amongst third-cycle design theses in Turkey?	Academic Content	<ul style="list-style-type: none"> <li>• Subjects</li> <li>• Keywords</li> </ul>

University A - I	Core	Peripheral	Indeterminate	University J - Z	Core	Peripheral	Indeterminate
Akdeniz University	3			Karabük University	2		
Anadolu University	37	6	5	Karadeniz Technical University		2	
Ankara Hacı Bayram Veli University	2			Koç University	4	1	
Ankara University	1	6	1	Kocaeli University		3	
Atatürk University		3		Maltepe University		1	
Bilkent University	15		2	Marmara University	50	2	1
Dokuz Eylül University	62	3	3	Middle East Technical University	31	4	
Dumlupınar University		1		Mimar Sinan Fine Arts University	108	2	6
Ege University		5		Muğla Sıtkı Koçman University		2	
Erciyes University		2		Namık Kemal University		1	
Eskişehir Osmangazi University	1	1		Necmettin Erbakan University		1	
Gazi University	67	9	1	Ondokuz Mayıs University	10		
Gebze Technical University		2		Sakarya University		1	
Hacettepe University	101	3	7	Selçuk University	2	2	
Haliç University	14	1		Süleyman Demirel University	16		
Istanbul Arel University	18	1		Trabzon University		1	
Istanbul Bilgi University		2		Yaşar University	1	2	
Istanbul Technical University	45	9	3	Yeditepe University		4	
Istanbul University		3		Yıldız Technical University	9		
Izmir University of Economics	1						
Izmir Institute of Technology		1					

Table 5. A-Z of HEIs with completed third-cycle design theses in core, peripheral, and/or indeterminate categories

## RESULTS AND DISCUSSION (COMPLETION METRICS)

### Number and Proportion of HEIs

Of the 208 state and private HEIs (YÖK, 2024), 40 have awarded third-cycle design degrees to graduates (Table 5). This represents one-fifth of all HEIs: a considerable number, given the relatively small field of design. Just over half of the 40 HEIs (n=23) have been involved in core work, whilst a much larger proportion (four-fifths, n=32) have been involved in peripheral. Indeed, nearly half of the HEIs have been involved *only* in peripheral research (n=18), indicating the presence of a wide distribution of supervisory expertise in design in Türkiye outside the core design specialisms. Only a small number of HEIs have been involved in indeterminate research (n=9), and in all cases, the HEIs have also been involved in core and/or peripheral research.

Third-cycle design degrees have been awarded mostly from HEIs in Türkiye's three largest cities: Istanbul (284 theses, 40%), Ankara (249 theses, 35%) and Izmir (78 theses, 11%), with the remaining from other cities (105 theses, 15%). In 2017, 23 of Türkiye's HEIs were granted research

Rank	All (n=716)	Core (n=600)	Peripheral (n=87)	Indeterminate (n=29)
1	Hacettepe University (16%) Mimar Sinan Fine Arts University (16%)	Mimar Sinan Fine Arts University (18%)	Gazi University (10%) Istanbul Technical University (10%)	Hacettepe University (24%)
2	Gazi University (11%)	Hacettepe University (17%)	Anadolu University (7%) Ankara University (7%)	Mimar Sinan Fine Arts University (21%)
3	Dokuz Eylül University (9%)	Gazi University (11%)	Ege University (6%)	Anadolu University (17%)
4	Istanbul Technical University (8%)	Dokuz Eylül University (10%)	Middle East Technical University (5%) Yeditepe University (5%)	Dokuz Eylül University (10%) Istanbul Technical University (10%)
5	Anadolu University (7%) Marmara University (7%)	Istanbul Technical University (8%) Marmara University (8%)	Atatürk University (3%) Dokuz Eylül University (3%) Hacettepe University (3%) Istanbul University (3%) Kocaeli University (3%)	Bilkent University (7%)

**Table 6.** Top-5 HEIs based on contribution to third-cycle design theses

university status, acknowledging commitment to generating high quality knowledge, increasing the number of Ph.D. level staff, strengthening interdisciplinary and international collaborations, and increasing the visibility and recognition of Turkish HEIs in international ranking systems (YÖK, 2021). Of the 23 research universities, only six are absent from **Table 5** (Boğaziçi University, Bursa Uludağ University, Çukurova University, Fırat University, Istanbul University – Cerrahpaşa, and Sabancı University).

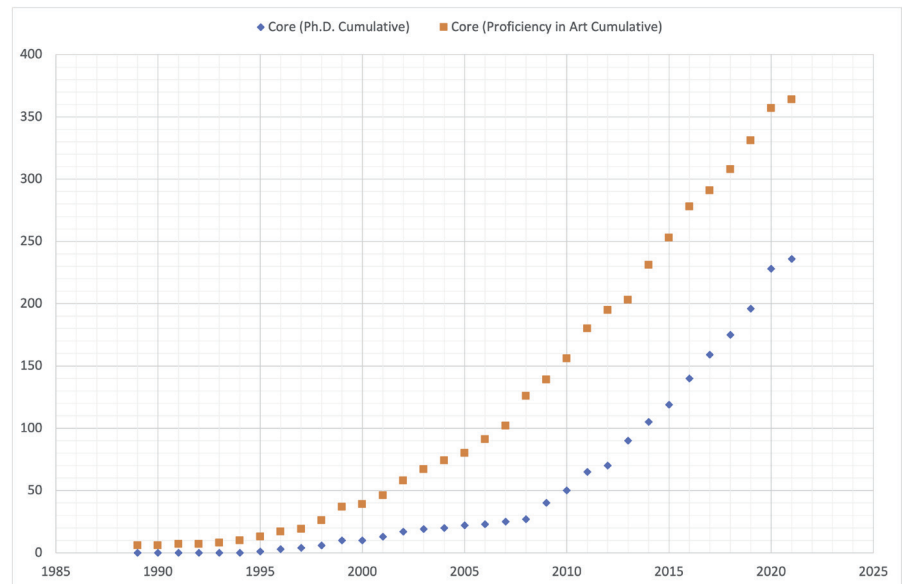
### Prominent HEIs

At an institutional level, the top-5 ranked HEIs based on having the largest number of third-cycle design theses are listed in **Table 6**. Values are expressed as a percentage of the total number of theses in each category (all, core, peripheral, indeterminate). Overall, Hacettepe University and Mimar Sinan Fine Arts University are the most prominent HEIs for third-cycle design theses, together contributing 32% of the total 716 theses. Across the categories, the top-5 list covers 15 different HEIs, which together contribute 74% of 'all', 72% of 'core', 65% of 'peripheral', and 89% of 'indeterminate' theses. These 15 HEIs (out of the 40 mentioned in **Table 5**) are mostly state universities and comprise the main centers for third-cycle design theses.

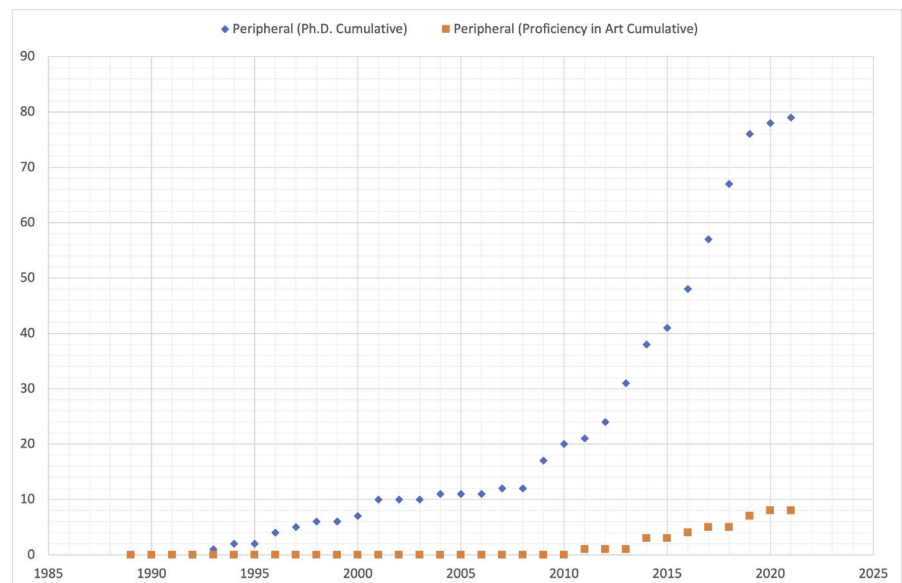
### General Growth

Third-cycle design theses appear in the CoHE TC from 1989, originating from Mimar Sinan Fine Arts University and Gazi University. In this section, the accumulation of Ph.D. and Proficiency in Art theses in design are tracked for each category of thesis (core, peripheral, indeterminate). Core Proficiency in Art theses (**Figure 3**) started to grow rapidly in number from 1998, whilst expansion in core Ph.D. theses was delayed by approximately a decade, starting to grow around 2010. This reflects observations by Bayazıt (2009) and Er and Bayazıt (1999) that advanced practice (Proficiency in Art) has historically been the center of focus in Turkish third-cycle design education, rather than new knowledge generation or researcher training. Presently, approximately 40 core third-cycle design theses are

**Figure 3.** Accumulation of completed core design theses (to July 2021)



**Figure 4.** Accumulation of completed peripheral design theses (to July 2021)



submitted every year to the CoHE TC (20 Proficiency, 20 Ph.D.). Turning to the peripheral category (**Figure 4**), growth in Ph.D. theses accelerated from around 2010, but at a different rate to the core category. Approximately one peripheral Proficiency in Art design thesis is submitted annually, compared with six peripheral Ph.D. design theses. Growth in the core substantially outstrips growth at the periphery. Finally, in contrast to the core and peripheral categories, the number of indeterminate theses stopped growing from 2010 (**Figure 5**): this can be explained by eventual proper use of the Division field in the CoHE TC. The growth in Ph.D. theses from around 2010 is likely to have been impacted by growth in the mid-2000s in the number of academics in Turkish HEIs qualified to conduct and supervise design research.

### Institutional Growth

**Figure 6** tracks the accumulation of third-cycle design theses year by year for specific HEIs, regardless of thesis category or degree type.

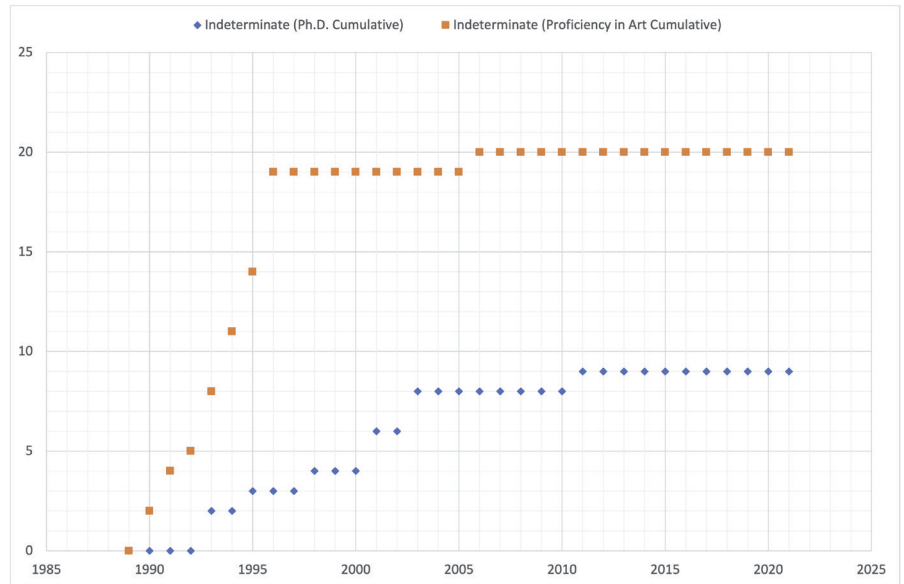


Figure 5. Accumulation of completed indeterminate design theses (to July 2021)

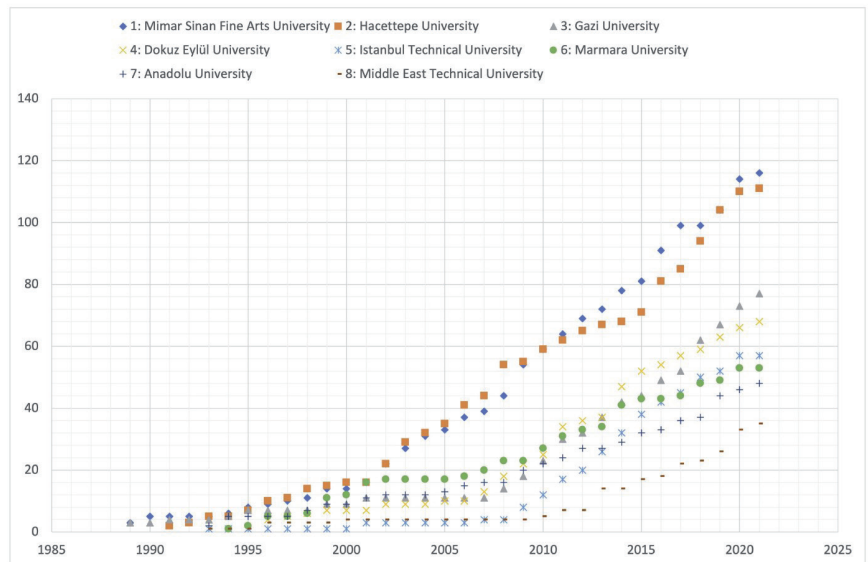


Figure 6. Accumulation of completed design theses by HEI (prefix to university name indicates cumulative rank order in July 2021)

For readability, only eight HEIs are included (those having 20 or more completed theses in the CoHE TC). **Figure 6** confirms the dominance of Mimar Sinan Fine Arts University and Hacettepe University and shows that the growth in theses from 1998 onwards is attributable to these two HEIs. Growth in theses at the 2010 turning point is attributable to the other HEIs (Gazi University, Dokuz Eylül University, ITU, Marmara University, Anadolu University, and METU). This group of HEIs have a consistent but slightly lower growth in theses than Mimar Sinan Fine Arts University or Hacettepe University.

### Degree Type

Proficiency in Art degrees account for 55% (392/716) of the theses in the dataset, whereas Ph.D. degrees account for 45% (324/716). **Table 7** presents the top-5 HEIs for each degree type, representing 82% of all Proficiency in Art theses and 68% of all Ph.D. theses. HEIs have individual profiles based on the proportion of Ph.D. and Proficiency in Art theses they have

Rank	Proficiency in Art (% of total)	Ph.D. (% of total)
1	Hacettepe University (26%)	Gazi University (19%)
2	Mimar Sinan Fine Arts University (17%)	Istanbul Technical University (18%)
3	Dokuz Eylül University (16%)	Mimar Sinan Fine Arts University (15%)
4	Marmara University (13%)	Middle East Technical University (11%)
5	Anadolu University (10%)	Bilkent University (5%)

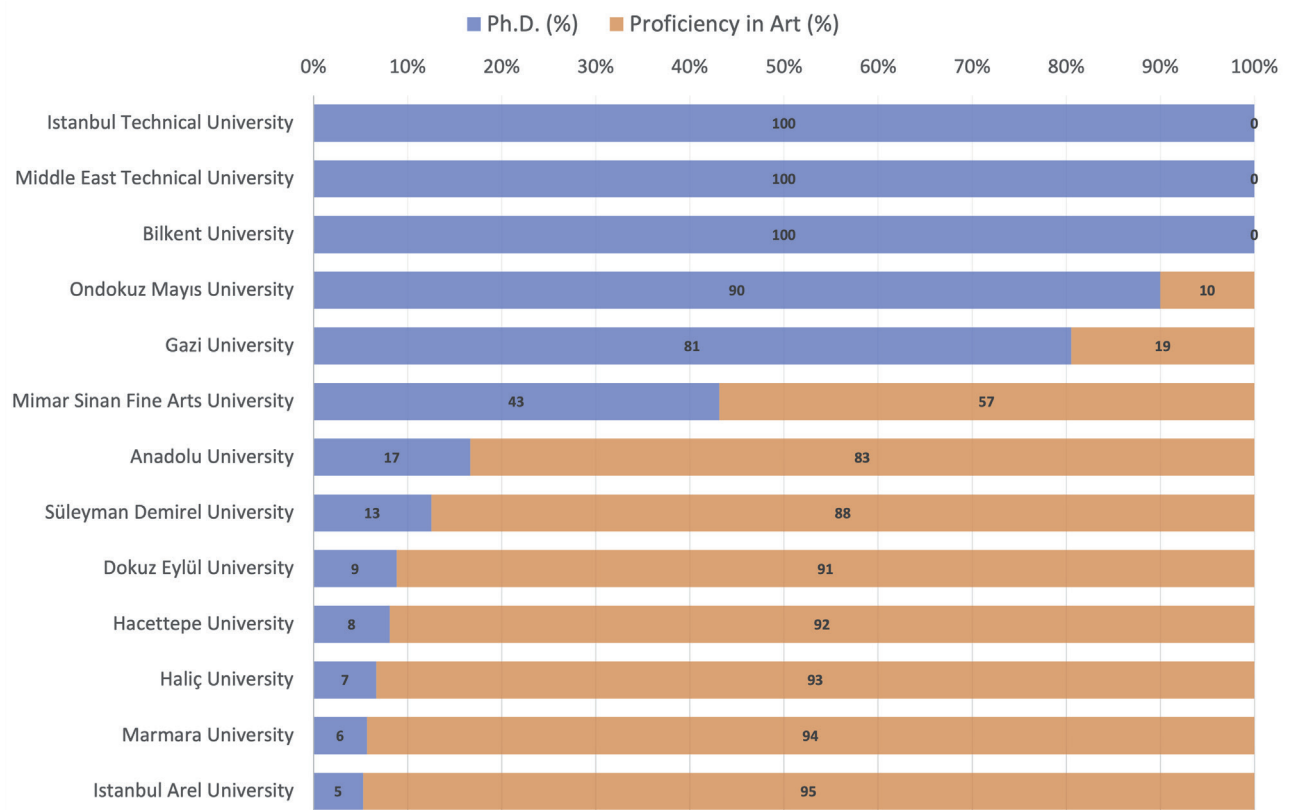
Table 7. Top-5 HEIs for Proficiency in Art and Ph.D. theses in design

graduated. **Figure 7** visualizes these profiles for HEIs having a minimum of ten theses in the dataset (13 HEIs qualified). From the results, Turkish HEIs can be broadly categorized into ‘Ph.D. universities for design’ (ITU, METU, Bilkent University, Ondokuz Mayıs University, and Gazi University) and ‘Proficiency in Art universities for design’ (Istanbul Arel University, Marmara University, Haliç University, Hacettepe University, Dokuz Eylül University, Süleyman Demirel University, and Anadolu University). The exception is Mimar Sinan Fine Arts University, which has a near balanced split between the degree types.

### Thesis Language

Among the theses, 88% (n=629) were written in Turkish, whilst 12% (n=87) were written in English. The local language expectedly dominates. The top-5 ranked HEIs based on highest number of English theses are: 1) METU (n=35, 40%), 2) ITU (n=22, 25%), 3) Bilkent University (n=17, 20%), 4) Koç University (n=5, 6%), and 5) Yeditepe University (n=4, 5%). These HEIs contribute 96% of all third-cycle design theses written in English.

Figure 7. Proportion of Ph.D. and Proficiency in Art theses awarded by HEIs (minimum 10 theses per HEI)





The remaining 4% are from Istanbul Bilgi University, Izmir University of Economics, and Izmir Institute of Technology. It is important to note that all these HEIs (except ITU) require theses to be written in English, as part of their commitment to English-language instruction. METU, ITU, and Bilkent University can be considered the most internationalized in Türkiye for third-cycle design education, based on contributing the largest proportion of theses (and instruction) in English, whilst awarding the internationally recognized Ph.D. degree.

## RESULTS AND DISCUSSION

### Administrative Units

This section reveals whereabouts third-cycle design education is carried out within the administrative structure of Turkish HEIs. Since theses in the indeterminate category (n=29) had no Division field data, their administrative analysis is omitted. Theses were not analyzed based on the "Discipline" (*Bilim/Sanat Dalı*) field because 80% of theses had no data for this field. Overall, third-cycle design theses were found to be submitted to just eight of the total 240 Institutes within the Turkish HEI structure.

### Core Divisions and Institutes

The theses spanned 44 core Divisions. The top-10 Divisions, based on number of theses per Division, are listed in **Table 8**. Most of the listed Divisions are artistic (Main Artistic Branch – MAB, covering 269 theses) rather than scientific (Main Scientific Branch – MSB, covering 197 theses), approximately mirroring the ratio of Proficiency in Art and Ph.D. theses in the dataset. Industrial Product Design MSB and Graphics MAB are the dominant core design Divisions.

Core design theses have been submitted to a total of six different Institutes. **Figure 8** visualizes the complex relationship between Divisions and Institutes for the core category, showing which (and how many) Institutes the different Divisions are tied to. The busiest Institutes (based on proportion of total submitted theses) are: Graduate School of Fine Arts (33%), Graduate School of Social Sciences (29%) and Graduate School of Natural and Applied Sciences (27%). Almost half of the Divisions (n=21)

Table 8. Top-10 Divisions for core design theses

Rank	Division(s)	Number of Theses
1 =	Endüstri Ürünleri Tasarımı ABD / Industrial Product Design MSB Grafik ASD / Graphics MAB	97
2	İç Mimarlık ABD / Interior Architecture MSB	39
3	Güzel Sanatlar Eğitimi ABD / Fine Arts Education MSB	38
4	Seramik ASD / Ceramics MAB	30
5	Tekstil ASD / Textiles MAB	29
6	Sanat ve Tasarım ASD / Art and Design MAB	26
7 =	Grafik Tasarımı ASD / Graphic Design MAB Seramik ve Cam Tasarımı ASD / Ceramic and Glass Design MAB	24
8	İç Mimarlık ve Çevre Tasarımı ABD / Interior Architecture and Environmental Design MSB	23
9	Tekstil ve Moda Tasarımı ASD / Textile and Fashion Design MAB	21
10	İç Mimarlık ASD / Interior Architecture MAB	18



**Figure 8.** Relationship between Divisions and Institutes for core theses

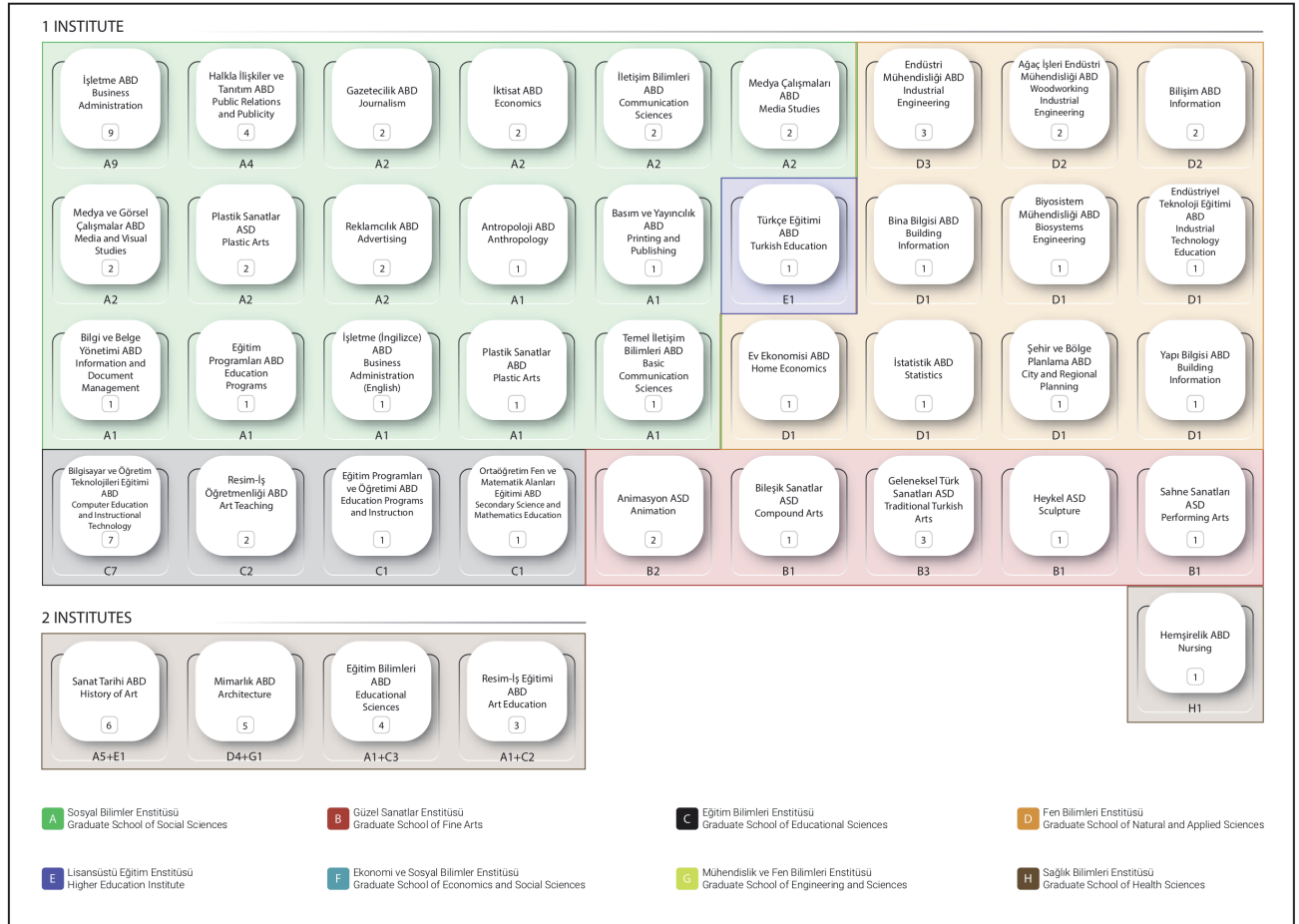
exist under two or more Institutes, emphasizing a range of ‘schools of thought’ associated with the core category. The most widespread core Divisions, appearing under three or four different Institutes, are (in rank order): Graphics MAB, Industrial Product Design MSB, Interior Architecture MSB, Fine Arts Education MSB, Graphic Design MAB, Interior Architecture and Environmental Design MSB, Interior Architecture MAB, and Graphics MSB.

#### Peripheral Divisions and Institutes

The theses spanned 41 peripheral Divisions. The top-5 Divisions, based on number of theses per Division, are listed in **Table 9**. All of the Divisions in **Table 9** are scientific (Main Scientific Branch – MSB, covering 35 theses),

**Table 9.** Top-5 Divisions for peripheral design theses

Rank	Division(s)	Number of Theses
1	İşletme ABD / Business MSB	9
2	Bilgisayar ve Öğretim Teknolojileri Eğitimi ABD / Computer and Instructional Technologies Education MSB	7
3	Sanat Tarihi ABD / History of Art MSB	6
4	Mimarlık ABD / Architecture MSB	5
5 =	Eğitim Bilimleri ABD / Educational Sciences MSB Halkla İlişkiler ve Tanıtım ABD / Public Relations and Promotion MSB	4



**Figure 9.** Relationship between Divisions and Institutes for peripheral theses

emphasizing that peripheral theses are mostly completed within scientific rather than artistic academic traditions. Accordingly, 91% of peripheral design theses were awarded a Ph.D. Business MSB and Computer and Instructional Technologies Education MSB have the largest number of theses but they are not dominant. Peripheral theses span academically diverse Divisions. Outside the top-5, Divisions mostly had just one or two theses.

Peripheral design theses have been submitted to a total of eight different Institutes. **Figure 9** visualizes the complex relationship between Divisions and Institutes for the peripheral category, showing which (and how many) Institutes the different Divisions are tied to. The busiest Institutes (based on proportion of total submitted theses) are: Graduate School of Social Sciences (47%), Graduate School of Natural and Applied Sciences (21%) and Graduate School of Educational Sciences (18%). All except four Divisions (History of Art MSB, Architecture MSB, Educational Sciences MSB, Art Education MSB) exist under just a single Institute, emphasizing a distributed and isolated character.

### Academic Content

#### Subjects

All 716 theses had entries for the Subject 1 field, but only  $n=207$  (29%) and  $n=55$  (8%) had the Subject 2 and 3 fields completed, respectively. In total, 46 different Subjects (out of a total 190 possibilities) were mentioned

Frequency	Subjects 1+2+3 (n=978)	Subject 1 (n=716)	Subject 2 (n=207)	Subject 3 (n=55)
31% +	Fine Arts (34%)	Fine Arts (36%)	Fine Arts (33%)	
15-30%				Interior Design and Decoration (16%)
				Textile and Textile Engineering (16%)
10-14%	Industrial Design (12%)	Industrial Design (14%)	Textile and Textile Engineering (13%)	Fine Arts (11%)
	Interior Design and Decoration (11%)	Interior Design and Decoration (12%)		
		Education and Training (10%)		
8-9%	Education and Training (8%)		Interior Design and Decoration (9%)	Industrial Design (9%)
6-7%		Crafts (6%)	Industrial Design (7%)	Museology (7%)
4-5%	Crafts (5%)	Clothing Industry (5%)	Clothing Industry (5%)	Typography (5%)
	Clothing Industry (5%)			Art History (4%)
	Textile and Textile Engineering (4%)			Business Administration (4%)
				Communication Sciences (4%)
				Science and Technology (4%)
				Wood Products (4%)

**Table 10.** Most popular subjects declared in third-cycle design theses

across the theses, indicating substantial diversity. **Table 10** provides the Subject prevalence results, divided into columns that provide results for Subjects 1+2+3 combined, as well as separated. The prevalence is calculated as the proportion (%) of the total theses with the relevant Subject field(s) completed in the dataset (i.e., out of 978, 716, 207, and 55, respectively). A prevalence threshold of 4% (1 in 25 theses) was set to avoid cluttering the table with too many minor results. The eight Subjects highlighted in green cells in **Table 10** are the same as those listed in Appendix B (i.e., considered to be within the scope of design practice and professions). The full list of results for Subjects 1+2+3 combined is contained in Appendix C. Fine arts (34%) is really an umbrella subject that captures a wide range of art and design specialisms, so it does not reveal much about the Turkish situation. On the other hand, industrial design (12%), interior design and decoration (11%) and – to a lesser extent – crafts (5%), are more specific subjects indicating strengths amongst Turkish third-cycle design theses. Clothing industry (5%) and textile and textile engineering (4%) – together contributing 9% – reflect a continuing need for expertise and knowledge in the county’s significant textiles, clothing, and fashion design sectors.

### Keywords

Since submission of Keywords in the CoHE TC is optional, many theses (n=148, 21%) had no Keyword data. Where Keywords were given, the largest number for a single thesis was 13 (n=2, 0.4%), whilst the modal value was 5 (n=83, 14.6%). In total, 1345 unique Keywords were used across the dataset. The opportunity for thesis authors to volunteer new Keywords, to express the essence of their work, has the unfortunate consequence that most Keywords (n=1004, 75%) are mentioned in only a single thesis.

Keyword analysis was made by ignoring any implied importance in the Keyword order. First, an intersection analysis was made based on the category of theses (**Figure 10**). To highlight major topics of study in Turkish third-cycle design thesis categories, a sample of the dataset was

re-analysed. Only the top-10 ranked Keywords for each category were included in the analysis. The distribution results are shown in **Figure 11**.

The prevalent Keywords intersecting all categories were: design, industrial design, and graphic design. The intersecting prevalent Keywords for core and indeterminate categories were: ceramics, and graphic arts.

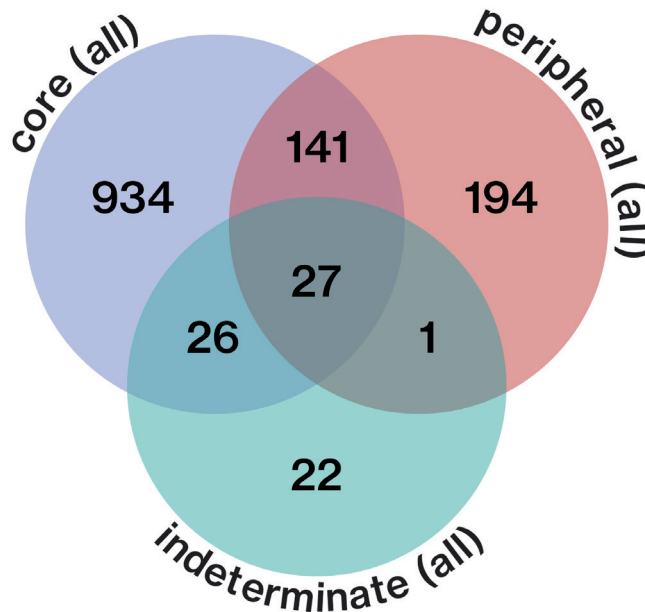
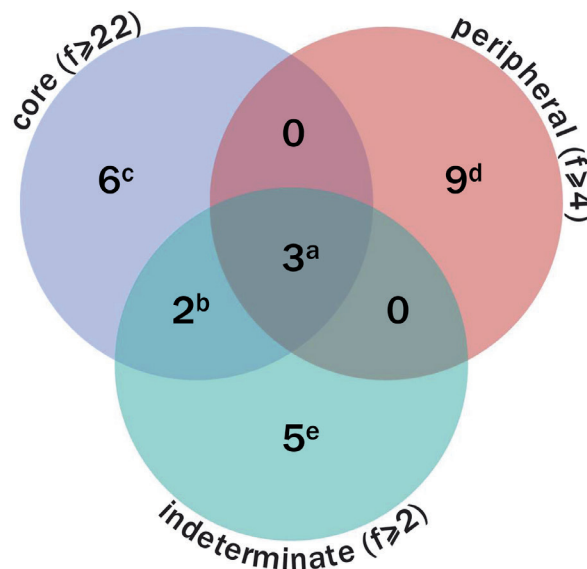


Figure 10. Distribution of all Keywords across core, peripheral and indeterminate thesis categories



- a: design industrial design graphic design
- b: ceramics graphic arts
- c: interior design, interior space graphic design education, typography clothing design ceramic art
- d: web design, visual design, product design, multimedia creativity marketing, advertisements, consumer behavior design education
- e: ceramic glazes technology visual communication computer aided design crystal secrets

Figure 11. Distribution of sampled Keywords across core (f≥22), peripheral (f≤4) and indeterminate (f≥2) thesis categories



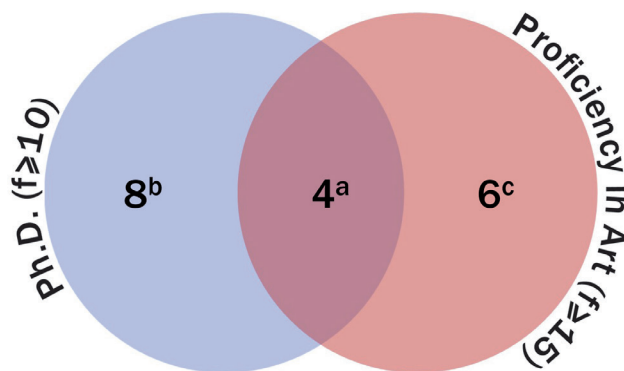
Prevalent Keywords only in core theses had an ‘interiors cluster’ {interior design, interior space} and ‘graphics cluster’ {graphic design education, typography}, as well as the unclustered Keywords clothing design, and ceramic art. Prevalent Keywords only in peripheral theses had a ‘design practice cluster’ {web design, visual design, product design, multimedia}, ‘consumer studies cluster’ {marketing, advertisements, consumer behavior}, as well as the unclustered Keywords creativity, and design education. Indeterminate theses had diverse prevalent Keywords: ceramic glazes, technology, visual communication, computer aided design, and crystal secrets.

In the second round, an intersection analysis was made based on the degree type (Figure 12). As with the first round, a sample of the dataset was re-analysed to highlight major topics of study uniting or separating Turkish Ph.D. and Proficiency in Art design theses. Only the top-10 ranked Keywords for each degree type were included in the re-analysis (Figure 13).

The prevalent Keywords intersecting both degree types had a ‘graphics cluster’ {graphic design, typography}, as well as the unclustered Keywords design, and interior design. Prevalent Keywords only in Ph.D. theses had a ‘design practice cluster’ {industrial design, product design, visual



Figure 12. Distribution of all Keywords across Ph.D. and Proficiency in Art degree types



- a: graphic design, typography design interior design
- b: industrial design, product design, visual design, interior space education, art education, design education, graphic design education
- c: ceramics, ceramic art clothing design graphic arts handicrafts space design

Figure 13. Distribution of sampled Keywords across Ph.D. (f ≥ 10) and Proficiency in Art (f ≥ 15) degree types



design, interior space} and 'education cluster' {education, art education, design education, graphic design education}. Both of these clusters have a long history of scientific enquiry, which would explain their prevalence amongst Ph.D. rather than Proficiency in Art theses. Prevalent Keywords only in Proficiency in Art theses had a 'ceramics cluster' {ceramics, ceramic art}, as well as the unclustered Keywords clothing design, graphic arts, handicrafts, and space design. The focus on materials and material applications is distinctive amongst the Keywords of Proficiency in Art theses.

## SUMMARY OF FINDINGS AND CONCLUSIONS

### Summary

The research achieved its aim to uncover the profile of third-cycle design theses in Türkiye. It also documented a clear process for interrogating the CoHE TC. Since design is often carried out in inter- and trans-disciplinary teams, and draws upon multidisciplinary knowledge, there was an expectation that a wide range of Institutes, Divisions, Subjects, and Keywords would be active in defining 'core' and 'peripheral' design theses. This was indeed the case. Certainly, Türkiye no longer sits on the periphery of design practice and research (Er and Bayazit, 1999); the evidence from the work presented here, as well as cross-international evidence (D.Doc, 2023) shows Türkiye to be amongst the strongest performers in third-cycle design education in Europe. Furthermore, the administrative hierarchies brought by the CoHE have resulted in clear distinctions between third-cycle degrees awarded for research or for advanced practice, echoing recommendations by Davis et al. (2023) and Friedman and Ox (2017). Clear answers can be given to the three research questions.

*RQ1: Whereabouts and in what quantities have third-cycle design theses been prepared in Türkiye?*

- Approximately one fifth (40) of Türkiye's HEIs have graduated students with third-cycle design degrees, including most of Türkiye's research-status universities. Of these HEIs, half have been involved in core work, but four-fifths have been involved in peripheral.
- Supervisory expertise for third-cycle design education in Türkiye is widespread. Over 85% of theses come from HEIs located in Türkiye's three largest cities (Istanbul, Ankara, and Izmir).
- A shortlist of 15 HEIs contribute approximately three-quarters of all third-cycle design theses. Of these, Hacettepe University and Mimar Sinan Fine Arts University are the most prominent, together contributing one third.
- Third-cycle design theses appear in the CoHE TC from 1989. Expansion grew rapidly from 1998, firstly in core Proficiency in Art theses, then later around 2010 for core Ph.D. theses. From 2010, growth amongst core Divisions substantially outstrips growth amongst peripheral Divisions. The annual growth for core Divisions is approximately 20 Proficiency in Art and 20 Ph.D theses. In contrast, the annual growth for peripheral Divisions is approximately one Proficiency in Art and six Ph.D theses.

- Mimar Sinan Fine Arts University and Hacettepe University were the driving force behind the rapid expansion of thesis submissions from 1998. The 2010 acceleration is attributable to growth in contributions from Gazi University, Dokuz Eylül University, ITU, Marmara University, Anadolu University, and METU.
- Third-cycle design theses in Türkiye are awarded either a Proficiency in Art degree (55%) or a Ph.D. degree (45%). Generally, Turkish HEIs are divided between 'Ph.D. universities for design' or 'Proficiency in Art universities for design', with the exception being Mimar Sinan Fine Arts University, which awards both degree types approximately equally.
- All except 12% of Türkiye's third-cycle design theses have been written in Turkish. The remainder, written in English, come from only eight HEIs: METU, ITU, Bilkent University, Koç University, Yeditepe University, Istanbul Bilgi University, Izmir University of Economics, and Izmir Institute of Technology.

*RQ2: Which administrative units at Turkish HEIs support the supervision and approval of third-cycle design theses?*

- Industrial Product Design MSB and Graphics MAB are the dominant core Divisions for third-cycle design theses, although a total of 44 different core Divisions are involved. Divisions that are classified as Main Artistic Branch (MAB), which generally lead to a Proficiency in Art degree, are more numerous than Divisions classified as Main Scientific Branch (MSB), which generally lead to a Ph.D. degree. In the Turkish HE system, academic Divisions are organized under Institutes. Core third-cycle design theses have mostly been submitted to the Graduate School of Fine Arts (33%), Graduate School of Social Sciences (29%) and Graduate School of Natural and Applied Sciences (27%). Almost half the 44 core Divisions exist under two or more Institutes, emphasizing a range of 'schools of thought' for core work.
- A total of 41 different Divisions are represented in the peripheral category, with the largest number of theses coming from Business MSB and Computer and Instructional Technologies Education MSB. Peripheral third-cycle design theses are mostly completed within scientific rather than artistic academic traditions, with over 90% awarded a Ph.D. Peripheral design theses have mostly been submitted to the Graduate School of Social Sciences (47%), Graduate School of Natural and Applied Sciences (21%) and Graduate School of Educational Sciences (18%). All except four of the 41 peripheral Divisions exist under just a single Institute, emphasizing a distributed and isolated character for peripheral work.

*RQ3: What areas of study are prominent amongst third-cycle design theses in Türkiye?*

- In total, 46 different Subjects (out of a possible 190) were mentioned across the theses, indicating substantial diversity. The most frequently mentioned Subjects were fine arts (34%), industrial design (12%), interior design and decoration (11%), crafts (5%), clothing industry (5%) and textile and textile engineering (4%).

- In total, 1345 unique Keywords were used across the dataset, although 75% of these were mentioned in only a single thesis. Design, industrial design, and graphic design were most prevalent Keywords. Core theses had concentrations of Keywords under interiors and graphics headings; peripheral theses had concentrations under design practice and consumer studies; Ph.D. theses had concentrations under design practice and education; and Proficiency in Art theses had concentrations under ceramics.

Not all the within-scope Divisions listed in Appendix A were present in the final dataset. Omitted Divisions indicate potential new areas for third-cycle design education in Türkiye. The omitted Divisions are likely to be already in use for second-cycle degrees, which outnumber third-cycle degrees by a ratio of 4:1. Cross-referencing the results of this current work with the results of the D.Doc project (D.Doc, 2023) reveals some Turkish HEIs that have so far not been mentioned. Three universities with relatively new doctoral design programs (Başkent University, Beykent University, Mustafa Kemal University) do not (yet) have theses in the CoHE TC. Three other universities also with relatively new doctoral design programs (Bahçeşehir University, Kastamonu University, Özyeğin University), do have theses in the CoHE TC, but dated after 2021 (i.e., after the survey cut-off for this paper).

### **Contributions**

Contributions to knowledge have been made in two important areas. First is the profiling of Ph.D./Proficiency in Art theses in design in Türkiye, taking an inclusive and pluralistic approach to the design field rather than a focus on a single design specialism. The wide-ranging and detailed facts and figures are intended to be valuable to the management teams of Turkish academic units, for benchmarking and strategic planning. They are also directed towards individual academics wanting to raise their personal knowledge of the state-of-play in third-cycle design education. The second contribution is a systematic and transparent process of interrogating the CoHE TC that can be adopted by other researchers. The paper purposefully gave an extensive and detailed account of the data collection and analysis methods used, so that other researchers have not only a template to follow but are also alerted to key points requiring critical decisions.

### **Limitations**

The current research relied on the completeness and accuracy of data held in the CoHE TC. As a national resource managed by the CoHE, the underlying assumption was for the data to be robust. For most theses, this proved correct – although some theses had missing data. However, some skepticism remains over how complete the CoHE TC is for theses completed in the early days of Turkish third-cycle design education. For example, notably absent from the CoHE TC is the Ph.D. thesis by Oğuz Bayrakçı (supervised by Prof. Dr. Önder Küçükerman), titled “Structural Organization in Design: A Semiotic Approach and Method Research in Describing Structural Relationships in Design Actions and Objects”. This Ph.D. thesis from 1985 is considered the first completed under an industrial design Division in Türkiye, at Mimar Sinan Fine Arts University (Cizrelioğlu Karaer, 2011). Its absence is a warning of other possibly absent theses, which would be uncovered only through deep follow-up studies focusing on design theses made prior to or soon after the establishment of the CoHE. Although the processes of data collection and analysis

for the current research were communicated transparently, still it must be acknowledged that the Fix, Categorize and Reduce steps included subjective academic judgements that may not be fully reproduced (or at least agreed upon) by a different team of researchers. Hence, as is normal with qualitative research, the dataset is to some extent shaped by the ideas and experiences of the research team.

### Follow-Up Research

Analyzing the academic content of theses to a greater depth (e.g. using level 2 or 3 data, as per **Figure 2**) can be a useful follow-up. For example, the current work did not involve semantic clustering of Keywords, which can be fruitful for determining how specific thesis topics combine to form more general areas of enquiry. One approach would be to make a qualitative bibliometric analysis of the corpora using Natural Language Processing (NLP) methods. The deeper the level of data gathered, the more laboursome the research process will be – especially if theses must be consulted directly. Detailed follow-up work is therefore recommended to be made within design specialisms rather than ‘design’ as a single corpus.

### ACKNOWLEDGEMENTS

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**APPENDIX A: CoHE TC Divisions nominally overlapping the ‘within scope’ professions and practices of the design field (n=99)**

English (Division: Major Scientific/Artistic Branch)	Turkish (Ana Bilim Dalı, Ana Sanat Dalı)	In n=716 dataset?
Applied Arts MAB	Uygulamalı Sanatlar ASD	Yes
Applied Arts MSB	Uygulamalı Sanatlar ABD	Yes
Applied Arts Education MSB	Uygulamalı Sanatlar Eğitimi ABD	Yes
Art and Design MAB	Sanat ve Tasarım ASD	Yes
Art and Design MSB	Sanat ve Tasarım ABD	Yes
Art and Design in Computer Environment MSB	Bilgisayar Ortamında Sanat ve Tasarım ABD	
Carpet, Rug and Old Fabric Patterns MAB	Halı, Kilim ve Eski Kumaş Desenleri ASD	
Ceramic and Glass MAB	Seramik ve Cam ASD	Yes
Ceramic and Glass Design MSB	Seramik ve Cam Tasarımı ABD	Yes
Ceramic Art and Design MSB	Seramik Sanat ve Tasarım ABD	
Ceramics MAB	Seramik ASD	Yes
Ceramics MSB	Seramik ABD	Yes
Ceramics Education MSB	Seramik Eğitimi ABD	
Clothing Arts MAB	Giyim Sanatları ASD	
Clothing Industry MSB	Giyim Endüstrisi ABD	
Clothing Industry and Clothing Arts MSB	Giyim Endüstrisi ve Giyim Sanatları ABD	Yes
Clothing Industry and Clothing Arts Education MSB	Giyim Endüstrisi ve Giyim Sanatları Eğitimi ABD	
Clothing Industry and Clothing Education MSB	Giyim Endüstrisi ve Giyim Eğitimi ABD	Yes
Clothing Industry and Fashion Design MSB	Giyim Endüstrisi ve Moda Tasarımı ABD	Yes
Clothing Industry and Fashion Design Education MSB	Giyim Endüstrisi ve Moda Tasarımı Eğitimi ABD	
Clothing Non-Formal Education MAB	Giyim Yaygın Eğitimi ASD	
Communication and Design MAB	İletişim ve Tasarım ASD	
Communication and Design MSB	İletişim ve Tasarım ABD	Yes
Communication Design MSB	İletişim Tasarımı ABD	
Communication Design and Information Technologies MSB	İletişim Tasarımı ve Bilişim Teknolojileri ABD	
Communication Design and Management MSB	İletişim Tasarımı ve Yönetimi ABD	
Communication Design and Media MSB	İletişim Tasarımı ve Medya ABD	
Communication Design and Semiotics MSB	İletişim Tasarımı ve Göstergebilim ABD	
Computer Aided Design Production and Programming MSB	Bilgisayar Destekli Tasarım Üretim ve Programlama ABD	
Decorative Arts MSB	Dekoratif Sanatlar ABD	Yes
Decorative Products Education MSB	Dekoratif Ürünler Eğitimi ABD	
Design MSB	Tasarım ABD	Yes
Design Culture MSB	Tasarım Kültürü ABD	
Design Studies MSB	Tasarım Çalışmaları ABD	Yes

Design, Technology and Social Science MSB	Tasarım, Teknoloji ve Toplum Bilimi ABD	
Fashion and Textile Design MAB	Moda ve Tekstil Tasarımı ASD	
Fashion and Textile Design MSB	Moda ve Tekstil Tasarımı ABD	
Fashion Design MSB	Moda Tasarımı ABD	Yes
Fine Arts MAB	Güzel Sanatlar ASD	
Fine Arts MSB	Güzel Sanatlar ABD	Yes
Fine Arts Education MAB	Güzel Sanatlar Eğitimi ASD	
Fine Arts Education MSB	Güzel Sanatlar Eğitimi ABD	Yes
Fine Arts and Visual Communication Design MSB	Güzel Sanatlar ve Görsel İletişim Tasarımı ABD	
Furniture and Decoration Education MSB	Mobilya ve Dekorasyon Eğitimi ABD	Yes
Game Design MSB	Oyun Tasarımı ABD	
Glass MAB	Cam ASD	
Graphic Design MAB	Grafik Tasarımı ASD	Yes
Graphic Design MSB	Grafik Tasarım ABD	Yes
Graphic Education MSB	Grafik Eğitimi ABD	
Graphics MAB	Grafik ASD	Yes
Graphics MSB	Grafik ABD	Yes
Hand and Machine Embroidery Education MAB	El ve Makine Nakışları Eğitimi ASD	
Handicraft Education MAB	El Sanatları Eğitimi ASD	Yes
Handicraft Education MSB	El Sanatları Eğitimi ABD	Yes
Handicrafts MAB	El Sanatları ASD	Yes
Handicrafts MSB	El Sanatları ABD	Yes
Industrial Arts MSB	Endüstriyel Sanatlar ABD	
Industrial Arts Education MSB	Endüstriyel Sanatlar Eğitimi ABD	
Industrial Design MSB	Endüstriyel Tasarım ABD	Yes
Industrial Design Engineering MSB	Endüstriyel Tasarım Mühendisliği ABD	
Industrial Design and Innovation Management MSB	Endüstriyel Tasarım ve İnovasyon Yönetimi ABD	
Industrial Product Design MAB	Endüstri Ürünleri Tasarımı ASD	Yes
Industrial Product Design MSB	Endüstri Ürünleri Tasarımı ABD	Yes
Information Technologies in Design MSB	Tasarımda Bilgi Teknolojileri ABD	
Instrument Making MSB	Çalgı Yapımı ABD	
Interdisciplinary Art and Design MSB	Disiplinlerarası Sanat ve Tasarım ABD	
Interior Architecture MAB	İç Mimarlık ASD	Yes
Interior Architecture MSB	İç Mimarlık ABD	Yes
Interior Architecture Design MSB	İç Mimari Tasarım ABD	
Interior Architecture and Environmental Design MAB	İç Mimarlık ve Çevre Tasarımı ASD	Yes
Interior Architecture and Environmental Design MSB	İç Mimarlık ve Çevre Tasarımı ABD	Yes
Interior Design MSB	İç Mekan Tasarımı ABD	
Machinery Design and Manufacturing MSB	Makine Tasarım ve İmalat ABD	
Mechanical Design and Manufacturing MSB	Mekanik Tasarım ve İmalat ABD	

Media Design MAB	Medya Tasarımı ASD	
New Media MAB	Yeni Medya ASD	Yes
New Media MSB	Yeni Medya ABD	
New Media and Communication MSB	Yeni Medya ve İletişim ABD	
Service Business Management and Design MSB	Hizmet İşletmeciliği Yönetimi ve Tasarımı ABD	
Service Design and Management MSB	Hizmet Tasarımı ve İşletmeciliği ABD	
Stage Decorations and Costume MAB	Sahne Dekorları ve Kostümü ASD	Yes
Stage Design MAB	Sahne Tasarımı ASD	
Technology, Design and Innovation Management MSB	Teknoloji, Tasarım ve İnovasyon Yönetimi ABD	
Textile and Fashion Design MAB	Tekstil ve Moda Tasarımı ASD	Yes
Textile and Fashion Design MSB	Tekstil ve Moda Tasarımı ABD	
Textile Design MAB	Tekstil Tasarım ASD	Yes
Textile Design MSB	Tekstil Tasarımı ABD	Yes
Textile Education MSB	Tekstil Eğitimi ABD	
Textiles MAB	Tekstil ASD	Yes
Textiles MSB	Tekstil ABD	
Tile and Tile Repairs MAB	Çini ve Çini Onarımları ASD	
Traditional Turkish Handicrafts MAB	Geleneksel Türk El Sanatları ASD	Yes
Traditional Turkish Handicrafts MSB	Geleneksel Türk El Sanatları ABD	Yes
Vehicle Design MSB	Taşıt Tasarımı ABD	
Visual Arts and Visual Communication Design MSB	Görsel Sanatlar ve Görsel İletişim Tasarımı ABD	
Visual Communication Design MSB	Görsel İletişim Tasarımı ABD	
Weaving and Knitting Education MSB	Dokuma ve Örgü Eğitimi ABD	
Woodworking MSB	Ağaç İşleri ABD	
Woodworking Education MSB	Ağaç İşleri Eğitimi ABD	Yes

**APPENDIX B:** CoHE TC Subjects nominally overlapping with the ‘within scope’ professions and practices of the design field (n=8)

English (Subject)	Turkish (Konu)
Fine Arts	Güzel Sanatlar
Industrial Design	Endüstri Ürünleri Tasarımı
Interior Design and Decoration	İç Mimari ve Dekorasyon
Crafts	El Sanatları
Clothing Industry	Giyim Endüstrisi
Textile and Textile Engineering	Tekstil ve Tekstil Mühendisliği
Wood Products	Ağaç İşleri
Matbaacılık	Typography

## APPENDIX C: Full list of results for Subjects 1+2+3 combined

Count	%	Turkish (Konu)	English (Subject)
334	34%	Güzel Sanatlar	Fine Arts
120	12%	Endüstri Ürünleri Tasarımı	Industrial Design
112	11%	İç Mimari ve Dekorasyon	Interior Design and Decoration
79	8%	Eğitim ve Öğretim	Education and Training
48	5%	El Sanatları	Crafts
46	5%	Giyim Endüstrisi	Clothing Industry
41	4%	Tekstil ve Tekstil Mühendisliği	Textile and Textile Engineering
27	3%	İletişim Bilimleri	Communication Sciences
24	2%	Mimarlık	Architecture
19	2%	İşletme	Business Administration
15	2%	Endüstri ve Endüstri Mühendisliği	Industrial and Industrial Engineering
13	1%	Sanat Tarihi	Art History
10	1%	Reklamcılık	Advertising
10	1%	Müzecilik	Museology
8	1%	Sahne ve Görüntü Sanatları	Performing and Visual Arts
8	1%	Bilim ve Teknoloji	Science and Technology
5	1%	Tarih	History
5	1%	Sosyoloji	Sociology
5	1%	Ağaç İşleri	Wood Products
4	<1%	Halkla İlişkiler	Public Relations
4	<1%	Matbaacılık	Typography
3	<1%	Gazetecilik	Journalism
3	<1%	Psikoloji	Psychology
3	<1%	Turizm	Tourism
2	<1%	Seramik Mühendisliği	Ceramic Engineering
2	<1%	Bilgisayar Mühendisliği Bilimleri-Bilgisayar ve Kontrol	Computer Engineering and Computer Science and Control
2	<1%	Ekonomi	Economics
2	<1%	Mühendislik Bilimleri	Engineering Sciences
2	<1%	Bilgi ve Belge Yönetimi	Information and Records Management
2	<1%	Hukuk	Law
2	<1%	Felsefe	Philosophy
2	<1%	Siyasal Bilimler	Political Science
2	<1%	Teknik Eğitim	Technical Education
1	<1%	Havacılık Mühendisliği	Aeronautical Engineering



1	<1%	Hava ve Uzay Hekimliği	Air and Space Medicine
1	<1%	Antropoloji	Anthropology
1	<1%	Sivil Havacılık	Civil Aviation
1	<1%	Dokümantasyon ve Enformasyon	Documentation and Information
1	<1%	Halk Bilimi (Folklor)	Folklore
1	<1%	Dilbilim	Linguistics
1	<1%	Müzik	Music
1	<1%	Hemşirelik	Nursing
1	<1%	Radyo-Televizyon	Radio and Television
1	<1%	İstatistik	Statistics
1	<1%	Ulaşım	Transportation
1	<1%	Şehircilik ve Bölge Planlama	Urban and Regional Planning

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**Anahtar Sözcükler:** Üçüncü-dönem tasarım eğitimi; tasarım tezleri, doktora derecesi; sanatta yeterlik derecesi; Türkiye

## TÜRKİYE'DE TASARIM ALANINDA YAPILAN ÜÇÜNCÜ-DÖNEM TEZLERİN PROFİLİ: YÖK TEZ MERKEZİ'NİN BİBLİYOMETRİK ANALİZİ

Doktora veya doktora eşdeğeri tasarım dereceleri olarak bilinen üçüncü-dönem dereceler, dünya çapında nicelik ve nitelik bakımından önemli ölçüde artmıştır. Derece unvanlarıyla (örneğin Ph.D., D.F.A.) ilişkilendirilen ayırt edici özellikler önemli ölçüde tartışılmış olmasına rağmen, bu derecelerin ana amaçları, temel yetkinlikleri, yönetim ve hedef kitleleri konusunda belirsizlikler ve tartışmalar hala devam etmektedir. Bu endişelerin yanında, ulusal ve kurumsal profil oluşturma meselesi de, alanın mevcut durumu ve yönelimi hakkında akademide ortak bir bilgi birikimi oluşturmak için önemlidir. Bu makale, Türkiye'nin ulusal ve kurumsal durumunu ortaya koymaktadır. Türkiye'nin üçüncü-dönem tasarım eğitiminin üretken bir sağlayıcısı olduğu bilinmesine rağmen, (i) tasarımda üçüncü-dönem derecelerinin nerede ve ne oranda verildiğine ilişkin tamamlanma ölçütleri, (ii) derecelerin verilmesini destekleyen idari birimlerin çeşitliliği ve (iii) tezlerdeki akademik içeriği ve tasarım uzmanlıklarının kapsam ve dağılımı hakkında net bir görüş bulunmamaktadır. Türkiye'de, üçüncü-dönem derecelerine ait tüm tezler, merkezi bir veritabanı olan Yükseköğretim Kurulu Tez Merkezi'ne (YÖK TM) teslim edilmektedir. Temmuz 2021'e kadar YÖK Tez Merkezi'ne teslim edilen tasarım tezlerinin ulusal ve kurumsal profillerini oluşturmak amacıyla bibliyometrik bir analiz yapılmıştır. Toplamda 716 üçüncü-dönem tasarım tezi analiz edilmiştir. Türkiye'deki yükseköğretim kurumlarının beşte biri, bir aşamada üçüncü-dönem tasarım tezlerinin danışmanlıklarının yürütülmesinde rol almıştır. Endüstriyel tasarım ve grafik tasarım uzmanlık alanları, Türkiye'de yürütülen üçüncü-dönem tasarım eğitiminin temelini oluşturmaktadır. Bununla birlikte, tez veri seti çeşitlidir ve çok sayıda diğer tasarım uzmanlıkları ve araştırma alanlarını içermektedir. Bulguların, karşılaştırma ölçütleri belirleme, stratejik planlama ve farkındalık artırma amacıyla araştırmacılar, eğitmenler ve yöneticiler için faydalı olacağı öngörülmektedir. Ayrıca, makale, YÖK TM'inde inceleme yapmak için, diğer akademik alanlardaki

tezlerin profilini çıkarmayı amaçlayan araştırmacılar tarafından da benimsenebilecek, tekrarlanabilir bir yöntemi detaylandırmaktadır.

### **PROFILING OF TURKISH THIRD-CYCLE THESES IN DESIGN: BIBLIOMETRIC ANALYSIS OF THE YÖK THESIS CENTER**

Third-cycle degrees in design, known as doctoral or doctoral-equivalent design degrees, have grown considerably in quantity and stature worldwide. Distinctive characteristics associated with the degree titles (e.g. Ph.D., D.F.A.) have been debated considerably. Yet, there remain indeterminacies and debates concerning fundamental purposes, core competencies, management, and targeted beneficiaries of these degrees. Alongside these concerns is the matter of national and institutional profiling, to build within academia a shared knowledge of the state-of-play and orientation of the field. This paper puts forward the Turkish national and institutional case. Although Türkiye is known to be a prolific provider of third-cycle design education, what is not clear are: (i) the completion metrics regarding whereabouts and in which quantities third-cycle degrees in design are awarded, (ii) the variety of administrative units that support delivery of the degrees, and (iii) the breadth and distribution of academic content and design specialisms within the degree theses. In Türkiye, all third-cycle degree theses are submitted to a centralized database named the Council of Higher Education Thesis Center (CoHE TC / YÖK Tez Merkezi). To create national and institutional profiles of design theses submitted up to and including July 2021, a bibliometric analysis of the CoHE TC was carried out. In total, 716 third-cycle design theses were analyzed. One fifth of Türkiye's higher education institutions (HEIs) have at some point been involved in supervising third-cycle design theses. The core of third-cycle design education in Türkiye is carried out within the specialisms of industrial design and graphic design. However, the thesis dataset is varied and nuanced, with many other design specialisms and areas of enquiry represented. The findings are intended to aid researchers, instructors, and administrators as part of benchmarking, strategic planning, and raising awareness. Additionally, the paper details a reproducible method for interrogating the CoHE TC, which may be adopted by researchers intending to profile theses in other academic fields.

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