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Research Article

Tracing 'Technology' in the Recent ELT Master's Theses and PhD Dissertations in Türkiye

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Abstract – Technology has displayed an unprecedented evolution especially in the last two decades and had remarkable effects in various fields including English language teaching (ELT). Key aspects such as teaching language skills, ELT methodology, testing language skills, materials development, and so on all have been influenced by the non-stop technological developments. Technological trends such as smartboards, smartphones, tablets, mobile applications, augmented reality, virtual reality, and the most recent artificial intelligence issue all have had certain reflections on both the practice and research dimensions of ELT. The current study aims to explore the reflections of technology-related issues on the recent ELT research in Türkiye. To this end, the contents of over 114 PhD dissertations and 625 master's theses written on ELT at Turkish universities between 2018 and 2022 have been analysed in terms of technology coverage and other several relevant variables. The findings suggest a remarkable and rising trend to the favour of research on the integration of technology into ELT at graduate schools at Turkish universities.

Keywords: *English language teaching, technology, research, thesis, dissertation*

Introduction

In order to attain success in the current century, people need to have certain characteristics, generally called 21st century skills, one of which is to keep up with the rapidly developing technology. Technology is now almost inevitably present at home, at work, at school, on the street, in the car, in short, wherever people are. With the developing technology, many things in our daily lives such as houses, vehicles, phones, boards, watches, and even clothes have become 'smart'. The speed of this change has reached such a great pace that we cannot set limits for the term ‘cutting-edge technology’. Considering all these developments, it is not difficult to predict that this momentum and the impact of technology on human life will persist in the future.

Obviously, this technology-fuelled process has had significant reflections in the field of English language teaching (ELT) as in every field. Especially in the context of learner and teacher autonomy, technology has made significant contributions to the English language learning and teaching processes. In this framework, important trends and terms such as Technology-Enhanced Language Learning (TELL), Computer-Assisted Language Learning (CALL), Mobile-Assisted Language Learning (MALL) and Web-Enhanced Language Learning (WELL) have emerged. After the use of language laboratories and cassette systems in language education, computers have been used for this purpose since the 1960s (Warschauer & Healey, 1998). As a matter of fact, the use of the term ‘CALL’ precedes the others. With the rise of the portable technologies such as tablets and smartphones and their potential to support learner autonomy and the development of foreign language skills, the era of MALL started. Considering the various dimensions involved, we generally use the

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more comprehensive concept of TELL as an umbrella term to express the use of both computers and portable devices in the field of language education.

One of the most important thresholds for the use of technology in language education has been overcome with the emergence of the second-generation Internet (Web 2.0) that provides an interactive environment to users. Since language is a tool that people mostly use for communication purposes, it is sound to make use of tools and opportunities that enhance interaction. In this respect, the Internet's providing an interactive environment and the emergence of synchronous communication and asynchronous communication tools have made very important contributions. Walker and White (2013) consider the shift from Web 1.0 to Web 2.0 as a shift from 'the voice of authority' to 'multiple voices' (p. 18-19) to emphasize the interactive involvement of the users. Technology has reached such a point that we are now actively using the third-generation Internet (Web 3.0). In this phase, which we call the semantic Web, artificial intelligence applications are utilized and the Internet can provide personalized results and suggestions. Furthermore, the advent of the most recent technological tools such as ChatGPT (OpenAI, n.d.) has ushered a totally new era in the use of Internet technologies for educational and interactional purposes.

All these developments, over years, have led to the indispensable use of technological aids in the education system and therefore language education. To give an example in the context of our country, the constantly enriching contents of Educational Informatics Network (EBA) and its rising role in education especially during- and post-Covid-19 era have rendered technology in education sine-qua-non. Such developments have enabled students to benefit from technological systems in almost all courses including foreign language classes intramurally and extramurally over time.

Considering that foreign language education in Türkiye is predominantly based on English and the fact that English is not learnt as a second language but as a foreign language in the country, it can be easily said that technological support brings great opportunities to eliminate the disadvantages that naturally occur in the language learning process. Warschauer, Shetzer, and Meloni (2000) state that especially the Internet contributes authenticity, literacy, interaction, vitality, and empowerment to the language learning and teaching process. It is a fact that computers and mobile technologies offer countless websites, software and applications for the development of the four main skills of listening, reading, speaking and writing as well as sub-skills such as grammar, vocabulary and pronunciation, and the number of tools developed for this purpose is increasing day by day. Walker and White (2013) listed podcasts, lyrics, Audacity tool, and other various sources for listening skill; ChatBots, speech-to-text tools, and Voki tool for speaking skill; e-readers, countless reading passages, online reading communities, and Scrible tool for reading skills; online writing labs (OWLs), wikis and blogs for writing skill; using visuals and videos for developing multimodal literacy; tools such as Ingenta Conncet and CiteULike for study skills and English for Academic Purposes; gamification tools for teaching English to young learners; online and adaptive testing tools for assessment; online tools for the enhancement of teacher autonomy and professional development; and various online tools to develop authentic materials. Today, the focus is more on the integration of artificial intelligence as part of new generation technologies including aspects such as machine translation, intelligent tutoring systems, and automated writing evaluation (Hockly, 2023; Meniado, 2023). Briefly, it is evident that there is a highly rich list of opportunities for those who desire to utilize technology for language learning or teaching purposes.

With the increase in technology-supported applications in education in general and foreign language education in particular, there has been a significant increase in the number of scientific journals and studies on this specific subject, let alone the macro field of education. Journals such as Computer Assisted Language Learning (SSCI-indexed), CALL-EJ (Computer Assisted Language Learning Electronic Journal) (Scopus-indexed), ReCALL Journal (SSCI-indexed), IJCALLT (International Journal of Computer-Assisted Language Learning and Teaching) (ESCI-indexed), and the EUROCALL Review (ERIC-indexed) are among the journals that have been producing high quality

scientific studies in this context. It is obvious that the incredible developments in technology have made great contributions to language learning and teaching processes and this is reflected in the studies conducted in the field with an increasing trend. In this context, many studies have been published in the above-mentioned journals and other important journals (e.g. Toyoda, 2001; Thornton & Houser, 2005; Kukulska-Hulme, 2009; Hockly, 2012; White & Mill, 2014; Arifani, 2019; Chen, 2022; Lin, 2022; Li, 2023) most of which draw attention the learner autonomy dimension in ELT. Although the limits of using of technological tools to support face-to-face instruction and the view that technology cannot replace real foreign language teaching as emphasized over the years by researchers such as Dhaif (1989), Groves and Mundt (2015) and Cilliers et al. (2022) have increasingly been in question as of the distance education trend stipulated by the Covid-19 pandemic, we need to remember that "…it is not the technology itself but the teaching that makes the difference." (Warschauer, Shetzer, & Meloni, 2000, p. 8). Therefore, how we integrate technology into language learning and teaching processes highly matters and needs to be academically studied from diverse points and perspectives.

Although there a number of studies that have been conducted in Türkiye on the integration of technology into ELT (e.g. Yaman, Şenel & Yeşilel, 2015; Sert & Boynueğri, 2016; Kazu, İbrahim & Issaku, 2021), there is a lack of studies that focus on the situation with the relevant graduate studies except that of Şensöz and Erdemir (2022). Their research adopts a micro scope and presents a systematic review of graduate studies on flipped classrooms in ELT in Türkiye. This study aims to fill in the gap in the relevant literature and present a macro picture of the situation.

Considering all the points mentioned above, the current study aims to address the following research questions:

1. What is the frequency distribution of technology-related ELT Master's theses and PhD dissertations over the last half-decade in Türkiye?

2. What is the distribution of the relevant theses and dissertations by universities?

3. What are the aspects addressed by the relevant theses and dissertations?

Methodology

Research Design

This study aiming to examine the technology-related ELT Master's theses and PhD dissertations in Türkiye written between 2018 and 2022, adopts document analysis model under qualitative research methods. Qualitative research focuses on qualities such as verbal products and observations that are difficult to measure and is based on the analysis and interpretation of these qualities (Glesne, 2013). Document analysis, which is used as a data collection technique in scientific research, is a detailed analysis of published written sources in accordance with the research aims. It may be used as a research method alone in cases where methods such as observation, statistical tests and interview cannot be used. It involves the analysis of documents produced in a certain time interval on a problem situation or documents produced by many sources and at different times about this problem situation based on a certain period of time (Yıldırım & Şimşek, 2008).

Data Collection Tools

To collect data with the aim of addressing the research questions, the Master's theses and PhD dissertations under the Programme of English Language Teaching were filtered in the National Thesis Center of the Council of Higher Education at https://tez.yok.gov.tr/UlusalTezMerkezi/ (CoHE, n.d.). Since only 10 master's theses and 4 PhD dissertations on ELT from the year 2023 were covered in the thesis centre at the time of the data collection, they were not included, limiting the study to the data from 2018-2022.

Sampling

The population of the research consists of graduate theses on ELT prepared in Türkiye. The sample of the study was determined by criterion sampling from purposive sampling methods. Criterion sampling involves forming the sample from accessible sources with the qualities set within the context of the study (Büyüköztürk, 2013). In this study, the criterion was that the graduate theses were conducted between 2018 and 2022 and that they were registered in the National Thesis Centre of the Council of Higher Education (CoHE). A total of 625 Master's theses and 114 PhD dissertations were included in the sample.

Data Analysis

The study adopted content analysis on the data collected through a researcher-developed thesis analysis form including information such as types of the theses sampled, years of the theses, universities where the theses were conducted, the themes and aspects addressed. Percentage (%) and frequency (f) calculations were used in analyzing the data obtained through the form and presented under the relevant tables.

Validity and Reliability

In order to ensure the internal reliability and validity of the research, the data obtained from the graduate theses covered in the study were interpreted after the relevant information was clearly presented in the tables. In order to ensure the external validity of the research, detailed information about the research model, population and sampling, data collection process and data analysis processes are given in the method section. In addition, the archived theses and analyses have been electronically stored for possible confirmation in the future. For the analyses of the data, categories were determined by meticulously handling the obtained data. The categories constructed were also checked by three other specialists from the field of ELT. Finally, the intercoder relaibility formula of "agreement / (agreement+disagreement) x 100" by Miles and Huberman (1994) was applied on the emerging categories. The analyses shows that the reliability rate for the content analysis of the PhD dissertations is 93% and 92% for the Master's theses, which are far above the 80% threshold specified by Miles and Huberman (1994).

Findings and Discussion

In order to address the first research question of the study, we first filtered the ELT Master's theses and PhD dissertations between 2018 and 2022 as presented below.

Table 1. The Distribution of the ELT Master's Theses and PhD Dissertations by Years

	Master's	PhD
Year	**f**	**f**
2018	78	24
2019	165	28
2020	138	22
2021	139	17
2022	105	23
Total	625	114

Table 1 shows that a total of 625 ELT Master's theses and 114 PhD dissertations were written in Türkiye between 2018 and 2022. The total numbers reflect the fact that ELT Master's programmes are more prevalent than the PhD programmes at Turkish universities. Even though there appears a remarkable rise in the numbers for 2019 compared to those of 2018, the following years show frequencies with ups and downs. This can be clearly attributed to the limitations imposed by the

Covid-19 pandemic, which demonstrates a strikingly retarding effect on academia within the context of ELT in Türkiye.

In order to further address the first research question of the study, after filtering the ELT Master's theses and PhD dissertations between 2018 and 2022, we identified those related to the integration of technology as presented below.

Table 2. The Distribution of the Technology-Related ELT Master's Theses and PhD Dissertations by Years

	Master's		PhD	
Year	**f**	**%**	**f**	**%**
2018	8/78	10.2	3/24	12.5
2019	27/165	16.3	5/28	17.8
2020	34/138	24.6	1/22	4.5
2021	46/139	33.09	0/17	0
2022	40/105	38.09	5/23	21.7
Total	155/625	24.8	14/114	12.2

Table 2 shows that approximately 25 % of the covered ELT Master's theses adopted a theme related with the integration of technology in to ELT. The rate appears to be lower (12.2 %) for the PhD dissertations. Likewise, while these is a stable increase in the rates for the Master's theses over the covered years, there is an irregular picture for the PhD dissertations. The figures demonstrate that ELT Master's students focus more on the technology dimension compared with PhD candidates. Furthermore, the finding that quarter of the all ELT Master's theses written in Türkiye between 2018 and 2022 is somehow related to the technology-integration issue is an evident indicator of its status as a rising trend.

In order to address the second research question of the study, we identified the universities at which the identified technology-related ELT Master's theses and PhD dissertations were written, as presented in Table 3 and Table 4 respectively below.

Table 3. The Distribution of the ELT Master's Theses by Universities

University	**f**
Bahçeşehir University	60
Çağ University	29
Çukurova University	15
Middle East Technical University	11
Ufuk University	8
Gazi University	7
Yeditepe University	5
Bursa Uludağ University	4
İstanbul Sabahattin Zaim University	4
Boğaziçi University	3
Süleyman Demirel University	2
Ondokuz Mayıs University	2
Akdeniz University	1
Anadolu University	1
Pamukkale University	1
Çanakkale Onsekiz Mart University	1
Maltepe University	1
Total	155

Table 4. The Distribution of the ELT PhD Dissertation by Universities

University	f
Bahçeşehir University	3
Middle East Technical University	3
Çağ University	2
Çukurova University	2
Yeditepe University	2
Gazi University	1
Anadolu University	1
Total	14

Table 3 and Table 4 show that Bahçeşehir University, a foundation university in İstanbul, holds the top position in terms of finalizing technology-related ELT Master's theses and PhD dissertations between 2018 and 2022. Considering Master's theses, Çağ University, Çukurova University and Middle East Technical University follow. Considering PhD dissertations, Middle East Technical University, Çağ University, Çukurova University and Yeditepe University follow. Both tables make it clear that the supervisors in the ELT departments of certain universities in Türkiye, most probably in accordance with their research interests, attached greater importance to carrying out Master's and PhD studies on the integration of technology into ELT. In particular, the role of Bahçeşehir, Çağ, Çukurova and Middle East Technical University in this context is salient.

In order to address the third research question of the study, we identified the aspects addressed by the covered Master's theses and PhD dissertations. Table 5 below presents the distribution of the aspects addressed by the covered PhD dissertations.

Table 5. The Distribution of the Aspects Addressed by the Covered PhD Dissertations

Category	f	%
Professional Development	7	50
Skills Development	6	42.8
Testing	1	7.1
Total	14	

According to the data provided in Table 5, 7 of the 14 PhD dissertations focus on the integration of technology into professional development processes of English language teachers while 6 of them cover skills development aspects and 1 of them centres on the effects of technology on testing processes. To exemplify, Ağgün (2018), in her PhD dissertation at Çağ University, tested the effectiveness of blended instruction on underachieving language learners' performance in terms of productive language skills in a university preparatory class and found that the treatment contributed to the participants' writing performance, language accuracy, and some sub-components of speaking skills such as task achievement, vocabulary, and fluency. In her qualitative multiple case study at Middle East Technical University, Karakaya Yıldırım (2019) investigated in-service English language teachers' research experiences in an online professional learning community and found that the participants, as teacher-researchers, benefited from the process considering their researcher identity and relevant awareness.

Table 6 below presents the distribution of the aspects addressed by the covered Master's theses.

Table 6. The Distribution of the Aspects Addressed by the Covered Master's Theses

Category	f	%
Skills Development	113	72.9
Professional Development	32	20.6
Learner Autonomy	8	5.1
Testing	1	0.6
Classroom Management	1	0.6
Total	155	

According to the data presented in Table 6, the majority (72.9 %) of the covered Master's theses are on the integration of technology into skills development. The subsequent aspects appear to be professional development (20.6%), learner autonomy (5.1%), testing (0.6%), and classroom management (0.6%). Unlike the situation with PhD dissertations, the covered Master's theses mostly deal with the skills development dimension. To exemplify, Altınbaş (2018) tried to explore the effects of using of multiplayer online computer games in developing four main language skills of university-level English as foreign language (EFL) learners and found a significant development of English language listening and speaking skills, if not reading and writing. In a similar thesis study, Aslandemir (2020) investigated the use and effectiveness of Web 2.0 tools and technologies in English for Specific Purposes (ESP) vocabulary teaching and reported positive results to the favour of technology integration. On the other hand, Uluyol (2021) studied the professional self-efficacy perceptions and burnout levels of in-service English language teachers during distance education in the process of Covid-19. The study yielded the result that the burnout levels of the teachers were quite high in this process and in view of professional competence, most of the participants considered themselves sufficient despite difficulties encountered. In another thesis study, Yaşar (2021) studied the effects of online teaching on the emotional state, online readiness, and perceived identity of English language instructors at university prep schools. The results of the study indicate that the participants mostly developed negative emotions while teaching online and that there was a positive relationship between their emotional state and online readiness.

The following word cloud presents the keywords that stand out in the titles of the covered theses and dissertations.

Figure 1. Word Cloud Including the Keywords

The word cloud above was generated by the researcher with the keywords that stand out in the titles of the covered theses and dissertations. As it is clear from the figure, keywords such as Web 2.00, CALL, MALL, flipped learning, ICTs, blended instruction, Technological Pedagogical Content Knowledge (TPACK), video, e-classroom and so on come to the fore. Such micro-dimensions were addressed in the covered Master's theses and PhD dissertations within the context of the macro-categories presented in Table 5 and Table 6. The combination of the macro-categories and the involved micro-aspects presented above encompasses a broad range that is consistent with the points discussed by Walker and White (2013), Hockly (2023), and Meniado (2023) in the context of TELL. This broad scope is actually a good indicator of the potential of technology for diverse dimensions of ELT and the findings show that a considerable part of the recent graduate studies in ELT in Türkiye have tried to shed light upon this potential from various perspectives.

Conclusion and Suggestions

In this study, we tried to explore the reflections of technology-related issues on the recent ELT research in Türkiye. To this end, the contents of over 114 PhD dissertations and 625 master's theses written on ELT at Turkish universities between 2018 and 2022 have been analysed in terms of technology coverage and other several relevant variables including year and university. The findings suggest a remarkable and rising trend to the favour of research on the integration of technology into ELT at graduate schools at Turkish universities considering especially Master's theses. As for the universities, Bahçeşehir University appears to be by far the most remarkable university within the context of the current study. Considering the categories yielded by the content analysis, skills development stands out for Master's theses while professional development appears one step ahead for PhD dissertations.

In the post-Covid-19 era, we are likely to encounter the technology issue in ELT more than ever. Therefore, the issue can be academically further studied from different aspects. For instance, a broader time range (e.g. 10 years) may be adopted to yield more generalizable results. Another alternative study may focus on categorizing the results yielded by technology-related ELT theses and dissertations.

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