



**THE STUDY OF A NEEDS ANALYSIS ON TECHNOLOGICAL  
TOOLS: A CHECKLIST FOR ENGLISH LANGUAGE TEACHERS**

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## TELİF HAKKI VE TEZ FOTOKOPİ İZİN FORMU

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.....



*Dedicated to the memory of my father...*

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TOOLS: A CHECKLIST FOR LANGUAGE TEACHERS  
(MA Thesis)**

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**ABSTRACT**

Technology is actively used in education, as in many sectors, with the developing age. Along with prioritizing 21st century skills which include technology use and digital literacy in education, various technologies, especially web 2.0 tools, have started to be commonly used in language education. In the literature, there are rich publications on how technology affects language education, student-teacher attitudes and opinions, sample applications, but a lack of literature on the evaluation of technology integration exists. This study was carried out to identify the needs of language teachers when choosing technologies to integrate and in order to raise awareness that the integration of technology into language classes was not appropriate and effective without an evaluation of technologies. There were 30 English teachers involving in the needs analysis and the analysis resulted in their lack of critical approach towards technologies. The needs analysis was actualized through a web-based survey and the answers of the participants were interpreted by using content analysis procedures. At this point, it was to provide support in accordance with effective technology integration to foreign language teachers. To meet this need, for the intellectual output, a checklist was offered for foreign language teachers to evaluate a technological tool before using it in their classrooms. It was aimed to make the best of technology in language education by getting all foreign language teachers, especially English teachers, make use of this checklist.



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**TEKNOLOJİK ARAÇLAR ÜZERİNE BİR İHTİYAÇ ANALİZİ  
ÇALIŞMASI: İNGİLİZCE ÖĞRETMENLERİ İÇİN BİR KONTROL  
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**ÖZ**

Teknoloji birçok sektörde olduğu gibi eğitimde de gelişen çağ ile birlikte aktif bir şekilde kullanılmaktadır. Teknoloji kullanımını ve dijital okur-yazarlığı da içeren 21. Yüzyıl becerilerinin eğitimde ön planda tutulmasıyla, dil eğitiminde de web 2.0 araçları başta olmak üzere çeşitli teknolojiler kullanılmaktadır. Literatürde teknolojinin dil eğitimini nasıl etkilediği, öğrenci-öğretmen tutum ve görüşleri, örnek uygulamalar gibi alanlarda zengin yayınlar bulunmaktadır ancak teknoloji entegrasyonunun değerlendirmesinin yapılması hususunda ilgili literatür yoksunluk çekmektedir. Bu çalışma, entegre edilecek teknolojileri seçerken dil öğretmenlerinin ihtiyaçlarını belirlemek ve teknolojinin değerlendirmesi yapılmadan dil sınıflarına entegrasyonunun uygun ve etkili olmadığına bilincini oluşturmak amacıyla yapılmıştır. İhtiyaç analizine dahil olan 30 İngilizce öğretmeni vardı ve analiz, teknolojilere yönelik eleştirel yaklaşım eksikliğiyle sonuçlandı. İhtiyaç analizi web tabanlı bir anket aracılığıyla gerçekleştirilmiş ve katılımcıların cevapları içerik analizi prosedürleri kullanılarak yorumlanmıştır. Bu noktada, yabancı dil öğretmenlerine etkili teknoloji entegrasyonuna uygun olarak destek sağlanması gerekiyordu. Bu ihtiyacı karşılamak için çalışmanın entelektüel çıktısı olarak yabancı dil öğretmenlerinin sınıflarında teknolojik bir araç kullanmadan önce, o aracın değerlendirmesini yapabilmeleri için bir kontrol listesi sunulmuştur. Bu kontrol listesinden İngilizce öğretmenleri başta olmak üzere, tüm yabancı

dil eğitimi veren öğretmenlerin faydalanması ile dil eğitiminde teknoloji kullanımının etkili bir hale gelmesine fayda sağlanması amaçlanmaktadır.



Anahtar Kelimeler : değerlendirme, teknoloji entegrasyonu, bilgisayar destekli dil öğretimi, teknolojik araçların değerlendirilmesi

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# **CHAPTER I**

## **INTRODUCTION**

### **Presentation**

This thesis is mainly composed of four themed chapters. These are introduction, review of the literature, methodology, and results-discussion and conclusion, respectively. The chapters then are branched out within themselves in accordance with what they cover in detail. In this very beginning part of the present thesis, the researcher prefaces the study in the following way. First, an overview of the study is given by touching upon the background of the general and specific research area. The high frequency terms and abbreviations specific to the thesis focus used throughout the thesis are also mentioned and defined here. In line with the background, secondly, the gap in the related literature and the need for the study arising from the gap are pointed and briefly discussed. Following that, the problem this thesis seeks a solution for and its negative effects in the field are explained. Finally, primary aims being in the first place and subsidiary aims together are outlined and described in a way identifying with one another. Also, the relationship between the aims and the research questions is revealed.

### **Background to the Study**

Education technology or “learning technology refers to the specific learning methods and strategies used to achieve the students' learning tasks” (Xihong, 2009, p. 1). As the definition

itself suggests, technology and education technology apply a deeper understanding of their use. Namely, anything from a pencil to a book that eases the learning process can be regarded as learning technology, but here learning technology has its most common and up to date meaning as digital technology which appears for “social media, mobile, analytics or embedded devices” (as cited in Khin & Ho, 2019, p. 180). The appearance of education technology with its digital version depends on some concrete reasons and those reasons come with some consequences in education.

Learning technology has become central to most of the educational settings as the generation today puts technology in the center of their lives. Matos, Pedro, and Piadade (2019) contend that when students can reach a variety of technologies such as computers, their needs are also shaped under their influence. In education, as one of the fundamental aims is to meet the needs and interests of the students, digital technologies are used in order to reinforce students’ learning. Furthermore, digital technologies have gained a great importance in variety of disciplines from biology to language teaching especially with the emergence of web 2.0 and web 3.0 tools which are some umbrella terms for commonly used digital technologies. “Web 2.0 tools are people-based knowledge sharing, learning, social interaction, and collective intelligence tools that support knowledge collaboration, exchange, sharing, and creation” (Lau, 2011, p. 2). On the other hand, “web 3.0 tools include algorithms that assist the user in their use of the tool” (Webb, Oostveen, Barber, Percival & Childs, 2018, p. 6). Here it should be noted that the phrase ‘tool’ will be used in this study to describe all the digital technologies such as technological applications and websites employed as a means for educational and particularly language teaching purposes. There are several aims to benefit from these so-called tools. “Teachers can use Web 2.0 tools to captivate students, to hold their attention, and to enhance their learning experiences” (Yuen, Yaoyuneyong & Yuen, 2011). These tools in both categories, but mostly web 2.0 tools have been a focus of many research studies with respect to different dimensions like their impacts on several points related to learning/teaching, and teachers’ and students’ perceptions, use, and awareness etc. (Caliskan et al., 2019; Popescu, 2010; Nandhini, 2016). All in all, technology

in general and the digital tools have changed the way we teach and the way our students learn.

Similarly, web 2.0 tools have received a lot of interest in language education. This specific field is commonly addressed with the acronym CALL which stands for Computer Assisted Language Learning. It is to indicate that the term CALL embodies a multitude of concepts, such as Mobile Assisted Language Learning, related to mobile technology integration into language classrooms and those also have different abbreviations. Therefore, the use of technology in FLE (Foreign Language Education) is addressed with several names some of which are illustrated in the table below. Besides, in this study, as it is treated as an umbrella term, CALL is used to refer technology integration in language teaching.

Table 1

*Technology Integration Abbreviations in Language Education by Lamy and Hampel (2017)*

---

CALI	Computer-Assisted Language Instruction
CALL	Computer-Assisted Language Learning
CELL	Computer-Enhanced Language Learning
CBLT	Computer-Based Language Teaching
CMC	Computer-Mediated Communication
ICALL	Intelligent CALL
MALL	Mobile technology-Assisted Language Learning
NBLT	Network-Based Language Learning
TELL	Technology-Enhanced Language Learning
WELL	Web-Enhanced Language Learning

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Lamy, M-N., & Hampel, R. (2007). Chapter I: Historical background. In M-N. Lamy & R. Hampel (Eds.), *Online Communication in language teaching and learning* (pp. 7-18). Basingstoke: Palgrave MacMillan.

CALL has three phases in its history so far. These are chronologically, as Warschauer and Healey (1998) suggest, behaviorist (structuralist) CALL, communicative CALL, and integrative CALL (ICALL). As opposed to the very early phase which largely relies on drilling and structural correctness, ICALL is still communicative as the second phase is. However, it also takes social and pragmatic language concerns into consideration unlike the

second phase. Another categorization was made by Bax (2003). Bax argues that CALL has approaches rather than phases. According to him, these approaches are Restricted, Open, and Integrated. Even though they are not classified as phases, they are in agreement with the phases mentioned above in terms of what they prioritize (Torsani, 2016). In this very thesis, integrative or integrated CALL is grounded on. In tandem with the issue of ICALL, remarkable number of studies pinpointing digital tools have been carried out in the field of FLE and ELT (English Language Teaching) (Anderson & Morgan, 2012; Balbay & Erkan, 2018; Cephe & Balcikanlı, 2012; Gonzalez & St. Louis, 2008).

Integrated approach can also be associated with normalized CALL. Normalized CALL puts forward the idea of using technologies only when required, which is one of the struggles of today's CALL and the starting point of this study. CALL normalization can be perceived as a condition for actualizing integrative CALL in practice. The idea of normalizing CALL was brought to the forefront by Bax (2003), who simply claims that just like we do not abandon using pencils as some pencils do not work properly for some reasons under some conditions, we shouldn't give up on technology for some tools' negative sides. On the contrary, we try others of its kind because we do need pencils as those are one of our normal. On the way to CALL normalization, a wide variety of tools have been trialed to see if they enhance teaching and learning languages. They have been used in many ways to support and supplement the language lesson contents. There is a great deal of research focusing on the dilemma to utilize technology in language education (Jarvis, 2005; Khatoon, 2015). The studies mainly undertake three subjects which are acceptance of technology (technology acceptance), interpretation of technology (technology interpretation), and integration of technology (technology integration). Technology acceptance points to "accepting the new technology by user and it is not only in computing technology and information system, but it can also be any new technology introduced to anyone in anywhere" (Lin & Theingi, 2019, p. 5). Technology interpretation refers to how technology is understood and put in practice. Technology integration is more education related. It means "the use of technology in a teacher's regular teaching and curricular plans" (Cullen & Greene, 2011, p.30). On the other

hand, the issue of effective technology integration in language education has also gained considerable critical attention, but being an important part of effective technology integration, evaluation of technology (technology evaluation) is poorly understood. Technology evaluation is “the process of comprehensive and systematic analysis of technology, and making reasonable choices” (Han, et al., 2019, p. 1). This phenomenon is a prerequisite for effective technology integration because evaluation helps make things quality.

How to utilize technology effectively and how to evaluate and choose tools for language teaching purposes ought to be understood clearly, but they are among the areas paid little attention to in the literature as Su (2009) stated that “many technology integration projects have failed in the past because they lacked successful classroom and curriculum integration strategies” (p. 162). There are two important aspects being conditions to effective CALL integration. First, in order tools to be evaluated and chosen, we need to make sure that language teacher education provides language teachers with this kind of critical approach towards tools and there are enough and quality materials to be used by language teachers to evaluate the efficiency of the tools to talk about effective integration. The materials to evaluate the efficiency of the tools can be guides, models, or checklists. Given the mass of tools available, it is not always easy to determine what tools to benefit from as the tools have “their own propensities, potentials, affordances, and constraints that make them more suitable for certain tasks than others” (As cited in Koehler & Mishra, 2009, p. 61). Second, whether those properties match our learners’ needs and interests is also another point to be scrutinized. The generation’s common features and specific language learning preferences and tendencies should be revisited before even thinking about integrating tools. The issue of selection together with evaluation should come before the question of how to implement those tools. No matter how good we are to teach the target language, if we are doing it through a means which is not good or appropriate, it is less likely that we will get the outcomes we have intended to have.

Intentional use has a lot in common with effective CALL. It is also referred as intentional tech or technologies. Intentional use argues that technologies should be applied in teaching not because they are very good technologies with some very nice features but because they are suitable for the learning goals and objectives of a specific lesson or course. Namely, learning goals determine whether a technology is needed for implementation and if yes, what technology to use. The other way around is remarked to be not acceptable. Along with these, intentional use of digital tools aims to interpose compulsive technology use which comes with common technology engagements and technology habits. “Technology use has moved beyond the bounds of intentionality. This leads to the development of technology-use behaviors that may become automatic or difficult to control” (Clements & Boyle, 2018, p. 1).

### **Statement of the Problem**

With the current age’s requirements, technology integration into teaching has evolved from an alternative to a need. The need for technology can also be seen as valid for language classrooms. Language teachers are trying to adapt their lessons and their contents into online platforms, or they embed them into their traditional classrooms. Technology can accelerate learning only when it is implemented effectively and “the roles of teachers are critical in structuring the learning process, organizing activities and evaluating materials in the CALL classroom, as emphasized by many researchers” (Mollaei & Riasati, 2013, p. 20). Having an abounding number of tools confuses language teachers to select to integrate. “In fact, language teachers today are faced with so many fascinating options for using technology to enhance language learning that it can be overwhelming” (Kessler, 2018, p. 1). Teachers are provided with the knowledge and practice of how to choose learning materials such as worksheets and course books etc. When it comes to digital tools, it is not always the case to apply that knowledge and practice due to lack of effective professional development that focuses on technology integration. In his study, Meric (2015) concludes that the training language teachers get and what the classroom requires referring to technology do not

correspond. “Teachers need to know how and why to use technology in meaningful ways in the learning process for technology integration to work” (Gorder, 2008, p. 64). Using traditional materials and digital tools in classroom are totally different types of means to teach through or with, but they have a few common considerations. As it is for any kind of product being publicized, not all the tools are useful or suitable for the needs of the students or teachers. Just like choosing any materials for teaching, selecting technological tools to use for language teaching should be meticulously made. There is extensive research focusing on the benefits of technology such as for reaching authentic input and designing interactive lessons etc. However, such expositions remain unsatisfactory not until the issue of selecting tools is investigated, and teachers know that integration should be effective with the suitable tools. Technology helps learning in many ways. However, on the other side of the coin, technology with respect to the affordances of different tools brings about some barriers for teachers to integrate. Given that there is a gamut of tools, barriers/problems/challenges that impede the effective use of technology exist and they also vary. In accordance with some scholarly contributions to the literature, it is possible to come up with a list of the most common of those barriers which can be seen below (Ertmer, Ottenbreit-Leftwich, Sadik, & Sendurur, 2012; Hew & Brush, 2007; Joseph, 2012; Rogers, 2000).

- Assessment
- Attitudes and beliefs
- Funding
- Hardware and internet access
- Knowledge and skills
- Misalignment between teachers and administrators
- Planning
- Software and tool access
- Subject culture

- Support
- Time
- Training

The positive impacts of the integration of effective technology on language learners are undeniable. However, the problems of the integration should be minimized and most importantly language teachers need to have the sense of critical approach being in the first place and a guide with some criteria to select the tools to use for their own teaching settings more effectively and consciously.

### **Significance of the Study**

There are two main reasons making this study important. First, there is a growing body of literature that recognizes the importance of effective technology integration into language classrooms and how it can be achieved. Kirschner suggests that “integrating technology into education is of considerable value because using technology effectively has the potential to make learning meaningful” (As cited in Reddy & Bubonia, 2020, p. 46). However, the evaluation of technology integration in foreign language education and especially evaluation of the tools to integrate are not that prevailing. Second, whilst some legitimate research has been carried out for teachers’ technology evaluation up to now, research on the subject has been mostly restricted to theoretical aspects. In fact, language teachers need a more practical and easier way to select technological tools so as to integrate technology effectively. To this end, in this study determining what is needed for technology evaluation for language teaching and what the criteria are for effective tool selection for language teaching purposes are investigated.

## **Primary Aims and Research Questions**

The aim of this thesis is to help solve the problem of unguided technology integration and to assist language teachers being lost in the mass of tools. A more concrete aim is to sample a set of criteria to be used to improve the integration of technological tools in language classrooms through tool evaluation. With the intent of that, it is to provide a guide for language teachers to utilize and count on when they are to integrate a tool into their teachings. To this end, this study examines the frameworks in the literature for technology use and accordingly this examination will offer a more practical and teacher-friendly guide to language teachers with the opportunity to make more reasonable selections of technological tools at the service of language teaching. In consideration of strong and weak sides of the frameworks in the related literature, with a focus on checklists, the present study seeks to outline a more language teacher-friendly guide that they can rely on when selecting a technological tool.

1. What are the needs of language teachers choosing tools to integrate technology in their classes?
2. Are there scholarly checklists in the literature for technological tool evaluation?
  - 2.1. What are the pros and cons of existing technology evaluation checklists?
3. What constitutes a practical technological tool checklist for CALL?

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

#### **Presentation**

Chapter two begins with the definition of in both an extensive and specific manner and needs analysis type of evaluative research, then it lays out the theoretical dimensions of the research on technology and particularly education technology together with its evaluation. It looks at how those dimensions have been shaped over years. Then, the focus is narrowed down to what concrete outputs on education technology evaluation have been contributed to the literature and to what extent these contributions are useful for language teaching purposes. Technology evaluation is perceived as material evaluation in education and particularly language education since both technologies and teaching materials are mediums the language is presented through or with. Related literature on this can be discussed under four main headings, which are: Needs Analysis, Language Teachers' Professional Development, Evaluation, and Technology Integration.

#### **Needs Analysis**

Needs analysis, also known as needs assessment, is a systematic way to define gaps which stand for the difference between what is actually done and what should be done. According to Brown (1995, p. 35), needs analysis is “a process of gathering information that will serve as the basis for developing a curriculum that will meet the learning needs of a particular

group of students”. Once needs of the learners, teachers or instruction are recognized in accordance with the objectives and aims, a better learning atmosphere including better-designed instruction and better selection of materials can be set forward for a lesson and an education program as well. Moreover, analyzing needs can also help stakeholders evaluate what is already existing in their teaching program since it enables them to gather information about their program in detail. Needs analysis is considered a vital process in education because data collected during the process of needs analysis determines the updated and structured aims and objectives. It reveals important information about the current state of the existing situation in teaching of the target language and gives valuable insights on the future of it and how to shape it accordingly.

The goal for needs analysis is “not only to identify elements but to establish relative importance, to find out what is indispensable necessary or merely desirable” (As cited in Baştürkmen, 1998, p. 2). It should be notable that the results of a needs analysis are not absolute. They are to guide related group of people in order for them to be able to proceed with improvements. The needs are dynamic, and they can change depending on the people involved and the surroundings. In addition, as Desta (2008, p. 15) suggests, “the scholars insist on that users of needs analysis should endeavor to ascertain the view of the world (attitudes and values) to be applied matches with the situation rather than contradict with it.” This implies that context is a crucial aspect shaping the needs of a group or individuals in a particular place. Needs Analysis is a process which has multiple steps provided by a few researchers (Graves, 2000; Jordan, 1997). In their paper, Long and Doughty (2011) put those steps briefly as Get ready to do a NA (Needs Analysis), Do the NA research, and Use the NA results. In the first step, aims and outlines of the analysis are set. The following step is concerned with data collection and analysis. The final step deals with using the interpreted data to make decisions and improvements in the related area of the needs spotted. In his book published in 1988, Nunan identifies NA as “a family of procedures” (p. 73). These procedures go from recognizing the needs to achieve a set of goals or from detecting the needs hindering the achievement of the goals to actualizing the goals. In the very initial step

of a needs analysis, it is necessary to diagnose the types of the goals to be achieved so that the needs can be best singled out. Goals can attend to process or product (Nunan, 1988).

### **Approaches to Needs Analysis in Language Teaching**

There are different approaches in language teaching towards needs analysis. Those approaches can be listed as socio-linguistic model, a systematic approach, a learning-centered approach, learner-centered approaches, and task-based approach. Even though they all have common foci, each approach has a specific perspective on how to approach the needs. Sociolinguistic model deals with students' profiles with an exceeded focus on the learner himself. A systematic approach is a more organized version of the sociolinguistic model with its deliberate attention to the situational aspects in which the learner is surrounded by. Learner-centered approaches focus more on the necessities of learners. Task-based approach tries to find what learners lack by providing them real-life like situations (Al-Hamlan & Baniabdelrahman, 2015).

Similarly, different methods for needs analysis exist. Subject to the methods, their difficulty diversifies. These methods include various ways for gathering data and measurement. The sources of data can be surveys, journals and logs, tests, interviews, and observations. It is believed that more ranging sources result in better outcomes (Long, 2005). Compared to other methods, surveys are a rather easy, quick and cheap way to collect data of the needs despite its limitations. Therefore, it is the most common one of all (As cited in Long, 2005).

### **Needs Analysis in Language Teaching**

It is possible to see three phases in the development of needs analysis in language teaching. They are respectively as follows: occupational needs analysis, academic language needs analysis, and general language learning needs analysis. Occupational needs analysis also known as occupational needs assessment refers to an attempt "to understand the future educational needs for the successful employment" (Donsky, 1994, p.1). Namely, it is used

to frame the education and workforce needs. Language needs analysis, on the other hand, deals with “the activities involved in gathering information that will serve as the basis for developing a curriculum that will meet the language learning needs of a particular group of students” (Iwai, Kondo, Lim, Ray, Shimizu & Brown, 1999, p. 6). The relatively new one, general language learning needs analysis, has been in use since 1978 when scholars suggested covering more language and education areas like strategies and material selection in needs analyses (West, 1994). In the literature on language education, obtaining students’ needs underpin the majority of the aim in needs analysis studies, and communicative competence is the main content of those studies (Al-Hamlan & Baniabdelrahman, 2015).

Munby treats needs analysis in language teaching in a remarkably different way than previous researchers in the related literature. The Munby needs analysis takes learner profile and course objectives into consideration to be able to design language syllabi (As cited in Astika, 1999). In other words, learner needs define the needs for the syllabus. Analysis of needs can be classified with respect to its focus and scope and there are several classifications in the literature. For instance, Hutchinson and Waters (1987) make a distinction between “target needs” and “learning needs”. Another categorization by Alderson (1980) covers four types of needs as “formal needs”, “actual needs”, “hypothetical future needs”, and “want needs”. All these types put the learner in the center.

### **Language Teachers’ Professional Development**

Whereas there is a plethora of research studies the purpose of which is to diagnose language learners’ needs in the literature, this abundance is not valid for the subject of the needs of the language teachers. At this point, the rarity of the studies with this focus shed a light on how Teachers’ Professional Development (TPD) is neglected. TPD practices help teachers be more qualified and equipped in teaching hereby this positive change leads learners to flourish academically (Al-Qahtani, 2015). In order to provide teachers with the TPD trainings about the areas that they have difficulty in, their professional needs should be

investigated. This can be achieved through the same needs analysis procedures and methods as for learners. For instance, a study carried out a needs analysis by Kusumoto (2008) was conducted with 256 teachers from 31 cities in Japan. The study aimed to detect the needs of the elementary school homeroom teachers working in public schools regarding second language education and in line with the data gathered in that analysis to propose a teacher training program. The data was collected through an online questionnaire. Based on the findings of the needs analysis, it was concluded that the teachers didn't receive enough trainings about their profession and there was a lack of organization arising from the administrative units in the education system. Another study in 2019 (Philipsen, Tondeur, Roblin, Vanslambrouck & Zhu) was conducted with the purpose of identifying the needs of the teachers specifically for online and blended learning. It was a systematic review and 15 articles were examined to gather data that can be helpful for teachers to develop strategies to fill the gaps in their TPD regarding teaching in an online or blended environment. The results were found to be informative for in-service teachers and other stakeholders in terms of teacher strategy development.

Some professional needs occur once new practices and innovations in the profession ensue. For example, the emergence of technology integration into language classrooms does not go long way back. As Adegbenro, Gumbo, and Olakanmi (2017, p.80) point out, "the use of information and communication technology (ICT) is becoming an essential skill for teachers to enhance teaching and learning". Hence, teachers may have difficulty in adapting their instructional habits into the digital world. This situation underpins the possible need for teacher training on how to utilize technology in language classrooms. 21<sup>st</sup> century classrooms expect teachers to be more innovative and critical than ever, which implies about technology integration that teachers should be able to use technology effectively and on top of that they should be able to evaluate the technologies before using them. "There are too few CALL and SLA (second language acquisition) studies that provide concrete evaluations of specific tools and technologies and how they are used. Before being able to evaluate effectively CALL programs, teachers need to add to their pedagogical knowledge a

fundamental understanding of the workings of computers and networks” (Godwin-Jones, 2002, p. 10). Under these circumstances, it is important to detect the needs of the teachers and train them about the gaps found in a logical order.

### **Technology Needs and Problems of Language Teachers**

Technology has altered the way languages are being taught and language teachers today have evolving roles with the rapid changes owing to technology. It is not always the case for language teachers to adopt to those evolving roles. Technology integration into language teaching should not be understood as a new means of instruction but a new form, a new method, and a new approach to teaching (Biletska, Paladieva, Avchinnikova, & Kazak, 2021). Therefore, problems and needs of teachers regarding technology instruction are inevitable. Akcaoğlu (2008) divides the problems and needs of teachers into two categories in his thesis. These are first-order barriers and second-order barriers. While first-order barriers are the ones in relation to the technical sides of technologies, the second-order barriers are directly teacher specific. To illustrate, missing of hardware can be an example of first-order barriers, and teachers’ motivation can be an example of second-order barriers. With enough funding, first-order barriers are possible to be eliminated; nonetheless, second-order barriers are more difficult to change since they are more personal. These intrinsic second-order barriers include difficulty in fitting the technology in a pedagogically appropriate manner, teaching style affecting the position of the students in the lesson, lack of knowledge of computers and technology, and attitudes (Akçaoğlu, 2008). When the literature is reviewed, it is possible to come up with some more specific themes that might be umbrella topics for the teachers’ problems and needs in technology integration into language classrooms. Those themes are as follows: readiness of the teachers, willingness of the teachers, resistance of the teachers, attitudes of the teachers, perceptions of the teachers, motivation of the teachers, competences and competencies of the teachers (Karakaya, 2010; Lam, 2000; Razak, Alakrash, & Sahboun, 2018; Sysoyev & Evstigneev, 2014; Yaratana & Kural, 2010). These themes are very much interrelated as they go hand in hand affecting one

another. The first two listed above are readiness and willingness of the teachers. The study undertaken both and conducted by Razak et al. (2018, p. 93, 96) showed that “the participants were not familiar with modern technologies. So, they are not ready yet to use and implement technology in teaching. Teachers face many obstacles such as the shortness of technological equipment, the old infrastructure, lack of skills and training, lack of experience and the use of traditional methods that hindered the teachers from using technology in teaching the English language”. Another study by Lam covering both readiness and willingness in a comparative way indicated that there was a dilemma about whether the teachers had technophilia or technophobia. Technophilia means to be enthusiastic for using technology whereas technophobia refers strictly to the opposite. The study concluded that “teachers are not really ‘technophobic’ and that institutions are perhaps overly ‘technophilic’ in their rush to obtain the latest innovations without considering the needs of teachers and students” (2006, p. 389). As for readiness of the teachers, in her thesis on teachers’ attitudes towards technology integration, Karakaya (2010) found out the fact that language teachers in the study had positive attitudes; however, they also expressed that they didn’t know how to integrate technologies thus they needed a guide about that issue. To illustrate their urgent need of guidance, the following result can be examined: “some of the participants pointed out that just as the course books were distributed at the beginning of each school year, such materials and activity examples should be provided by the MoNE (Ministry of National Education) to EFL teachers with the guidelines described in teachers’ books” (Karakaya, 2010, p.112). In terms of competences and competencies of the teachers in CALL, Sysoyev and Evstigneev (2014) defined these two in their study and came up with a list of indicators showing if a language teacher is competent enough in technology integration. Those indicators, in fact, show what is needed to be possessed by language teachers in order to be competent in CALL. The indicators include the following items (Sysoyev & Evstigneev, 2014, p. 85).

Awareness of the importance of using ICT in foreign language teaching,

Activity in the use of ICT in foreign language teaching,

Representations of modern ICT,  
Formation of theoretical knowledge of the use of ICT in foreign language teaching,  
Use of modern ICTs to achieve professional goals,  
Organization of foreign language teaching through ICT,  
Creativity in solving professional activities through ICT,  
Study experience of colleagues in the use of ICT in foreign language teaching (self-education),  
Participation in the discussion and dissemination of methodological building their own experience of foreign language teaching through ICT with colleagues,  
Implementation teacher self-ownership methods of using ICT in foreign language teaching,  
Implementation of teacher assessing the effectiveness of the methodology of foreign language teaching through ICT in a particular class.

A needs analysis study run in Thailand (Poonpon, 2021) found that “use of new technology/applications” was the most needed aspect by primary and secondary school language teachers. It was followed by “technology-based learning/blended learning approach, online materials development, and use of different kinds of Learning Management Systems (LMS)” (p.16-17). The study concluded that teachers needed to improve their technological skills in order to be a better help for their students’ learning. In terms of language teachers’ perceptions, a study carried out in Cyprus (Yaratan & Kural,2010, p. 161) pointed out “although teachers are generally positive about technology use in English language classes, instructional technology implementation is below the desired rates due to some restrictions mainly lack of the technological means and lack of time”.

Apart from the themes mentioned and exemplified, language teachers also need to be able to have a sort of critical approach towards technologies. As Godwin-Jones (2015, p. 10) suggests, “they will need to be able to follow new developments in technology and be able to understand their potential use in second language instruction. Crucially, teachers will need to be able to assess how new developments might fit in (or not) to their local instructional context”.

## **Teacher Education in Turkey**

Pre-service teacher education in Turkey, where the present study takes place, undergoes common education courses and subject specific courses within four years under the roof of education faculties of the higher education institutions. It is also possible for prospective teachers to have elective courses depending on the institution's academic staff and their specializations. Excluding technology related teaching departments, prospective teachers who are enrolled in public universities and most foundation universities have a course in which basics of computer technology are taught for two semesters. Apart from that course, they do not have an obligatory technology training in the scope of their education. However rare it is possible to see some elective technology related courses at some universities. For instance, at some universities prospective English teachers may take CALL courses. On the top of everything, these limited technology-related trainings are usually restricted to basics of computer use. Most of the time teachers attend workshops and seminars to improve their digital literacy skills and combine them with teaching. Far from evaluating the integration or the tools themselves, most teachers hardly reach basic technology instruction for the purpose of teaching. The fact that teachers are not competent enough to integrate technology in educational environments is one of the most crucial problems of technology use in education that K-12 schools are facing. Therefore, placing technology training in education faculties makes a lot of sense (Yılmaz, 2011). A master's thesis about the needs of language teachers in Turkey has found that there are several attempts such as teacher training models seeking teachers' needs, but they do not take the teachers' specific teaching contexts into consideration, which makes them pointless (Karaca, 2014).

## **Evaluation**

Evaluation is usually a step for decision-making prior to taking an action. The broad use of the term 'evaluation' is equated with a systematic acquisition and assessment of some data concerning an object, person, or activity resulting in feedback for further applications or

improvements (As cited in McMurry, Williams, Rich & Hartshorn, 2016; Trochim & Donnelly, 2001). The main goal of evaluation is to help decision and policy makers improve their products thanks to the data gathered during the evaluation process. On evaluation, it is possible to come across with different dimensions such as principles of evaluation, goals of evaluation, strategies of evaluation, methods of evaluation, and so on. Here it is not intended to go deeper with these approaches but the types of evaluation. These different types actually emerged regarding those dimensions and the context and internal purposes of the evaluation.

In his analogy, Stake (1976) resembles types of evaluation to soup tasting occurring at different times and by different people. Peculiarly, “When the cook tastes other cooks’ soups, that’s exploratory. When the cook predicts the quality of a soup from a recipe, that’s predictive. When the cook tastes his own soup while making it, that’s formative. When the guests (or food critics) taste the soup, that’s summative” (As cited in Andres, 2008, p. 2). Aside from those four types (exploratory, predictive, formative, and summative), formal-informal evaluation, judgmental-empirical/descriptive evaluation, external-internal evaluation, product-process evaluation, case particular-general evaluation, pre-ordinate-responsive evaluation, holistic-analytic evaluation, illuminative evaluation, integrative evaluation, internal-external evaluation, and quality assurance evaluation are among the types of evaluation in the literature. Since the type this thesis administers is closely in association with summative and judgmental evaluation, only those types are set forth below.

Judgmental evaluation is a sub-category for summative evaluation because it is done at the end of the process being evaluated or the finished. Judgmental evaluation refers to the way of generating hypotheses on the target product or phenomena out of a logical analysis usually by using checklists or questionnaires engineered with judgements (Jamieson, Chapelle & Preiss, 2004; Ma, 2008). Judgmental evaluation focuses on the product’s potential and the product itself with respect to some pre-set aspects of it. This product may be something concrete or abstract like a book or a system.

Universally, research subsumes many types based on the rationale behind the research. These types include correlational, descriptive, ethnographic, and evaluation/evaluative research studies etc. “Evaluation research can be defined as a type of study that uses standard social research methods for evaluative purposes, as a specific research methodology, and as an assessment process that employs special techniques unique to the evaluation of social programs” (Powell, 2006, p.102). As an alternative, “evaluative research is undertaken to assess the worth or success of something: a program, a policy or a project” (Payne & Payne, 2004, p. 81). This current thesis can be categorized as an evaluative research study but a different type of it: meta-evaluation in its design. Meta evaluation refers to evaluation of the evaluation. As Stufflebeam (1974) suggests, “good evaluation requires that evaluation efforts themselves be evaluated” (p. 1). More precise information can be found in the next chapter dealing with methodology. Evaluative research is also applied in education to be able to assess the potential, value, and effectiveness of some aspects of education like curricula, program, book, teacher, material and so on.

### **Evaluation in Educational Settings**

In educational settings, evaluation can be defined slightly different. A common definition is promoted by Tyler in 1950: “The process of determining to what extent the educational objectives are actually being realized” (As cited in House, 1986, p. 16). Evaluation in education just like the other types of evaluation can have different functions. These functions include evaluation for improvement, selection, certification, accountability, motivation, increasing awareness, and exercising authority (House, 1986). With reference to these functions, the focus of the evaluation varies. In other words, there are various things being evaluated with respect to functions of evaluation. Students and teachers are apparently the most prominent ones to be evaluated in education. In addition, later in the history of educational evaluation, institutions, curriculums, syllabi, programs, projects, administrative personnel, text/course books are recognized as evaluands. According to its original definition provided by Scriven (1980) who generated this term, evaluand is maximally any object being

the subject of evaluation. Being another popular evaluand in educational evaluation after the teachers and students, teaching materials and the merits of them are evaluated with some purposes and eventually gains out of the evaluation. Obviously, the most favored teaching material is course/textbooks. Course book evaluation provides teachers with a chance to choose a suitable one, determine the book's pros and cons, and additionally approach teaching materials more critically and scholarly (As cited in Demir & Ertas, 2014). A thorough course book evaluation depends upon some criteria. In the related ELT literature, streams of research on course book evaluation checklists have been contributed (Byrd, 2001; Hussin, Nimehchisalem & Kalajahi, 2015; Miekley, 2005; Mukundan, Hajimohammadi & Nimehchisalem, 2011; Skierso, 1991). Overall, they show that course book evaluation with the help of checklists can be best treated under four main headings: physical attributes, content related factors, context related factors, and psychological-pedagogical concerns. From a broader perspective, these can also be classified as internal (language-related) and external (general) factors (Ansary & Babaii, 2002). Below a sample set of criteria for a checklist can be seen together with its sub criteria listed.

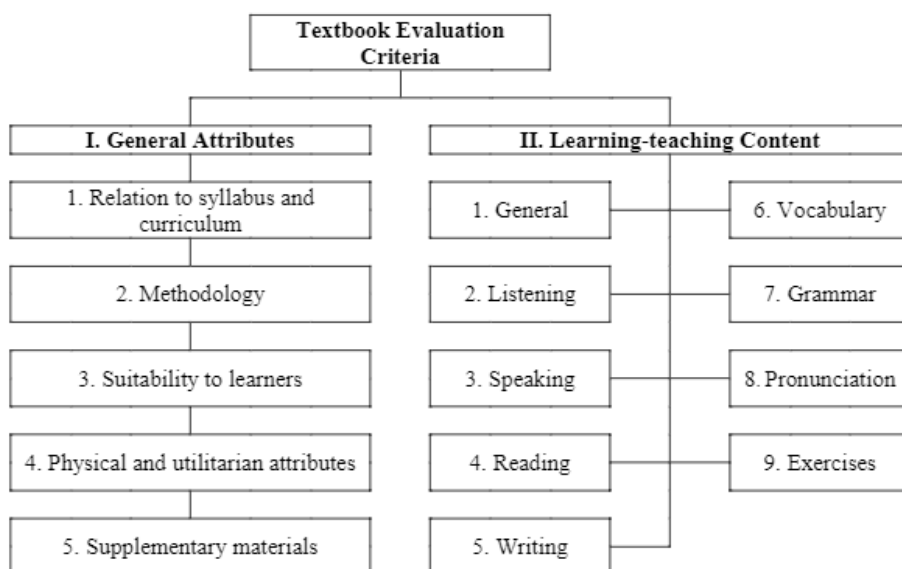


Figure 1. Developing an English language textbook evaluation checklist.

Mukundan, J., Hajimohammadi, R., & Nimehchisalem, V. (2011). Developing an English language textbook evaluation checklist. *Contemporary Issues in Education Research (CIER)*, 4(6), 21-28.

Correspondingly, the approach, criteria, and methods used in the investigation and evaluation of course books are comparable to CALL tool evaluation. There are a number of similarities between course book evaluation and CALL tool evaluation since both of them serve for assisting teaching and they are, in fact, teaching materials. In contrast to course book evaluation which also provides an opportunity for adaptation, digital tools require higher order knowledge and skills to adapt. Therefore, evaluation for selecting those tools are crucial as not so many teachers/language teachers are capable of changing the content of the tool doing coding and some other very technical attempts. Also, teachers often treated as practitioners, undoubtedly have the knowledge of their subject/discipline and methodology; however, it is unrealistic to expect them to possess expertise in evaluation which is a separate discipline on its own. That's why, there are practical tools to guide them on their technology selection, use, and integration.

### **Technology Evaluation**

In order to ensure adequate information on the topic, this part first introduces education technology in the broader evaluation community. Since it can be interpreted in two different ways, it is necessary here to clarify exactly what is meant by education technology evaluation in this thesis. Whether technology integration has positive impacts on learning/teaching or not is probably the first thing coming to mind and what the related literature is mainly concerned with; nonetheless, here education technology evaluation is attentive to the evaluation for the ways of integration concerning the tool being used. Namely, it approaches education technology as a unit, and it does not question the involvement of technology in education but how this involvement could be improved through evaluating the tools. Compared to the first interpretation, this understanding of education technology evaluation is relatively new yet promising.

Most research poses two main questions related to education technology evaluation: 'Is technology creating positive effects on students?' and 'Is technology giving more than what

traditional education supplies can provide to the students?’ On the other hand, education technology evaluation deals with the feasibility and applicability of the technological tools (Delgado, Wardlow, McKnight & O’Malley, 2015). This third type of evaluation elaborates technical, pedagogical, and content related appropriateness of the tool. Given that the sheer number of technological tools is being used by teachers all over the world no matter what the answers to those questions indicate, the practical solution to the effective technology instruction can be education technology evaluation. In a comprehensive study of effective technology integration, Levine (1998) elucidates a technology integration plan to rise to new technologies. The final step of the plan is evaluation to be administered by the users of the subject matter technologies. Correspondingly, Jhurree (2005) puts on to the effective technology integration issue by giving the cut stones of it: “the preparation, implementation and evaluation of holistic plans at various levels – the classroom, school, district, state, and across the nation” (p. 470). In fact, the evaluation emphasized here is mainly context and addressee oriented, yet it is of relevance to transmit the fact that evaluation no matter its type is an inevitable part of effective technology integration and vitally important.

### **Technology Integration**

In the field of ELT, technology integration into classrooms has got a pivotal role in concurrence with the popularity of 21<sup>st</sup> century skills. 21<sup>st</sup> century skills are widely reported to include creativity, critical thinking and problem solving, collaborative skills, information technology skills, and new forms of literacy, and social, cultural, and metacognitive awareness (Griffin & Care, 2014). Current generations are expected to possess these skills to be able to survive in today’s circumstances. In line with the century’s expectations, today’s generation is defined with different names like generation Y, millennials, “Digital Natives” (Prensky, 2001) and net generation. It is not always appropriate to label a group of people regardless of their individual differences; however, these four notions simply suggest that youth today is born with technology, and they live with it as well. Therefore, teachers do their best to keep up with this generation by having digital tools in their teachings even

though most of the teachers are not equipped with how to integrate or how to choose those tools to integrate.

### **Perspectives towards Technology Integration in Education**

There are mainly three views on technology integration into education. Some believe that technology can enhance teaching and learning whereas some allude the opposite. Various, some others suggest that technology can be useful only if it is wisely integrated (Jhurree, 2005). In this present thesis, the third balanced approach is handled. In order to incorporate technology into education, one has to be skeptical or critical towards the technological tools before using them, which is, in fact, a form of evaluation. The related literature hosts studies which undertake a technological tool with respect to a focus to examine. This sort of studies can assist teachers to do some filtering before using them. Nonetheless, the educational needs are constantly changing and there are tremendous number of technological tools in variety. Therefore, those studies will not suffice the need at some point. It will be imperative for teachers to draw on something which is more timeless and acontextual. “No matter how sophisticated the media of instruction may become, a prices distinction must always be made between the process of developing a technology of education and the issue of certain products or media within a particular technology of instruction” (Saettler, 2004, p. 4). Herein, it is possible to talk about some frameworks created for this object. While a variety of frameworks in relation with technology evaluation can be found, this thesis will work on technological tool evaluation for educational and specifically language teaching purposes.

Along with having too many tools making a selection for educational use difficult as some are elusive in their nature and some simply don't work for our aim, tools with multiple features are also coming to the front from the perspective of all-in-one at present. This makes framing a categorization for technological tools for educational purposes very hard; however, the literature has such categorizations although they are rare. One categorization is called “Digital Learning Resources (DLR)” and it embodies digital tools for education as

whole and specifically language education. The labels in the categorization are digital academic content tools, digital productivity tools, digital communication tools, and integrated DLR sets. Then, these categories are also branched out within themselves for one more level. Both of the levels can be seen in the table below.

Table 2

*Digital Learning Tools*

Digital academic content tools	Designed learning activities References/resources Language resource tools
Digital productivity tools	Presentation tools Word processing tools Information analysis tools Information organization tools
Digital communication tools	Asynchronous/synchronous text communications Reflection tools Videoconferencing/meeting tools Project collaboration tools
Integrated DLR sets	Core Curriculum Integrated DLR Set Supplemental Integrated DLR Set

Also, Golonka, Bowles, Frank, Richardson, and Freynik (2014) come up with another classification to the tools used for language teaching. The classification is two-levelled. In the first one we have four more general titles: “schoolhouse or classroom-based technologies”, “individual study tools”, “network based social computing”, and “mobile and portable devices”. The second level headings of the software-type categories only on website and/or application based, excluding the hardware, which is the last one, are illustrated below with their brief explanations.

Table 3

*Categories of Digital Tool by Golonka et. al. (2014)*

Tool Categories	Description
Course management system (CMS)	Server-based application used to present materials and services required for blended or distance learning (such as syllabi, required readings, calendars, etc.). Teachers and students access a CMS over a network through a web browser, using a menu-driven interface
ePortfolio	A digital archive of student work created by a learner that records evidence of the learner's experiences, progress, achievements, and self-reflections
Corpus	A collection of authentic language in spoken form, written form, or both. Corpora vary in terms of design (fixed size vs. expandable), content (general vs. specialized), and medium (written vs. spoken)
Electronic dictionary	A dictionary in electronic form – either handheld or online
Intelligent tutoring system	A program that simulates a tutor by providing direct, customized instruction and/ or feedback to a learner. Such a system is generally comprised of four components: an interface (platform), an expert model (domain of knowledge the student is intended to acquire), a student model (current state of student's knowledge), and a tutor model (which provides appropriate feedback and instruction by using the identified gaps between the student and the expert models)
Grammar checker	A program designed to evaluate a written text's well-formedness in terms of grammaticality. Such programs are often packaged, along with spellcheckers, within word-processing programs
Automatic speech recognition (ASR) and Pronunciation program	A technology that allows a computer to identify the words a person speaks into a microphone. ASR is often a component of speech pronunciation software, and as such, identifies particular parameters of the learner's output, such as prosody or specific sounds
Virtual world or serious game	A virtual world is a program that allows learners to move a representation of a character, or "avatar", through a 3-D graphical environment. A serious game is a virtual environment or traditional computer game in which activities are guided or restricted by the program and users have a specified goal or set of goals to complete
Chat	A form of synchronous computer-mediated communication; either text-based or include audio
Social networking	Social networking, of which Facebook and MySpace are the best-known examples, enables peer-to-peer communication and collaboration. Users develop their own presence on social networking by creating profile pages about themselves, and then joining networks based on geography, interests, associations, or friendships
Blog	A web application that displays entries authored by the blog owner with time and date stamps and is visible to other web users
Internet forum or message board	An asynchronous system in which messages are sent to multiple recipients. Messages are threaded according to topic and a notification is often sent to a user's e-mail address when an update is posted
Wiki	A website that allows multiple users to post or edit information

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for foreign language learning: A review of technology types and their effectiveness. *Computer assisted language learning*, 27(1), 70-105.

This classification is one of the most comprehensible ones in the literature to benefit from; nevertheless, it lacks a few types under its headings in the second level. For instance, quiz and elicitation type of websites and applications are missing. Together with them, it should

be noted that the need for evaluation is a must for all these and this thesis is in effort to put a set of criteria in the form of a checklist in order to detect the shortcomings of a specific tool in a category and guide the end-users/language teachers to another alternative within the same category. It might sound unlikelike to have a set of criteria for all, but taking methodological, pedagogical, language-related, and technical concerns into consideration, it is possible to come up with some core criteria.

In the direction of improvement in all aspects of life, evaluation of the items used in a process ought to be a part of the process. Likewise, in favor of benefitting CALL, evaluation of the integration and the tools is inevitable. The effectiveness of the tools and how they are implemented are supposed to be considered assiduously. Prior to these, tool selection should receive critical consideration as well. As we cannot use any language course books in the class just because they serve for the aim of language teaching, we cannot use any tools available, either. From this perspective, there is no doubt that a set of criteria concerning both technical aspects and language teaching methodologies is required and should be familiar to the teachers in practice. Thus, language teachers can have a guide to rely on other than their own intuition. “Teachers are professionals, and are experts at what they do, but they rarely have the additional training, time or resources required to carry out evaluations. Even when they do, there are numerous practical problems to be faced” (Oliver, 1998, p. 3). Conforming to what Oliver indicates, to minimize those problems and maximize the efficient use of technology, teachers could evaluate technological tools with a guide to advance the integration.

### **Trends and Frameworks for Technology Evaluation**

In today’s digitally networked world, in order to keep up with the vast of tools the number and features of which are gradually increasing, some trends are coming to the fore in addition to more scholarly frameworks and models. Frameworks for technology evaluation in ICT (Information and Communication Technology) are in abundance as compared to the ones

both for education and specifically for language teaching purposes. They are favorable for educational purposes and language teaching on the grounds that they predominantly deal with attitudes and activities of end users towards technology. End users are people whom technologies are designed and produced for. They are not expected to have the knowledge related to the technical side of the product. So, they are not developers or programmers (Christensson, 2006). Teachers should be treated as end users of technology because only a limited number of them have advanced level of digital literacy such as coding. Hence, the common audience for the frameworks in ICT can address a limited number of teachers. The frameworks in ICT and education technology are usually in the form of models. The most conventional ones are Technology Acceptance Model (TAM) and its improved variations in time, and in education the most cited and used framework is Technological Pedagogical Content Knowledge (TPACK). Three famous trends and frameworks which simply aim to reach ~~our more students~~ and assist more students for more productivity are described below.

### ***Keep it Simple and Short (KISS)***

KISS stands for “keep it short and simple”. This so-called anonymous principle which has its roots from marketing is not an acronym which is directly related to education or technology, but it has found its place in both somehow. In educational settings, the message of this principle is for teachers to design their activities and lessons as simple and short as possible with a minimalist approach.

### ***Bring Your Own Device (BYOD)***

BYOD which is a concept put forward by Intel’s chief security and privacy officer Malcolm Harkins in 2009 (as cited in Afreen, 2014) implies “bring your own device”. It is also called BYOT (bring your own technology). It is not an education specific trend; nonetheless, it is also favorited in education. In an educational context, it refers to the trend of students and teachers using their own digital devices for an activity or lesson related to teaching/learning.

These personal devices may include laptops, tablets, and mobile phones. Obviously, the most common one is mobile phones as they are easy to carry. It is believed to reduce cost and increase productivity. Besides, it empowers students and teachers to work and collaborate the way they prefer with the freedom to use a device with which they are familiar. Below in the visual can be seen the percentages of mobile device owned by students and teenagers.

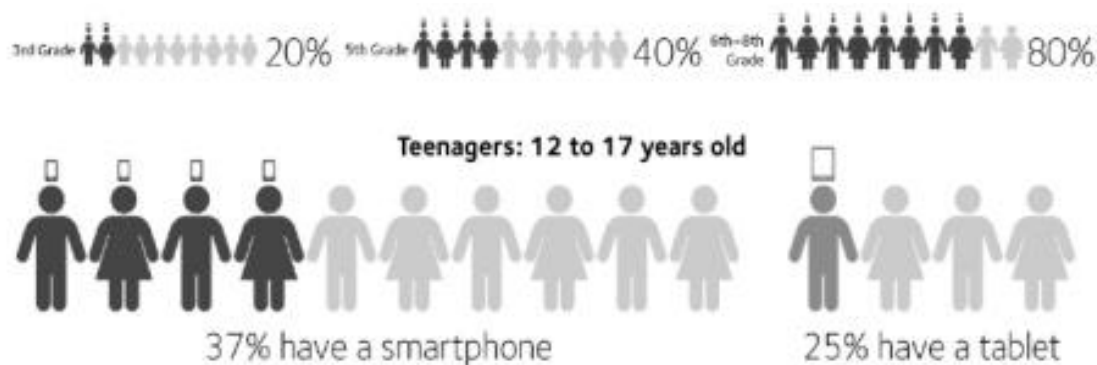


Figure 2. Afreen's (2014) percentages of mobile device owned by students.

Afreen, R. (2014). Bring your own device (BYOD) in higher education: Opportunities and challenges. *International Journal of Emerging Trends & Technology in Computer Science*, 3(1), 233-236.

### ***Inclusive, Assistive, and Adaptive Technology***

There are learners all over the world who face cognitive, physical, emotional, and geographic challenges when using technology while there are also some others who have all access, which is also referred as “digital divide” “commonly defined as the gap between those who have and do not have access to computers and the Internet” (Van Djik, 2006, p.221). Inclusive technologies are developed for the purpose of diminishing this digital divide problem. In order to engage all students’ voices, inclusive technologies serve as an aid kit. These technologies enable learners especially the ones with disabilities or/and learning difficulties to have accessible technologies. Assistive technology and adaptive technology also serve for this purpose in a pretty much identical way.

### ***Task-Technology Fit (TTF) Construct for Technology Evaluation***

This important construct by Goodhue and Thompson (1995) for evaluating technologies simply suggests that technological tools can enhance learning on condition that they fit the planned task. “Fit is used here to refer to the congruence between a technology and a task, that is, the extent to which a particular task can be performed effectively and efficiently with a particular technology” (Mathieson & Keil, 1998, p. 222). The construct opposes the idea of pragmatic integration and most of the models that lacks this construct are centralized. On the contrary, it emphasizes the combination of utilization and fit in technology evaluation (Goodhue, 2006) Utilization is associated with another construct which is also important: ease of use (EOU). Nevertheless, most related literature indicates it is not enough alone without TTF.

### ***Technology Acceptance Model (TAM)***

Even though the model has a few updated versions like TAM2 and TAM3, the very first Technology Acceptance Model (Davis, 1986) was developed and proposed for examining users’ acceptance of information systems and technologies. The model has its roots from theory of reasonable action (Fishbein and Ajzen, 1975). The so-called theory which also involves the theory of reasoned action and the integrative model of behavioral prediction is, in fact, a type of an umbrella theory which is called reasoned action theory. “Reasoned action theory explains behavior by identifying primary determinants of behavior and the sources of these determinant variables, and by organizing the relations between these variables” (Bourgeault, Dingwall, & De Vries, 2010, p. 120). As the definition of the original theory behind the model indicates, TAM inquires users’ selections of technology and the sources leading to those selections. Grasping why and how users choose technologies is essential because evaluation in advance to the use of technologies has a lot to do with acceptance in its specific meaning here as preference of technologies for some motivational factors as determinants based on different sources in our lives.

In progress of time, TAM has been improved by different scholars and the literature has got its different versions (TAM2 and TAM3) out of the improvements. Following each update, new variants affecting users' selections are visible in the models. The constituents in the initial and final forms of the model can be seen in the undermentioned figures. Whilst the first model does not include social factors, the relatively new ones have it in their palette.

“TAM attempts to help researchers and practitioners to distinguish why a particular technology or system may be acceptable or unacceptable and take up suitable measures by explanation besides providing prediction” (Lai, 2017, p. 34). With respect to the borders of the current study, understanding how individuals choose and decide to use a particular tool can shed a light on the criteria to guide teachers on their educational selections.

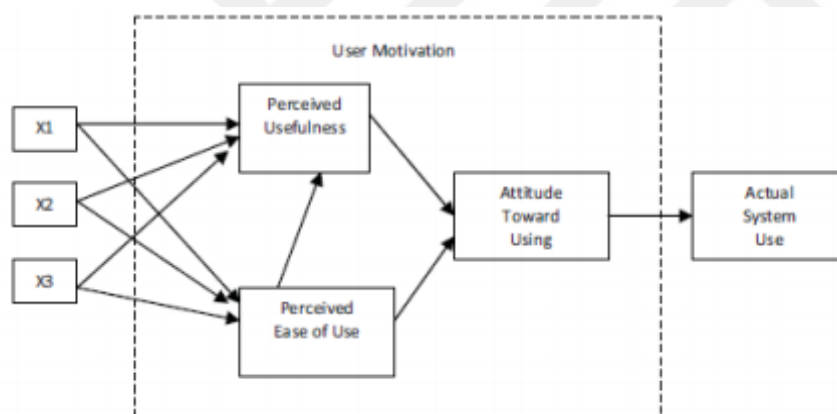


Figure 3. TAM by Davis (1986).

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, 22(14), 1111 - 1132.

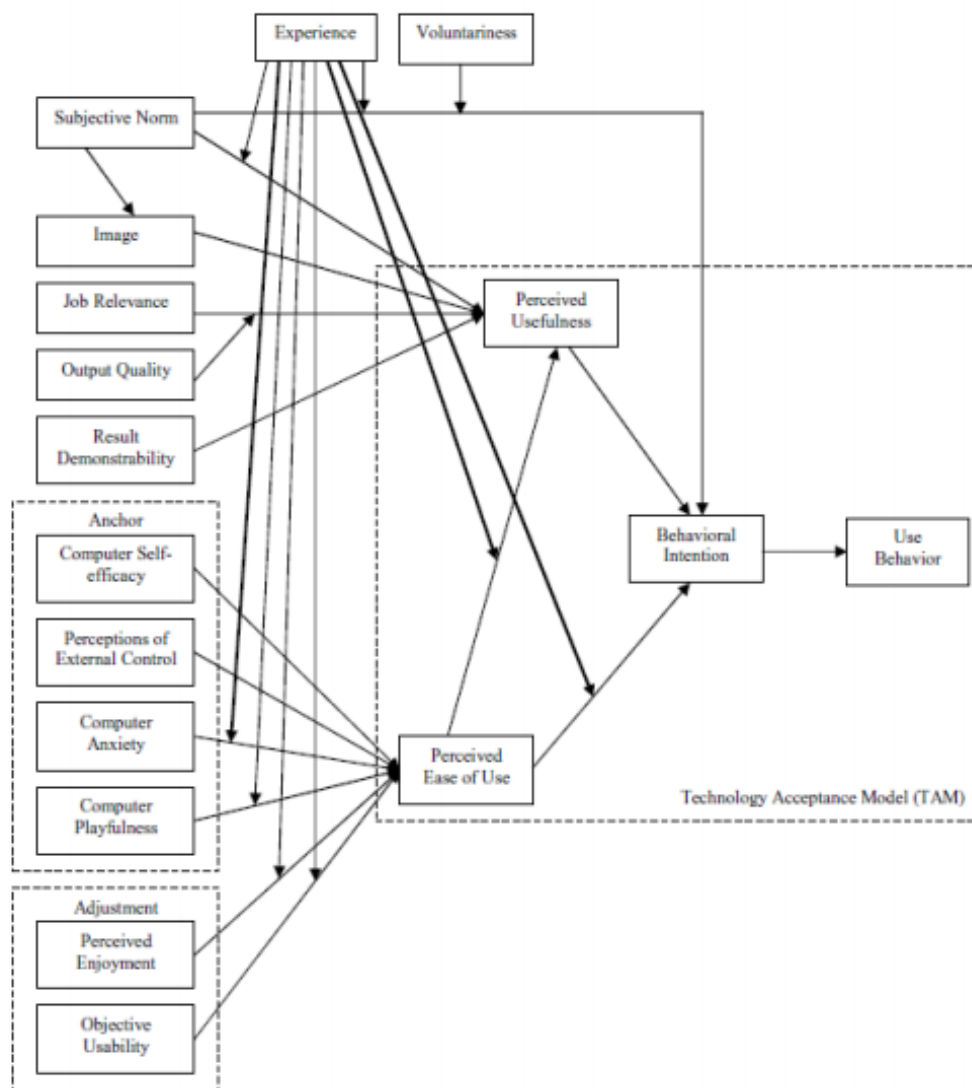


Figure 4. TAM3 by Venkatesh and Bala (2008).

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision sciences*, 39(2), 273-315.

### ***Unified Theory of Acceptance and Use of Technology (UTAUT)***

UTAUT by Venkatesh, Morris, Davis, and Davis (2003) make use of the former model and its different versions and it, veritably, simplifies the appearance of TAM3 possessing similar but more units under its roof. Similarly, this model with its two versions also takes users' behaviors regarding technology selection and use into consideration. With a closer look at the units in the model, social cognitive entries are also seen, which implies that the model is more user centered to this sense. It is a representation for student-centered technology

evaluations in education. In terms of theoretical side of the model, compared to TAM, it is to say that this model is broader and more sophisticated as it was constituted with reference to several models provided earlier such as Motivational Model (Davis, et al., 1992) and Model of PC Utilization (MPCU) (Thompson, et al., 1991).

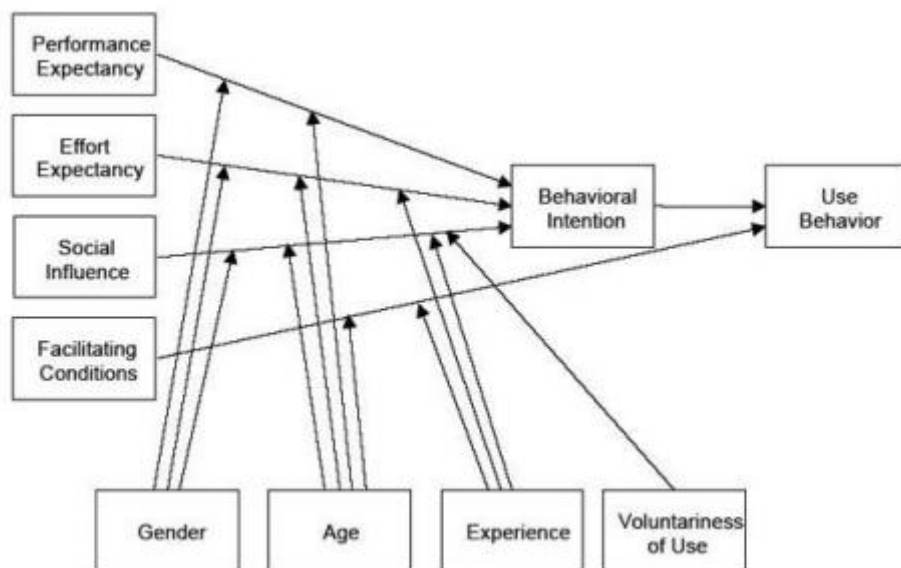


Figure 5. UTAUT by Venkatesh, Morris, Davis, and Davis (2003).

Venkatesh, V., Morris, M., Davis, G., and Davis, F. (2003). "User Acceptance of Information Technology: Toward a Unified View". *MIS Quarterly*, Vol. 27 (3), pp. 425-478.

Venkatesh et.al. (2003) mark the four main factors whose influence can be found on users' intention and use regarding technology. These factors are performance expectancy, effort expectancy, social influence, and facilitating conditions. Different from the initial version, UTAUT2 comprises hedonic motivation, price value, and habit (As cited in Chang, 2012).

In view of all that has been mentioned so far, the frameworks illustrated were not education related. Nevertheless, there is a consensus among scholars that TAM is the most comprehensible framework to resort to understand teachers' technology use. Researchers attempted to evaluate the mechanisms of TAM and its applicability on teacher use of

technology. To that end, Abdullah, Abidin, Luan, Majid and Atan (2006) proposed a conceptual framework of teacher acceptance and use of the computer as it follows.

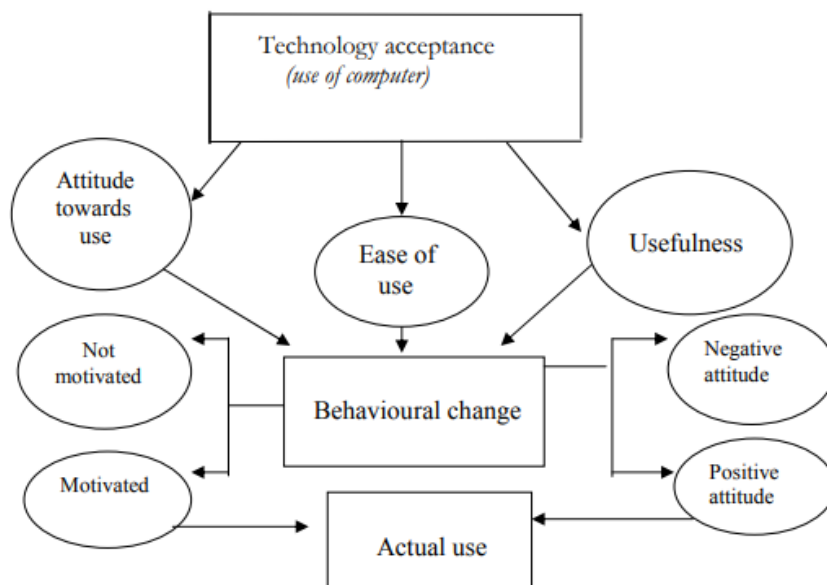


Figure 6. TAM framework for teachers by Abdullah (2006).

Abdullah, N. A., Abidin, M. J. Z., Luan, W. S., Majid, O., & Atan, H. (2006). The attitude and motivation of English language teachers towards the use of computers. *Malaysian Online Journal of Instructional Technology*, 3(1), 57-67.

Also, Şahin, Mcilroy and Ursavaş (2014) performed a similar study. They renamed the model as T-TAM and introduced an adjusted version to be used to understand teachers' technology intentions, behaviors, and actions.

Besides, the following one is both education and evaluation relevant since its production is so perfectly useful for this present thesis. To date, a number of studies have investigated the following framework in different disciplines of education from mathematics to language teaching. However, this part is generally dedicated to the ones conducted at the service of language teaching.

### ***Technological Pedagogical Content Knowledge (TPACK)***

TPACK framework by Koehler and Mishra in 2009 addresses all teachers without targeting a specific discipline. As for its implications, it aims to boost teachers' conceptualization of effective technology integration through illustrating a set of knowledge they should be retaining both for their professional development in teaching and for students' receiving quality training. TPACK has recourse to Gudmundsdottir and Shulman's (1987) descriptions of PCK (Pedagogical Content Knowledge) and it broadens Shulman's framework with a third component: technology or in other words technological knowledge. Shulman's framework: PCK suggests that there are two types of core knowledge for a teacher to be equipped with. Those are pedagogy and content. A teacher is also expected to be aware of the interrelation between them and likewise, how they are interdependent. In the conception of TPACK, these two core components and plus technology are occurred to be required for effective technology integration and it is highlighted that the association each component has with another should be well understood. In his master's thesis, Voogt and McKenney (2017, p. 7) report that "TPACK is essential for enabling teachers to integrate ICT in their teaching practice as it enables them to select and use hardware and software, identify the affordance of specific features and use the tools in pedagogically appropriate and effective ways".

Although TPACK was designed for primary and secondary levels of education, researchers attempted to appraise the impact of it on higher levels as well. For this favored framework at almost all levels of education, there have been skeptical approaches and attempts as well. The literature provides several studies on questioning theoretical aspects, and the validity and reliability issues of the framework (Archambault & Barnett, 2010; Elas, Majid & Narasuman, 2019; Graham, 2011; Tseng, 2018). A great deal of previous research into TPACK in ELT has also focused on teachers' perceptions (Aniq & Drajadi, 2019; Baran, Canbazoglu Bilici, Albayrak Sari & Tondeur, 2019; Nazari, Nafissi, Estaji, Marandi & Wang, 2019; Turgut, 2017). In its design and nature, TPACK encourages teachers to evaluate their integration in terms of three aspects of integration in line with its components.

However, it is not an output that teachers can always call upon in practice. It is, on the other hand, very valuable in terms of giving the sense and awareness of the idea of effective integration. There are, however, a number of authors who have considered implementing TPACK in practice/action (Gökçe, Akyel, Koçoğlu & Mishra, 2014; H. H. Santos & Castro, 2021; Harris & Hofer, 2011; Tai & Chuang, 2012). Furthermore, the related literature on TPACK offers a bunch of studies in which TPACK refers to all kinds of teachers' ICT applications and knowledge. Thus, it is viable to see study names like "Facilitating preservice teachers' development of technological, pedagogical, and content knowledge (TPACK)" (Chai, Koh & Tsai, 2010); "Examining Preservice EFL Teachers' TPACK Competencies in Turkey" (Ekrem & Recep (2014); "Improving Technological Pedagogical Content Knowledge (TPACK) of Pre-Service English Language Teachers" (Ersanlı, 2016); "Technological Pedagogical Content Knowledge (TPACK) of English Language Instructors" (Köse, 2016). As a result of this tendency in the literature, to some extent it is to say that TPACK can be used holistically as single knowledge hosting more within itself. The framework compounds sub-components arising from the relationships between those core knowledge constructs. The sub-components out of the main three can be seen in the figure below.

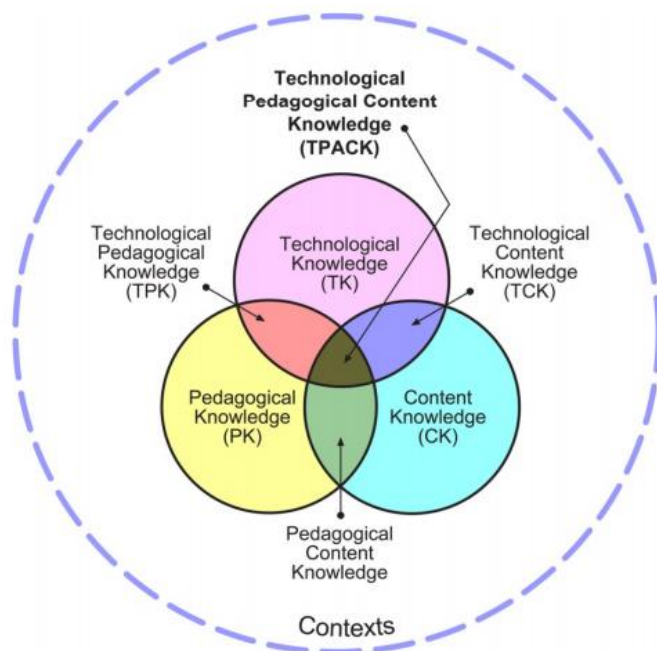


Figure 7. TPACK model by Koehler and Mishra (2009).

Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge (TPACK)?. *Contemporary issues in technology and teacher education*, 9(1), 60-70.

***The SAMR (Substitution, Augmentation, Modification, and Redefinition) Framework***

SAMR model by Puentedura (2012) attempts to make a classification of technology use. There are two main categories both of which are also divided into two sub-categories. These are transformation: redefinition and modification; enhancement: augmentation and substitution. To illustrate, an example for each sub-category can be seen in the table below.

Table 4

*Categories of Technology Use by Hayhoe (2014)*

Transformation	Redefinition	Teaching students how to use their tablet computers, their operating systems, etc.
	Modification	The inclusion of email functions within word processors, the integration of mail merge or hyper text editing within word processors
Enhancement	Augmentation	Cut and paste functions, waste bin functions, spell checking functions, grammar checking functions within word-processing
	Substitution	The use of a word processor instead of a typewriter, or hot metal publishing processes.

Hayhoe, S. (2014). The need for inclusive accessible technologies for students with disabilities and learning difficulties.

***The TILT (Teaching with Independent Learning Technologies) Framework***

The TILT framework is, in fact, a project having run for the evaluation of courseware and a framework has been outlined as a result of this project. In its design, the framework holds an illuminative and integrative approach towards evaluation which means it focuses more on the context and users of the source rather than diagnosing positive sides and failures of fulfillment of the source/tool. Hence, the evaluation is usually expanded over a period and the teacher has an active role in the process. This kind of evaluation is not applicable for daily use as it engages a lot of time and effort. It is very similar to experimental research since some data regarding the effectiveness of the source/tool is collected in different ways and then it is interpreted with respect to the context and its addressees. It can be preferred when deciding on a tool to be used on institution based for an academic period or year to be embedded in the curriculum (Oliver, 1998).

### ***The CIAO! Framework***

The CIAO framework is very similar to the SECAL framework by means of its application and priorities. It also gives importance to the teachers and the context. However, there are three dimensions of it to be exact. These are context, interactions, attitudes, and outcomes. It was designed to evaluate technologies in distance education. This mainly includes teleconference and learning management tools. The CIAO framework encourages stakeholders to involve teachers in the evaluation and make the evaluation process-oriented which happens with a lot of data collection. It aims to infuse a more eclectic approach towards evaluation of technology in education (Jones, Barnard, Calder, Scanlon, & Thompson, 2000; Oliver, 1998).

### ***The Situated Evaluation of Computer Assisted Learning (SECAL) Framework***

Being slightly different from the TILT and the CIAO, the SECAL framework is more like a case study instead of an experimental research study like TILT or CIAO. It focuses on two aspects in the evaluation process. They are “evaluation in context” and “evaluation of context”. These two terms represent the rationale behind the framework: examining technologies within their context with their contexts including the users. Different from the previous frameworks, it is possible to get more quick results here and lead the evaluation accordingly for further (Conole, Oliver & Harvey, 2000). Besides, “this type of evaluation is not particularly easy to conduct, but is a prerequisite to gaining academic credibility, maximizing the benefits of investment and justifying it in terms acceptable to economic-rationalist administrators” (Gunn, 1999, p. 1).

### ***Evaluation of Learning Technology (ELT) Framework***

ELT is categorized as a meta-toolkit as it gives multiple choices for the evaluation of education technologies. It encompasses many evaluation approaches and variety of qualities

for evaluative methods within its model. This gives teachers a chance to tool the approach and method which are the most suitable to their context and learners. Considering an in-depth guide, the evaluation steps are outlined in the model. The steps are to identify the audience, evaluation question, evaluation methodology, data collection methods, data analysis methods, and the way to display results, in the given order (Higgison, 2001).

### **An Overview of CALL Evaluation**

CALL evaluation is a rather novice area of research. Therefore, majority of the data in CALL evaluation literature is nourished with the aforementioned literature from technology evaluation in ICT and general education. As McMurry, Williams, Rich and Hartshorn (2016) stated, “prestigious CALL journals lacked references to formal evaluation literature, which provides a wealth of information regarding effective evaluation processes” (p. 1). Commenting on evaluation in CALL, as Brickmayer (2000) points out, the overall purpose of evaluations should be expanded from whether it worked to why it worked or why it did not. Besides, we should be asking what to do to make it work and what to do to make it work better. However, far from doing so, most of the research in the related literature focuses on the former question on whether it worked or not. Evaluations in CALL can be grouped by means of their internal purposes and types separately. According to Hubbard (2006), there are three fundamental purposes for technology evaluation for CALL. These are selection for a course, which is the most common one, selection for self-access or other instructors’ use, and reviews. As the audience of this thesis is language teachers at the service, the focused purpose here is selection for a course namely technological tool evaluation for in-class use. In-class use can also include tasks and classroom management activities applied outside the class hours within the course program/syllabus. One has to bear some criteria or standards in mind in order to evaluate technological tools or, in fact, any kind of material. Having a set of criteria or standards carries some benefits. Davison (2005) suggests that technology standards in ELT help language educators have common features in terms of their technology integration and technology knowledge. These cover shared goals and

implementations of technology integration, deciding on what teacher technology competence is composed of, monitoring technology integration process on both teacher use, and institutions based (As cited in Healey, Hegelheimer, Hubbard, Ioannou-Georgiou, Kessler & Ware, 2008). The evaluations can be shaped in the forms/approaches of methodological frameworks, SLA-based approaches, and checklists according to Levy and Stockwell (as cited in Hubbard, 2006). In this part of the thesis, focal points from the literature apropos of these three types and the focused purpose (selection for a course) are laid out. In their paper, White and Reinders (2010) made a distinction between traditional materials and CALL materials using various technological tools. The distinction was claimed to be affecting development of the materials. Hence, the evaluation of them might also have some distinctive features. They concluded that “organisational and practical advantages offered by the use of technology can sometimes be sufficient reason to adopt a new technology, even outweighing any pedagogic advantages. Among the many important questions arising during the process of the development of CALL materials, a key one is how to reconceptualise language tasks in ways that enable us to provide the best opportunities for language learning” (p. 20). This is a rather student-centered approach as it values the learning potential most. Learner-oriented evaluation for technology selection was also discussed by Erben (2013, p. 19) stating that “purposeful and contextualized material allows students to apply their knowledge of the world to their language learning tasks. For novice language learners, choosing technology that supports text with images such as photos, graphs, or charts is highly advisable”.

### **Frameworks for CALL Evaluation**

Hubbard’s evaluation involves selection, implementation, and assessment of the technologies. Even though this thesis particularly deals with selection of technologies, the frameworks for the other two are also placed here because the content is very much similar and they are not pretty distinguishable. Almost all of the evaluation frameworks here are designed to be of use summative evaluation since teachers are perceived to be end users and

third parties using the technologies offered rather than intervening in the development process which compels higher technology knowledge and practice.

### *Methodological Frameworks*

Methodological frameworks are descriptive pieces of works with no judgmental intentions, but they can trigger evaluators to be judgmental towards the technological tool being examined (Hubbard, 2006). Examples of frameworks illustrated since the very beginning of this chapter can be categorized in this approach. The history of methodological frameworks in CALL started back in 1985 when Philips generated a framework including CALL related items. The framework then was improved by Hubbard in 1988. He combined Philip's framework with the framework on methodology of language teaching developed by Richards and Rodgers in 1982. Hubbard's edited and improved framework (1992) which is the final state of the framework procedure in CALL remains the most comprehensible one prioritizing pedagogy and it consists of main categories like teacher fit, learner fit, and operational description.

When these categories are subjected to an in-depth examination, it is definite to observe a genuine harmony among them, which prevents the negative overlapping of the aspects within each and this is not fortuitously made.

### *Teacher Fit*

This category refines teachers' assumptions and evaluation criteria based on the approach. Thus, it indicates that the framework is open for subjective evaluations to some extent. It gives the outline to the teachers, and they are to go further with it in for their evaluations.

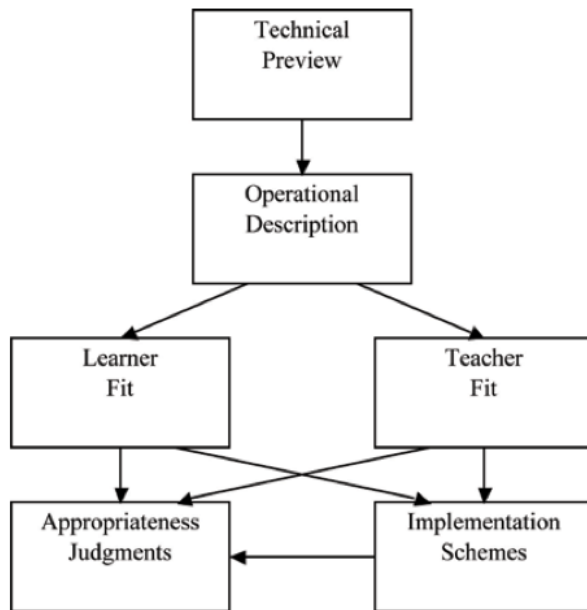
### *Learner Fit*

Learner fit deals with how much the design of the specific tool is suitable for the learners and the course being taught or the specific lesson in which the tool is intended to be used.

### *Operational Description*

The procedure of the application is the focus for this category. It handles what the capabilities of the tool are and what the teachers can do with them in accordance with their students' profile. For this aspect of the evaluation, the phases of the activity or lesson and their sequence should also be considered.

The detailed illustration of each and its interrelations in addition to the subordinating domains they cover can be seen below.



*Figure 8.* Hubbard's framework (2006)

Hubbard, P. (2006). Evaluating CALL software. *Calling on CALL: From theory and research to new directions in foreign language teaching*, 313-338.

### *SLA (Second Language Acquisition) Based Approaches*

When it comes to the SLA based approaches, the literature is not very promising because SLA is a branch of research which has more hypotheses than theories. Therefore, it might be hard to proceed with them in another branch. It is usually nourished with non-CALL research. In his study, Chapelle, who is one of the prominent scholars in this specific area of the literature, CALL evaluation comes up with a set of criteria for CALL materials. These are language learning potential, meaning focus, learner fit, authenticity, impact, and practicality (2001). It is rather student-centered, which is very nice, but it does not involve a criterion regarding teacher work which is also important as the tools need to be prepared and involved in the lessons by the teachers. A later study (Jamieson, Chapelle & Preiss, 2004) utilizing Chapelle's set of criteria elaborates learning potential which is perceived to be the most crucial one with regards to language teaching/learning with some sub-elements. They are enhanced input, interaction, and production. These then derive principles and criteria in keeping with the principles. A descriptive explanation of them can be identified in the table below.

Table 5

*CALL Evaluation Principles, Criteria, and Variables*

Principles	Criteria
Language learning potential should be the central concern when developing and evaluating CALL.	Enhanced input Interaction Production
CALL should be evaluated in terms of the quality of assessment in addition to instruction.	Authenticity Construct validity
The criteria used to conduct the analysis should be drawn from theory and practice in SLA and language assessment.	↑
Judgmental evaluation through defined variable is valuable for examining materials in a way that can improve future design.	

Jamieson, J., Chapelle, C., & Preiss, S. (2004). Putting principles into practice. *ReCALL*, 16(2), 396.

### ***TESOL Technology Standards Framework***

TESOL (Teaching English to Speakers of Other Languages), which is one of the most prominent associations carrying on English language teaching projects, research studies and so on to assist English teachers all over the world in many ways, published a set of standards for technology integration into English language teaching in 2008. The project brought legitimate members of this specific area of field together. They are Deborah Healey, Volker Hegelheimer, Phil Hubbard, Sophie Ioannou-Georgiou, Greg Kessler, and Paige Ware. Every member of this team was already working on technology integration into language teaching and especially evaluation of it. In the frame of this TESOL project, they worked together and put a set of technology standards also referred as goals for teachers and students separately forward. Within the scope of the standards for teachers, there are goals which are inclusive of them. Goal 2 is directly related to technology evaluation and tool selection. Below is the related goal and its standards (Healey et. al., 2008, p. 32-34).

Goal 2. Language teachers integrate pedagogical knowledge and skills with technology to enhance language teaching and learning.

STANDARD 1: LANGUAGE TEACHERS IDENTIFY AND EVALUATE TECHNOLOGICAL RESOURCES AND ENVIRONMENTS FOR SUITABILITY TO THEIR TEACHING CONTEXT.

Performance indicators

- Language teachers identify the technological resources (e.g., hardware, communication technologies, digital material, courseware) and limitations of the current teaching environment.
- Language teachers identify appropriate technology environments (e.g., lab, one computer class, online, independent use) to meet specific learning/teaching goals.
- Language teachers evaluate technology environments for alignment with the goals of the class.
- Language teachers evaluate technological resources for alignment with the needs and abilities of the students.

STANDARD 2: LANGUAGE TEACHERS COHERENTLY INTEGRATE TECHNOLOGY INTO

THEIR PEDAGOGICAL APPROACHES.

Performance indicators

- Language teachers demonstrate understanding of their own teaching styles.
- Language teachers review personal pedagogical approaches in order to use technology to support current teaching styles.
- Language teachers demonstrate their understanding of the potential and limitations in technology.
- Language teachers embed technology into teaching rather than making it an add-on.
- Language teachers engage regularly in professional development related to technology use.
- Language teachers evaluate their use of technology in teaching.

Performance indicators, expert level of technology

- Language teachers work around the limitations in available technology to achieve instructional goals.
- Language teachers support peers in their professional development with technology.

(Informal support may be unpaid; formal support should be paid.)

### STANDARD 3: LANGUAGE TEACHERS DESIGN AND MANAGE LANGUAGE LEARNING

#### ACTIVITIES AND TASKS USING TECHNOLOGY APPROPRIATELY TO MEET CURRICULAR GOALS AND OBJECTIVES.

Performance indicators

- Language teachers demonstrate familiarity with a variety of technology-based options.
- Language teachers choose a technology environment that is aligned with the goals of the class.
- Language teachers choose technology that is aligned with needs and abilities of the students (e.g., language learning–focused software, productivity tools, content tools).
- Language teachers demonstrate awareness of students’ level of digital competence.
- Language teachers ensure that students understand how to use the technology to meet instructional goals (e.g., teach students how to evaluate online resources).
- Language teachers enable students to think critically about their use of technology in an age appropriate manner.

Performance indicators, expert level of technology

- Language teachers adapt technology-based activities and tasks to align with the goals of the class, and with the needs and abilities of the students.
- Language teachers create an appropriate technology environment to meet specific teaching and learning goals.
- Language teachers operate with an understanding of the underlying structure of the technology in use.

- Language teachers demonstrate the ability to draw on a wide range of functions in technological resources.
- Language teachers identify more than one approach to achieve an objective (e.g., a backup plan for when the technology is not working).

### ***Technology Evaluation with Universal Design for Learning (UDL)***

UDL is a framework/tool developed for teachers to utilize so that they can teach their contents in a way that is meaningful and challenging for learners. It focuses on why, what, and how of learning and gives suggestions for teachers to apply so as to reach all the learners in their classrooms. In essence, it highlights engagement, representation, interaction, and expression for learners. There is a guideline consisting of a set of suggestions concerning these three aspects of learning. By applying those suggestions, it is aimed to train learners to be purposeful, motivated, resourceful, knowledgeable, strategic, and goal-directed.

What kind of materials are used in a course or lesson is very much related to design of the lesson. If teachers want their student to have these common features of UDL, they need to choose their learning materials and mediums accordingly. Technologies integrated into classrooms are also included in these materials and mediums. Therefore, when selecting a tool with respect to UDL, a teacher must consider to what extent it engages, represents, and triggers for action and expression for learners.

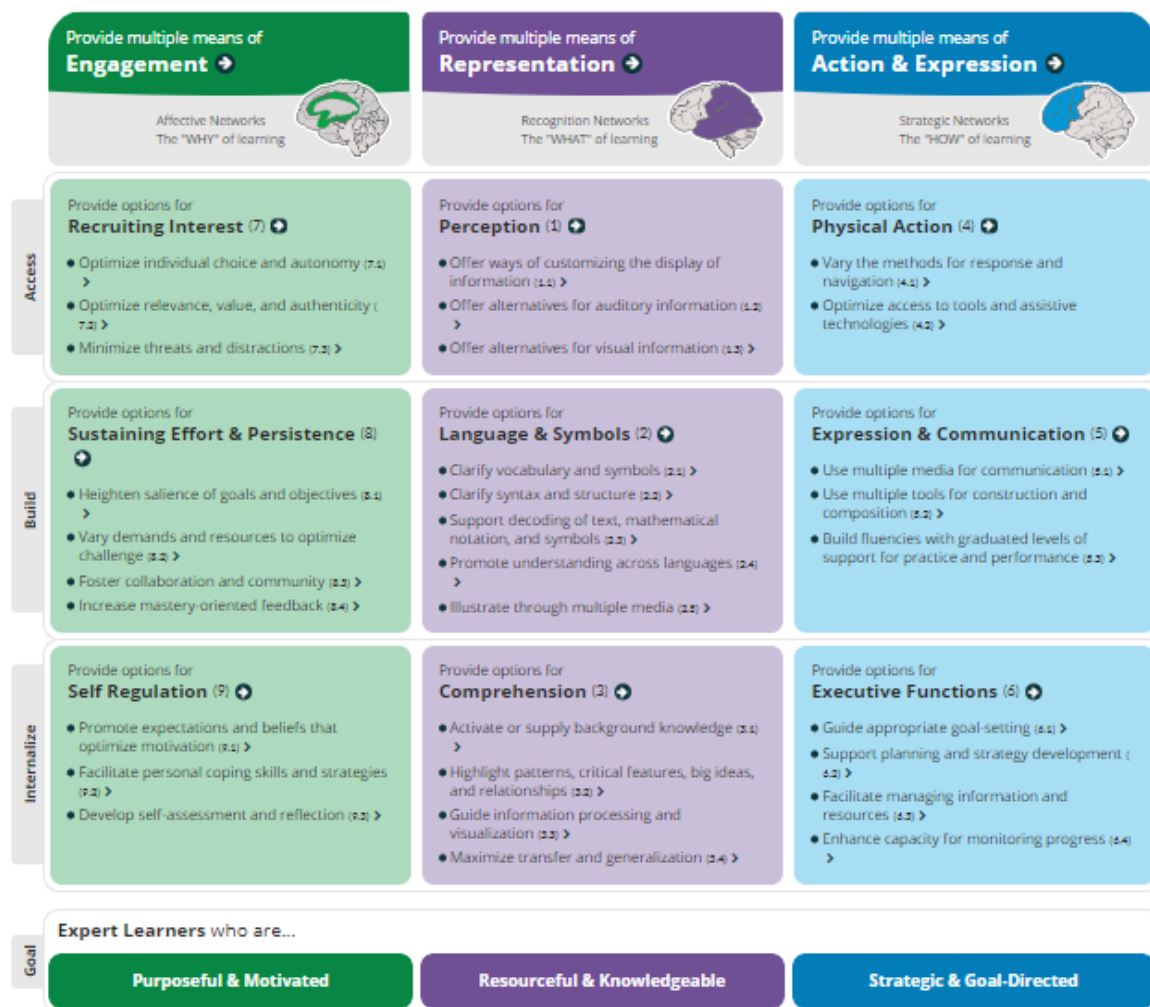


Figure 9. UDL guidelines

retrieved from

[https://udlguidelines.cast.org/?utm\\_source=castsite&lutm\\_medium=web&utm\\_campaign=none&utm\\_content=aboutudl](https://udlguidelines.cast.org/?utm_source=castsite&lutm_medium=web&utm_campaign=none&utm_content=aboutudl)

### Checklists

The checklists which are the earliest and the most criticized type of evaluation in CALL are rich in quantity. However remarkable the existing works are, they are not being used by language teachers for some reasons. Generally, most of them lack practicality and they are restrictive in terms of their foci. To illustrate, checklists can be classified on the basis of their construct, content, and organization into skill or subskill-based checklists, evaluand-based checklists, competence-based checklists, approach or theory-based checklists,

educational level specific checklists etc. These different types of checklists may address evaluators other than teachers; nonetheless, here we will focus on the ones for teacher use.

The history of checklists can be divided into three phases as 1980s when CALL evaluation mostly depended on them, 1990s when using checklists for CALL evaluation received a lot of negative criticisms, and 2000s till now when some scholars have begun to defend checklists and checklists have started to become more theory oriented. Some of them fall in the category of guidelines, yet they serve for the same aim.

Back in 1983, Strei developed a kind of checklist which generally consists of fill in the blanks sort of items. The checklist prepared with an intention to make both descriptive and evaluative guide for teachers to select technologies includes a comment section for its users. Then in 1987, Hubbard proposed a checklist framework. The approach of the framework is to combine SLA, learning strategies, and pedagogy. It aims to help foreign language teachers integrate technology by taking these three components and what they need in their own context including their students, curriculum etc. In the same year, Curtain and Shinall's (1987) checklist appeared. It was particularly for training prospective teachers in technology evaluation. The framework contains not only language and instruction related items but also learner characteristics. Later in 1989, Lillie, Hannum, and Stuck came up with a more grounding checklist to help language teachers evaluate technology. The checklist prioritizes content, procedure, and management with regards to instruction. Besides, there are scholarly guidelines created for the improvement of technology integration through helping teachers evaluate technologies (CALICO, 1983; Evans & Gibson, 1989; Owston & Dudley-Marling, 1986; Taylor, 1985).

In 1990s, Komoski and Plotnick (1995) established guidelines which are very similar to experimental research regarding its application procedure. The process starts with a needs analysis then some technologies are investigated in order to check if they can meet the needs, and a decision is made according to the final feedback. Afterwards, CARLA (Center for Advanced Research on Language Acquisition, 1998) developed guidelines which

encompass six aspects of technology, teaching, and the target language: “general description, technical information, skill focus, proficiency level, target audience (age level), and ease of use” (Villada, 2009, p.367). In the same year, Chapelle who was one of the first scholars to realize that technology evaluation forms should be theory based proposed interactionist guidelines. Therefore, the framework prioritized the interaction between the computer and students when setting the evaluation criteria. After a year, Treadwell (1999) proposed guidelines which are only for websites and formed in the pointing style where the evaluator judges statements by giving points from 1 to 5.

In the last phase in which CALL started to receive more deliberate attention, the practical evaluation of CALL materials also gained importance, which brought checklists on the stage again. Having been the subject of a lot of criticism in the previous decade by some scholars, checklists are tried to be saved in this phase. One of the leading roles is featured by Susser (2001). In his paper, he refutes the claims against the checklists asserted in the 1980s and 1990s. The claims were on checklists’ being inaccurate due to objectivity and reliability concerns, and as a result their impracticability for education related purposes. Although he treats checklist evaluation only for courseware, his concluding points are generalizable to the other uses of checklists. There are six objections about the checklists and six refutations in response to them. Overall, he suggests that “the checklist is a valuable tool that serves as a reminder to evaluators to look for points they might otherwise neglect” (Susser, 2001, p. 271). When the arguments against checklists calmed down a little, Son (2003; 2005) introduced two different checklist frameworks one of which is for website evaluation and the other one of which is for applications. Both of them show resemblance by means of their design and construct. The content is changed with reference to the evaluand. Another seminal study in this time period is the work of Yang and Chen (2008). It is devoted to assist language teachers for website evaluation. It undertakes an evaluation of language learning bearings and the target language itself. A rather small-scale study by Uzun (2009) focuses only on games for vocabulary learning. The checklist is an adapted version of two other sources (Chapelle, 2001; National Foreign Language Resource Center, 1998). It has

statements to judge with yes-no answers. Another preliminary work on technology checklists was undertaken by Liu, Liu, and Hwang (2011). It is also only applicable for websites. The distinguishable feature of this checklist is its being multi-dimensional. Thus, it addresses “web usability, learning materials, functionality of assisting language learning, technology integration, and learner preferences” at the same time (Liu, Liu & Hwang, 2011, p.1). A recent systematic study on checklists by Jiang, Renandya, and Zhang (2017) targets evaluating multimedia courseware for teaching English from the perspective of Cognitive Theory of Multimedia Learning (CTML). The design of the checklist is a likert scale in which the evaluator states to what extent he agrees with the statement from “strongly agree” to “strongly disagree”. The content of the checklist is narrowed to the design of the multimedia courseware so it has nothing to do with language, pedagogy, or methodology concerns.

To sum up, the review above should be interpreted as a foundation on which the development of the present work’s checklist. Majority of the given review here agrees on number of points to evaluate technological tools for educational and particularly language teaching purposes. In essence with those points the literature prioritizes, a comprehensive list in their scope is tried to be formed below.

- Evaluation in its all types is done for improvement and it is a must for improvement.
- Context and people/students in that context play an important role in evaluation.
- In education, evaluation is a way to see if the objectives are met well.
- In language education, evaluation should mainly focus on content and pedagogy.
- In language technology evaluation, evaluation should focus on content, pedagogy, and technology.
- Technology evaluation in education should be teacher friendly.
- Teachers should be considered and treated as practitioners and end-users.

- “Effective” technology integration remains very unrealistic except for its components: task-technology fit, and ease of use etc.
- Objectives should define what technology is needed, not vice versa.



## **CHAPTER III**

### **METHODOLOGY**

#### **Presentation**

The third chapter is concerned with the methodology used for this study. The main issues addressed in this chapter are research design, participants, context, data collection, and data analysis. Under each heading, descriptions of the present study's operationalization-linked aspects are placed. First, the research design is identified and research path including its phases is explained. Then, the participants in each phase are profiled with necessary information. Following that, the context together with the time slot when the study takes place are briefly introduced in order to help readers picture the conditions under which the study is conducted. Finally, data collection and analysis procedures are explained with respect to the study phases. The summary of the data collection and analysis ways is also shown in a table in the end.

#### **Research Design**

The present study can be categorized under three different research methods. To start with, the very first phase of the study is a needs analysis, and the following parts cumulatively get fed by the initial part. The second part of it is a meta-evaluation in its nature as it, at first, intends to evaluate the materials in the literature for education technology evaluation. In its lexical meaning, "meta-evaluation means that an evaluation itself is made the subject of

another evaluation” (Vanhoof & Van Petegem, 2010, p. 21). Following and with the guidance of this meta-evaluation process, in the third part, the study evolves into one of the types of summative evaluation: judgmental evaluation. In this instance, the study contemplates creating a new evaluation material. There are four main phases to apply in these two halves of the study: meta-evaluation and judgmental evaluation. As the intellectual output of this set of phases, it is aimed to provide a framework which is in the form of a checklist for this particular study. The aforementioned phases are illustrated below in their time order and the detailed information on them can be seen in the data collection section later in this part.

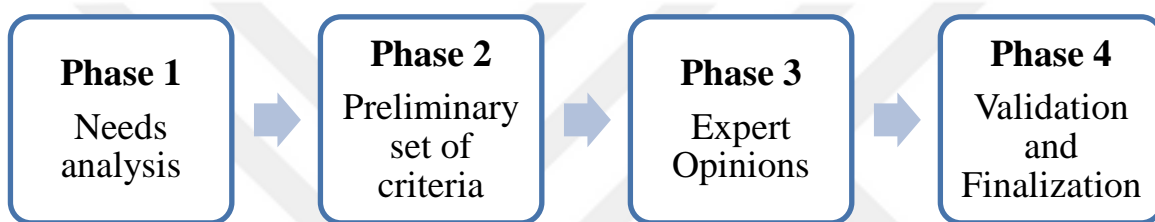


Figure 10. Study phases

The study operationalized throughout these four phases is nourished by a few research philosophies and approaches like pragmatism, interpretivism, and more specifically constructivism. “According to pragmatism, the truth or meaning of an idea or a proposition lies in its observable practical consequences rather than anything metaphysical” (Sharma, Devi, Kumari, 2018, p.1549). In educational research, pragmatism shows itself mostly through emphasizing continuous growth. Interpretivism is about the process of individuals’ making meaning out of their context (Chowdury, 2014). In line with the educational research, where the research takes place and how the individuals approach the focus have a vital role in meaning making process in the study. “Constructivism is not a theory about teaching...it is a theory about knowledge and learning... the theory defines knowledge as temporary, developmental, socially and culturally mediated, and thus, nonobjective” (Brooks & Brooks, 1999, p.6). When it comes to the relationship between this study and these philosophies, in terms of its being pragmatic, the study tries to offer a practical solution

for a common problem language teachers face. It is also interpretivist since it does not spoon feed the teachers but assist them in a way that they can actually make the decisions for their teaching experiences. When it comes to what makes it constructivist, it should be noted that teachers and learners along with how they process information are put in the center of this thesis.

### **Context and Time Period**

Even though the output of the study and its results are generalizable and not context specific, for data securing concerns it is better to broach the subject of the context where the participants and the researcher of this study were living during the study investigations. The study takes place in the Republic of Turkey, a developing country located in both Asia and Europe. A meta-analysis study (Başaran, 2013) conducted in Turkey to explore studies with a focus on attitudes, educational value attributed, problems, and suggestions of language teachers and learners on CALL summarizes the state of CALL in the context. The study found in most of the studies that both teachers and students have positive attitudes towards instructional technology. Educational value of CALL attributed by learners and teachers is noted to be associated with their awareness of CALL potential. Whereas some studies emphasize this awareness, there are also others neglecting. Therefore, for this aspect the study does not clearly draw a conclusion. Moreover, the author suggests that despite the rather positive attributions and attitudes of students and teachers, the problems with CALL in Turkey exist. The major ones are inadequate teacher IT competence and their lack of confidence in using digital tools to teach the target language. As for learners, it is also indicated that they may be affected by this state of teachers and some of the studies reported that they see instructional technology as a waste of time. Some solutions for these problems are mentioned to be teacher and student technology training particularly for language learning and teaching, developing a curriculum compatible with technology, and funding. Supplementary to CALL, indicating highlights from instructional technology or technology integration into education in general can be remarkable for the audience of this paper to

conceptualize the context better. The background of IT in Turkey dates back to the beginning of 20<sup>th</sup> century. One of the major projects is the FATİH project which aimed to “equip 42,000 schools and 570,000 K-12 classes with interactive whiteboard, projection systems, and tablet computers” (As cited in Gedik, 2017, p. 79). Also, there is a growing literature in e-learning and multimedia (Gedik, 2017). Besides, this study does not address any specific age group, level, or any distinct sort of institution. It started in 2019 and it was finalized in April, 2020. Throughout the given time frame, the phases illustrated above were engineered and actualized respectively.

## **Participants**

The study used a convenience sampling; 35 teachers specialized in English Language Teaching were recruited for this study. The participants are only language teachers as the scope of the study brings about language teaching side of technology use in language classrooms. The sample was representative with respect to occupational knowledge and language teachers’ individual preferences. All of the participants were aged between 22 and 45 at the beginning of the study. The cohort was divided into two groups as 30 and 5 according to what different study phases require. The detailed explanation can be seen below.

### **Participants for the 1<sup>st</sup> Phase**

For this specific phase of the study, eligibility criteria required individuals to be actively teaching a language in formal settings in Turkey such as public or private schools, language courses, preparatory schools at foundation or public universities and so on. Namely, the level or teaching context does not matter as long as language is being taught in a formal setting. More specifically, the participants are 30 English teachers whose majors are English Language Teaching, English Language Literature, or English Translation. The second major condition to be in the cohort for this study is to be familiar with educational/instructional

technology. On the other side, variables like gender, age, length of teaching experience, major of graduation do not have any distinguishable role in the data hence they are not set as a prerequisite for the involvement of the participants in the study.

### **Participants for the 3<sup>rd</sup> Phase**

In this phase, there are two parties of experts to comment on the overall validity of the checklist. Three scholars are got in touch for the content and construct validity of the checklist. These scholars have expertise in technology and CALL related areas. Three other scholars who are research and research methods expertized are also consulted for the face validity of the checklist.

### **Participants for the 4<sup>th</sup> Phase**

In the 4<sup>th</sup> phase, there are two activities requiring participants: finalization and trials. For finalization, a semi-structured interview is applied with five language teachers with the same features of the participants in the phase three to get evaluator perspective on the checklist. As such, for the trials, the same teachers participate in the piloting process experiencing the checklist.

## **Data Collection**

Data was gathered from multiple sources at various time points as illustrated below.

### **Phase 1**

In the very beginning of this study, the needs analysis was administered through an online survey. The survey consists of two main parts. In the first part, demographic questions such as the length of experience as an English teacher, and a prerequisite question for technology use are placed. In the second part, four open ended questions are included. The survey covers

open-ended questions, multiple choice items, and Likert-scale formed questions and the themes are as follows: technology use, technology evaluation, the way of the evaluation and considerations when evaluating the tools. The starting point was whether language teachers utilize any kind of evaluation material to evaluate their technology integration and the tools they use. Depending on their answers, the further questions were set to be whether the material is adequate and whether they think they need such a material. The needs analysis survey also investigated the things which teachers evaluate or prioritize when choosing a technological tool for language teaching purposes. The investigation results revealed the first version of preliminary set of criteria to be developed and turned into the final intellectual output which is the technological tool evaluation checklist for language teaching. The survey used in this phase and its results are demonstrated in the results and discussion section.

## **Phase 2**

At the hand of the needs analysis results and the published studies on technology evaluation, preliminary set of criteria is constituted. The first step in this process was to uncover the themes for technological tool evaluation for language education. When the themes were extracted, it was first necessary to associate them with one another and group them according to this association. On completion of the groups, the process of elaborating the groups was carried out. During these steps, several revisions were made prior to going further with another step. The fundamental purpose was not to have criteria which question the same aspect of technology or contradictory criteria.

## **Phase 3**

Phase 3 contains three steps. In the first step, the penultimate version of the set of criteria was presented to three scholars who are preferably specialized in technology evaluation and computer assisted language learning or similar areas of the discipline. This way of validity check is called expert validity survey. Expert validity survey helps to gather experts to

confirm their expertise in an area or field (As cited in Dakare, Adebisi & Amole, 2019, p. 25). Having the set being expertized in terms of its content validity and effectiveness, the final version regarding the content was created. Following that, the second step deals with the wording of each item in the checklist. Back translation which is “the technique most commonly used to check the accuracy of translation in survey research” (Douglas & Craig, 2007, p. 30) was administered. The final step starts with organizing the finalized items and outlining the criteria to be a checklist and it was again presented to three other scholars who are in preference specialized in research methods. The scholars checked the checklist’s face validity. In order the experts to evaluate the checklist’s face and content validity, they were given a checklist prepared by the researcher to comment on each and every item on the technology checklist. The necessary changes and modifications were handled, and the next to the last version of the checklist was formed.

#### **Phase 4**

The first part of the 4<sup>th</sup> phase starts with obtaining language teachers’ perspective about the checklist. To this aim, five language teachers were interviewed. The semi-structured interviews were not recorded. The key ideas are directly applied on the checklist after consulting to the experts in the previous phase. Following that, some trials were applied. There are three steps in the trials. First, once the checklist went under the previous phases successfully, in the first step of the last phase was to pretest it with some sample tools. The tools were selected randomly; the teachers chose the tools. Five language teachers were given the checklist and three tools to evaluate. They examined the tools and used the checklist. With the answers they got from the checklist, they made a decision about using or not using the tool in their classes for language teaching purposes. Second, after a week, the same group of teachers were given the checklist and they evaluated three other tools and made their decisions. In the final step, all three evaluations made in the second step were compared within themselves and iterative testing which is “done during the design/testing/development phases and the results are compared to the usability goals”

(Scholtz, 2004, p. 1) was used at this point and the participants went through think aloud and verbal probing procedures. These procedures comprise a series of probe questions directed to the participants on their selections. The comments were discussed with reference to usability, validity, reliability, and effectiveness of the checklist.

## **Data Analysis**

Different data analysis processes are applied at different stages of the study depending on the type of data collected. Detailed explanation of them can be seen below.

### **Needs Analysis (Phase 1)**

The answers gathered from the online survey for the needs analysis are examined in depth. The qualitative data analysis procedure is applied. Particularly, content analysis is administered. This basically involves four steps: decontextualisation, recontextualisation, categorization, and compilation (Bengtsson, 2016, p. 12). That is, the first two steps can be taken as the process to understand the data and then in the next stage, the interpreted data is categorized by the researcher under some themes with respect to the frequency of the words in the same theme. These categories eventually help to form the preliminary set of criteria: compilation.

### **Selection of the Preliminary Set of Criteria (Phase 2)**

Literature is systematically reviewed in terms of technology evaluation materials and specifically CALL evaluation materials. The materials are then reconsidered to find out new items for the preliminary set of criteria being created.

### Finalizing the Set of Criteria (Phase 3)

Content validity checks of the checklist are done with the experts. Following that, face validity of the checklist is checked by the other expert party.

### Validation (Phase 4)

Participant teachers' evaluations and their iterative testing data were analyzed again with regards to qualitative data requirements. Their selections and reasons of their selections were discussed and compared among themselves.

A summary of the data collection and analysis together with the research questions is displayed below.

Table 6

*Research Questions, Data Collection, and Data Analysis*

Research Questions	Data Collection	Data Analysis
1. What are the needs of language teachers when choosing tools to integrate technology in their classes?	Online Survey	Needs analysis
2. Are there scholarly checklists in the literature for technological tool evaluation?	Systematic Literature Review	Content analysis
2.1. What are the pros and cons of existing technology evaluation checklists?		
3. What constitutes a practical technological tool checklist for CALL?	Expert opinions 5 teachers on 5 different tools	Content and face validity checks Iterative testing for reliability check

## **CHAPTER IV**

### **RESULTS AND DISCUSSION**

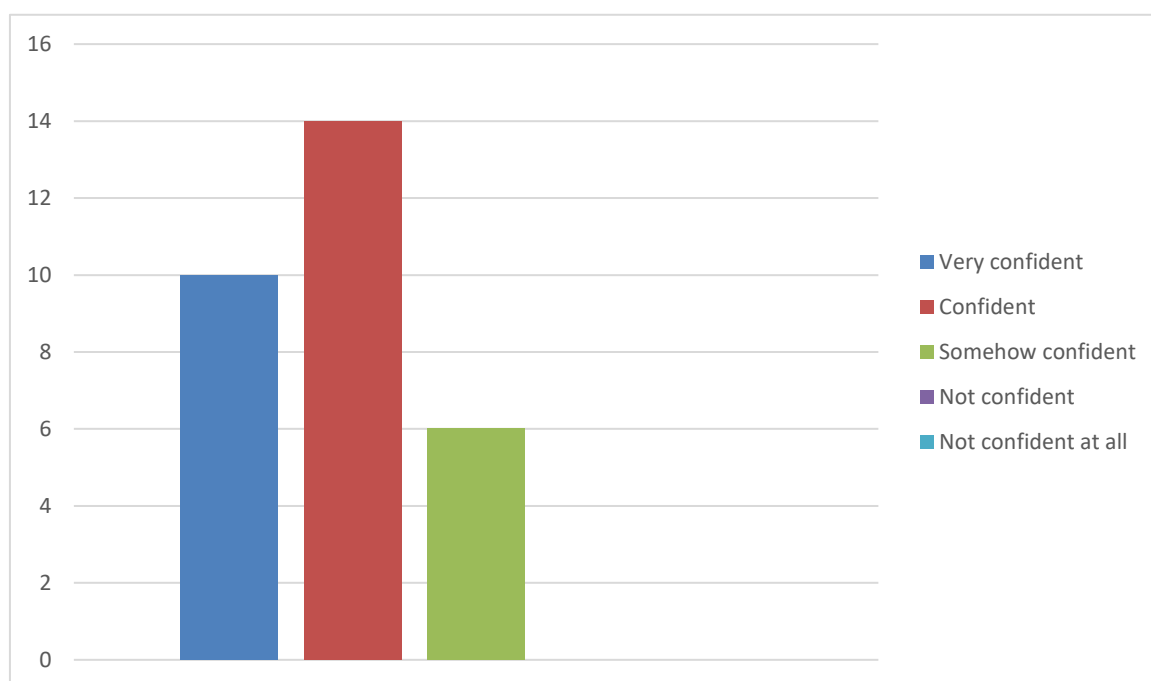
#### **Presentation**

The fourth section presents the findings of the research, focusing on three key themes that are in line with the research questions. These themes are language teachers' needs in technology evaluation, education technology evaluation tools, ideal education technology evaluation, and its tentative tool. In other words, here readers find a close examination of the needs analysis, themes of the final product, and the efficiency of the tentative tool. The results gathered from the data collection and analysis procedure are interpreted with respect to these themes. Next, the interpretations are put through a benchmarking with the associated highlights from the chapter II: Review of the Literature. The purpose here is to see whether the findings of this particular study match the previous research and what the contrary, common, different, or similar points are. In order to do that, the outline is set to be theme by theme and under each theme there are sub-sections regarding the research questions, the results, links to review of the literature, and discussion for all.

## Language Teachers' Needs in Education Technology Evaluation

### **RQ1: What are the needs of language teachers when choosing tools to integrate technology in their classes?**

The first question in this study sought to identify what language teachers lack in terms of choosing technologies to integrate in their classes and the evaluation of those technological tools. A needs analysis was administered to proceed with further questions of the study. The needs analysis was conducted with a web-based survey, and it showed that the most striking result to emerge from the data was language teachers' self-confidence in using digital tools in their classes even though they did not depend this confidence on a legitimate or scholarly source. There were 30 responses from all the participants to the question: "How confident do you feel when choosing a technological tool to integrate in your classes?" and none of the participants stated that they didn't feel confident. Whereas most indicated that they felt confident, very confident, and somehow confident followed it.



*Figure 11.* Language teachers' confidence when integrating technology

The problem in this result is a second-order barrier to technology integration according to Akcaoglu's division of problems language teachers experience when integrating technology (2008). As Akcaoglu points out, this kind of barriers are harder to wipe out because they are made of intrinsic aspects like confidence.

The second question was to detect whether their self-confidence was grounded on a reliable source or not. The question was "Do you do any kind of checking or assessment for the tools before applying them for educational purposes?". Surprisingly, less than half of the respondents implied that they used any kind of checking or assessment for the tools before applying them for educational purposes. This result showed that they did not integrate technology in a framed structure and not only that, their confidence showed that they did not see that they needed such a guide.

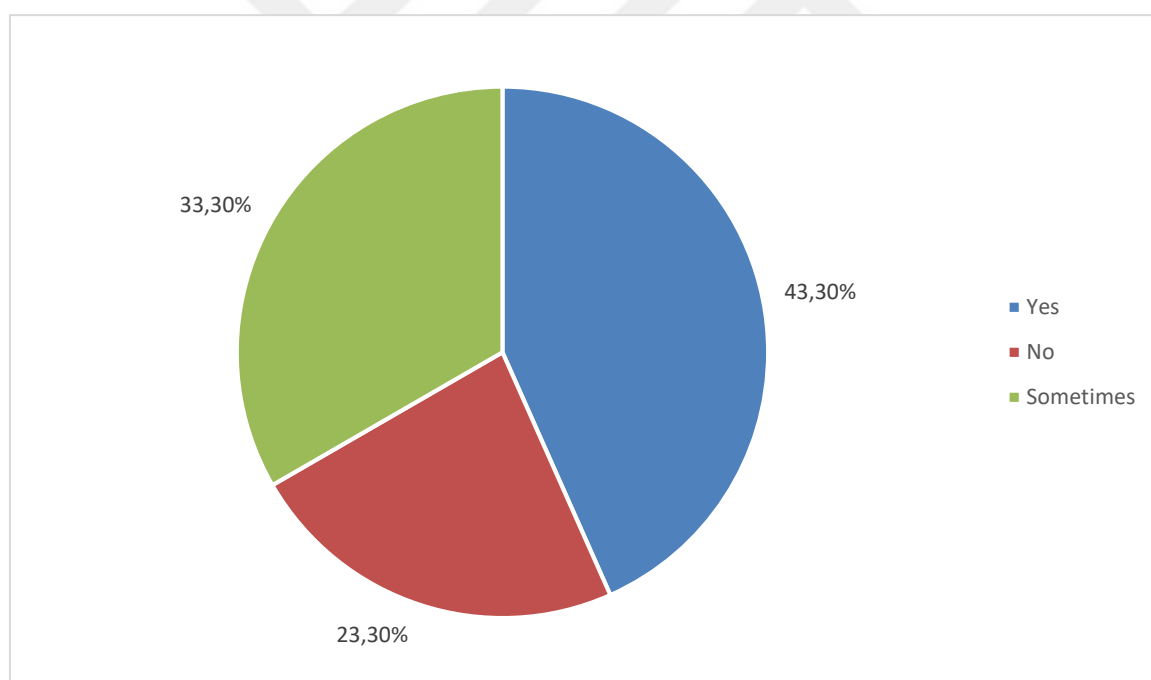


Figure 12. Language teachers' using guides to evaluate technology

It is encouraging to compare this figure with that found by Karakaya (2010) who discovered that language teachers were motivated to integrate technology, but they didn't know exactly how to do it and they needed support. Selecting materials without using a set of standards or criteria as this result implies is another evidence showing that language teachers lack a guide.

A comparison of the two results reveals that there is an unguided use of digital tools despite their frequent integration into language classrooms. At this point, evaluation is required for three of its functions that House (1986) suggests. These are improvement, selection, and raising awareness. Namely, evaluation is regulated for the purpose of improving a thing or person, making selections among things, and raising awareness about the gaps. Contrary to this fact, the participants in the needs analysis showed they did not need a source to rely on as they believed in themselves even though they weren't provided with such a training in their preservice teacher education. This approves Yılmaz's proposal (2011) to place technology trainings in pre-service teacher education. If they had had such a training in their bachelor's studies, they would be more quipped and informed now when they are practicing language teaching. This very tendency of teachers' not using any guides about technology integration has a lot to do with effective technology use formerly mentioned in this thesis. Having too many tools complicates the selection and integration of the tools by language teachers, and they cannot integrate technologies effectively while being lost in the vast of tools. It is encouraging to compare this result with that stated by Koehler and Mishra (2009), who suggested that a tool should have some features making it more convenient than the others for in-class use. Similarly, those features of the tools such as their interface, practicality etc. should be taken into consideration because the tool should be suitable to the task in which the technologies are intended to be used. As mentioned in the literature review, this no effective technology integration problem can also be associated with Task-Technology Fit construct provided by Goodhue and Thompson (1995), which is a construct to evaluate how much a tool is suitable to a specific task. Also, in line with Saettler (2004) and Godwin-Jones' (2015) explanations on how rapid changes occur in the world of educational technology, the teachers should be searching and looking for guides to integrate technology to keep up with the changes; however, the confidence of the teachers in this result can create a barrier for them to do so.

The next section of the survey was concerned with the criteria that the participant language teachers bear in mind when integrating a digital tool in their classes. The emerging categories can be seen in the list below. The list is in an order of high preference.

1. Practicality for teacher use
2. Free or not
3. Practicality for student use
4. Authenticity
5. Popularity among teachers
6. Popularity among students
7. Contains Violence or tendency to violence
8. Ensures sample contents or not
9. Enables networking among students or not
10. Involves embedded advertisements or not
11. Applicable to sign in via social media
12. Requiring registration for students or not
13. Enables networking among teachers or not
14. Producing company's reputation

The participants overall demonstrated number one concern for their workload when choosing a digital tool and they put students' well-being in the second plan. In other words, the teachers in this study give higher priority to how much work they need to perform to use a specific technological tool over their students' wellbeing. This finding is contrary to the findings of previous studies which suggested that the properties of a tool should be in line with the students' profile and learner characteristics. The student-centered in other words pedagogy centered models and studies can be found both in the earliest and latest frameworks in education such as TAM by Davis (1986) and TPACK by Koehler and Mishra

(2009). Also, in these frameworks, while teaching related matters come after that, technical issues such as ways to log in or interface features bring up the rear. However, this result is arguable on account of student-centered teaching.

Another negative result was the fact that the teachers in this study gave more importance to popularity of the tool among teachers and students and less importance to networking among students and among teachers. It is not deniable that networking which involves interaction with peers or colleagues is more significant than popularity which possibly leads teachers to a wrong direction.

In the final part of the survey, respondents were asked to come up with some other criteria other than the ones placed in the survey for them to rank. In response to the question: “What other things do you consider when choosing a technological tool to integrate in your classes?”, a range of responses was received. They are as follows.

1. Appealing for the students
2. Possibility to prepare our own content
3. Not requiring fast internet
4. Good audio-visual multimedia quality
5. Motivating students
6. Looking like something fun
7. Being different
8. Being game like
9. Being up to date
10. Safety
11. Integration with the curriculum
12. Time consuming or not

Regarding these criteria, there is a remarkable result because the criteria formed here are mostly learner oriented, which is promising. These results reflect those of majority of the given literature suggests. For instance, the first and the fifth items are in line with what Hubbard (1992) puts forward about how to evaluate technology. In Hubbard's framework, the construct called "Learner Fit" perfectly defines the importance of giving precedence to the learners when integrating technologies. Learner Fit suggests that a tool decided to be integrated in a lesson should be suitable to the learners' needs and preferences. Likewise, the first point "Appealing for the students" meet this fitting issue.

As far as the second point, possibility to prepare our own content in this result, is concerned, there are similarities between the attitudes expressed by the teachers in this study and those described in the SAMR framework by Puentedura (2012) which mainly focuses on transformation and enhancement of the ways of teaching with the assistance or replacement of technology. On the other hand, in contrast to earlier findings explained in the TILT framework, the CIAO! Framework, and the SECAL framework, no evidence of context specific concerns was detected in the collected data from the participant teachers. The ELT framework showed that audience that then tool is planned to be used to address is an essential consideration when researching about the tool's features.

The items 3, 4, 10, and 12 are related to technical issues about the tools. An average lesson is 40 minutes and teachers do not want to use it in vain wasting time trying to connect to the internet or figuring out some technical errors that the tool gives. CARLA (1998) have pointed out in its guidelines that there are six important aspects of technology integration and the two of them: technical information and ease of use are directly associated with the aforementioned items. Similarly, the fact that the technical knowledge in order to integrate technology should not be ignored is highlighted together with pedagogical and content knowledge equally in the TPACK framework (Koehler & Mishra, 2009).

The item 11 which is about curriculum development implies that technology is perceived to be a means that educational materials are presented like another means: course books.

Ansary and Babaii (2002) indicates that there are internal and external evaluation of course books and the result here can be interpreted that technologies can also be evaluated externally and internally as teachers want to adapt them to the curricula that they are teaching.

The remaining items (6,7,8,9) center upon innovative and contemporary sides of the technological tools. BYOD (Afreen, 2014) has a very similar starting point with these items. When everyone started to use their own device because they are more portable and individual, having learners to bring their own devices puts innovation into the process.

Taken together, these results suggest that there is an urgent need for a legitimate guide to serve language teachers as a source to rely on when choosing and integrating a digital tool in their classrooms.

### **Education Technology Evaluation Tools**

#### **RQ2: Are there scholarly checklists in the literature for technological tool evaluation?**

Close inspection of the literature on technological tool evaluation showed that there are several frameworks created with the purpose of evaluating technologies to use either in education in general or in language education in particular. Further analysis of the frameworks indicated that they are too theoretical to be used by teachers, which doesn't deny that they are scholarly. Compared to models and guidelines, the number of the checklists in the related literature was found to be less and the reason for that could be the perspectives towards checklists. As mentioned in the review of the literature, when Susser's claims (2001) about checklists' being practical as opposed to the criticisms they received were approved, more checklists for technology evaluation started to be produced; however, they lacked practicality. This could be because the former approach was rather theory-focused.

**RQ2.1: What are the pros and cons of existing technology evaluation checklists?**

The tools, which are out of scholarly research, in CALL evaluation and in education technology evaluation in general were examined considering to what extent they are, in fact, evaluating the integration itself rather than the effect of technology compared to non-technological instruction. These tools include models, frameworks, and checklists. Below their positive and negative sides depending on what the literature review in this thesis highlights: intentional use, task-technology fit, simplicity are listed.



Table 7

*Evaluation of the Tools Reviewed*

Tools not specific to Education or CALL	Positive Sides	Negative Sides
TAM1, TAM2, TAM3	User centered Purposeful selection Preferences Need oriented Social factors included	Not for everyday use Too theoretical for teacher use Not created and fully suitable for education or CALL
UTAUT	User centered More detailed involved More outsider factors included Motivation as a factor	No for everyday use Too theoretical for teacher use Not created and fully suitable for education or CALL
TPACK	Teacher knowledge and practice Effective technology integration	Not for everyday use Too theoretical for teacher use
The SAMR	Converting teaching from traditional to contemporary/technological Process oriented User feedback	Not for everyday use Too theoretical for teacher use
The TILT	Context-tool and user-tool suitability Process oriented Research like	Not for everyday use Too theoretical for teacher use
The CIAO!	Context-tool and user-tool suitability Process oriented Research like	Not for everyday use Too theoretical for teacher use
SECAL	Context focused Quick research results	Not for everyday use Too theoretical for teacher use
ELT	Multiple choices for evaluation Context and learner focused	Not for everyday use Too theoretical for teacher use
Hubbard's Framework	Process oriented Prioritizing teacher, student, and feasibility	Not for everyday use Too theoretical for teacher use
Philip's Framework	Respective to different approaches	Not for everyday use Too theoretical for teacher use
Chapelles's Framework	Learner, language components, practicality Learning potential	Not for everyday use Too theoretical for teacher use
TESOL Technology Standards Framework	Different perspectives of users	Not for everyday use Too generic
Strei's checklist	Teacher voice	Nothing specific
Hubbard's checklist	SLA based Learner characteristics	Nothing specific
Lillie, Hannum, and Stuck's checklist	Content, procedure and management	Nothing specific
Komoski and Plotnick's guidelines	Need oriented	Nothing specific
CARLA's guidelines	Skill focused	Nothing specific
Treadwell's guidelines	Systematic	Nothing specific
Son's checklist	Tool type concerned	Not applicable to all technologies
Yang and Chen's checklist (Language Learning Website Review Form)	Tool type concerned and skills focused	Not applicable to all technologies
Uzun's checklist	Tool type concerned	Not applicable to all technologies
Liu, Liu, and Hwang's checklist	Tool type concerned Multi-dimensional	Not applicable to all technologies
Jiang, Renandya, and Zhang's checklist	Theory based	Nothing specific
UDL	Student-centered Context specific	Nothing specific

When these remarks are considered, it is possible to come up with two possible explanations. First, the table above illustrates some of the main characteristics of the frameworks and two repeated negative features can be seen. They are the frameworks' being too theoretical and not being applicable to all technologies. This result appeals to the indication given by Oliver (1998). Oliver claims that there are three important points to consider when taking teachers' evaluations into consideration. One of them is that they have limited time, training and resources for evaluation. This implies that they need a practical guide to facilitate their evaluations of technologies to integrate in their classes. Secondly, the frameworks have some common positive features. The most frequent ones are their being user (student-teacher)-centered and being tool type concerned. White and Reinders (2010) and Erben (2013) confirm the importance of students when choosing technologies.

On the other hand, Hubbard (1997) implies that a checklist or framework for technology integration in foreign language education ought to be SLA theories based but not the theories themselves should be given in the framework. Thus, what stands out in the table is that there is no perfect framework which fully covers the actual need of the language teachers.

### **Ideal Education Technology Evaluation and its Tentative Tool**

#### **RQ3: What constitutes a practical technological tool checklist for CALL?**

The results to the former questions above should be interpreted as a foundation on which the development of the present work's checklist. Majority of the given results here agrees on number of points to evaluate technological tools for educational and particularly language teaching purposes. In essence with those points the results prioritize, a comprehensive list in their scope is tried to be formed below.

1. Evaluation in its all types is done for improvement and it is a must for improvement.
2. Context and people/students in that context play an important role in evaluation.

3. In education, evaluation is a way to see if the objectives are met well.
4. In language education, evaluation should mainly focus on content and pedagogy.
5. In language technology evaluation, evaluation should focus on content, pedagogy, and technology.
6. Technology evaluation in education should be teacher friendly.
7. Teachers should be considered and treated as practitioners and end-users.
8. “Effective” technology integration remains very unrealistic except for its components: task-technology fit, ease of use etc.
9. Objectives should define what technology is needed, not vice versa.

### **Technology Checklist for Language Teaching (TCLT)**

Technology Checklist for Language Teaching, in other words, TCLT is an evaluation tool in the form of a checklist. The tool can be employed in order to make the selection of digital tools for language teaching purposes wisely. By wisely, here it is meant that one should consider if a digital tool meets the needs and it contributes to the traditional way of teaching or learning activities. This tool is thought to be serviceable when language teachers need the assistance of technology in their classes and intend to integrate a new tool into their teaching.

TCLT consists of 6+1 parts. These are General Features, Methodological Concerns, Language Learning Scope, 21st Century Skills, Teacher Engagement, Decision Making, and Final Decision & Comments. Putting all these parts together, the tool constitutes 60 items in Likert like style, 5 items with yes/no options with comments, and 1 item with an open-ended command. Part I deals with technical and feasible features of the tool. Part II is for pedagogical and instructional concerns. Part III focuses specifically on language teaching. Part IV is about contemporary skills. Part V is to check how much workload or access the teachers would have. Moreover, the last 2 parts, the latest of which involves an open-ended

section, are to let teacher go over the former parts and reflect on their answers to have a final decision about the tool.

In its sub-categories, a deliberate notice should be given to a few important points which are relatively innovate and were found to be missing in the earlier checklists. To start with, in the methodological part, the missing themes can be interaction, networking, monitoring, learner autonomy, scaffolding and feedback, gamification, differentiated instruction, and discovery learning. In the language teaching-focused part, the themes are authenticity, skills integration, sampling, and input enhancement. The last but not the least, the 4<sup>th</sup> part which is about 21<sup>st</sup> century skills are totally up to date, and it meets today's needs.

The philosophy behind this checklist is highly related to constructivism, interactionism, pragmatism, and progressivism, which implies that technological tool selection for language teaching should go through some logical, broaden, useful steps to make the best of the tool evaluated.

Hence, this checklist can be used by any language teachers who are in need of a guide when deciding about which tool to use or whether to use a specific tool or not in their classes for language teaching purposes. It should be noted that the answers given to the questions on the checklist have nothing to do with being right or wrong. Similarly, the comparison of the number of the positive answers or negative answers do not give any precise information about the efficiency of the tool. On the other hand, the teacher is the one to evaluate the positive and negative answers and decide depending on his or her learners' profile, context, and language focus/content. The main duty of this checklist is to raise awareness in language teachers to lead them a more critical approach towards technology use in language classes. Also, it is to help them notice remarkable points to consider before integrating a technological tool into language teaching. These include concerns such as authenticity of the material and scaffolding opportunities within the tool.

## **CONCLUSION**

### **Presentation**

The remaining part of the paper proceeds with the concluding remarks. The aim here is to address policy makers, school administrations, and particularly language teachers about the issue of effective technology integration and more specifically the evaluation step which is believed to have a leading role to make technology integration effective. It is suggested that the checklist (TCLT) being the outcome of this thesis can be put into practice best when all these three parties are concerned and informed about it. The researcher expresses how the checklist can be utilized by them separately but collaboratively. Besides, the implications and suggestions for further research are also mentioned at the end of this part.

### **Summary of the Study**

In formal education settings, foreign language education has stepped forward with innovative approaches in the last 10 years. Much of these approaches include technology integration into language teaching curriculums, programs, and classes. Nonetheless, the importance and place of evaluation of technology is rather neglected. This study has argued that language teachers lack the knowledge to evaluate technological tools to integrate in their classes. This is a small call for policy makers to place that important step in the process of technology integration. It is believed that investments on enhancing instructional technology can be more meaningful and to the point when technology is wisely selected and evaluated.

### **Implications for Language Teaching**

This study strengthens the idea that technology integration into language classrooms should be done in a controlled way. This control can be achieved with checklists as this present study suggests one: TCLT. The insights gained from this study may be of assistance to technological tool selection for language teaching purposes. This study was limited by the absence of using the proposed checklist in practice by a large group the members of which are in different contexts.

School administrations as being the smallest but the most powerful unit for applying decisions have an important role. They are the ones who could support language teachers not only and not preferably just for using technological tools in their classes but also evaluating their technology choices and use in their classes. Schools can apply this checklist in their settings and make the best of their technological supplies. Schools can also be inspired by this checklist and create their own with a small team for this purpose. To this end, the checklist provided in this study can be proposed to schools as a supplementary guide for the teachers' technology selection by the curriculum developers.

Language teachers who will be the actual users of this checklist should be aware of the purpose of this checklist in the first place. This is not a checklist to evaluate their performance or ability to use or integrate technology. On the contrary, the idea behind this checklist is to make the teachers believe in their power and help them make it even better with a little guidance. The guidance here is the checklist.

### **Suggestions for Further Research**

Although this study focuses on evaluating technological tools for language teaching use, the findings may well have a bearing on how to integrate technology in foreign language classes with the help of the criteria created for tool evaluation. Further research in this field would be of great help in seeing the impacts of using checklists on the learning outcomes. Large

randomized controlled trials could provide more definitive evidence on the efficiency of the checklist.



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## APPENDICES



## **APPENDIX 1. Phase 1: Needs Analysis Form**

### **TECHNOLOGICAL TOOL EVALUATION FORM**

*Thank you for agreeing to take part in this survey created to serve for an academic research study. The frequency does not matter but if you have never integrated technology in your classes, please do not continue the form. The results of it will be used to comment on the criteria for choosing a technological tool for language teaching purposes and create a guide with that set of criteria to be used on the purpose of technological tool evaluation for technology integration in English language classrooms. This is, in fact, the second phase of a study which initially underwent another survey to come up with these questions. Your answers are beneficial to the results of this study and ultimately to the related literature. You will remain anonymous and it should take no more than 10 minutes to answer all the questions. If you want to be informed about the results of this survey and receive information for the further steps of this study, you can reach the researcher at*

*In each part, a brief instruction for the questions is given for you. Please read the instructions carefully.*

## **PART I**

**This part is for gathering demographic information about the participants, please choose the option which identifies you best.**

1. Choose your gender.

Female

Male

Other

2. How long have you been teaching English?

1-3 years

4-7 years

More than 7 years

Less than a year

3. What is your major?

English Language Teaching

English Language Literature

Linguistics

Translation

Philology

Other(Please specify):

## **PART II**

**This part contains a variety of questions on your habits of technology evaluation. For some questions you may choose more than one option if applicable to you and there are also open-ended questions. The longer answers you give, the more benefits to the study.**

4. Do you do any kind of checking/evaluation for the tools before applying them for educational purposes?

Yes

No

5. If yes, can you specify your way of checking the tools?

6. Do you use any guide from the literature (a model, framework, checklist etc.)?

7. If yes, can you specify the guide?

8. Tick the thing(s) you pay attention to while selecting a tool to integrate in your classes.

- Popularity among teachers
- Popularity among students
- Requiring registration for teachers or not

- Requiring registration for students or not
- Free or not
- Practicality for student use
- Practicality for teacher use
- Involves embedded advertisements or not
- Contains violence or tendency to violence or not
- Graphs appeal to age level or not
- Producing company's reputation
- Authenticity
- Ensures sample contents or not
- Enables networking among students or not
- Enables networking among teachers or not
- Applicable to sign in via social media accounts or not
- Applicable to create a society or not
- Appealing for the students
- Possibility to prepare our own content
- Not requiring fast internet,
- Good audio-visual multimedia quality
- Motivating students,
- Looking like something fun

- Different
- Being game like
- Being up to date
- Safety
- Integration with the curriculum
- Time consuming or not

9. What other things do you consider when choosing a technological tool to integrate in your classes? (*Write key words as in the previous question*)

Thank you!

## APPENDIX 2. Checklist

### TECHNOLOGY CHECKLIST FOR LANGUAGE TEACHING (TCLT)

Name of the Tool:					
A) General Features	Yes	Maybe	No	Not Analyzable	No Idea
1. Does the free version satisfy?					
2. Can it be used without the internet connection?					
3. Is it applicable in more than two types of devices (PC, Smartphone, Tablet PC, smartboard)?					
4. Is it feasible in any operating systems (Windows, IOS, Android, Linux, or Chrome)?					
5. Does it block pop-up adds in its interface?					
6. Does it block the sensitive content?					
7. Can students access the tool without creating an account?					
8. Are its terms and conditions presented?					
9. Is it enough for learners to know basic technology skills (Word processing, using search engine, social media savviness, and spreadsheets etc.) to use the tool?					
10. Are there any tutorials/guides on how to use the tool?					
11. Is the interface well-organized?					
12. Is the interface appealing to the target learners?					
13. Can it be linked to any other online platforms/websites?					

#### B) Methodological Concerns

1. Does it support interaction between learners and the teacher?					
2. Does it support interaction among learners?					
3. Does it offer networking among users in different contexts?					
4. Does it allow learners to create their own content?					
5. Does it allow teachers to monitor the learners?					
6. Does it allow learners to monitor their own learning?					
7. Does it allow learners to develop their own learning strategies?					
8. Does it provide any automated instant feedback?					
9. Does it include scaffolded content and activities?					
10. Are the instructions to do tasks on the tool clear enough?					
11. Is the content on the tool suitable for the learner profile?					
12. Is the content on the tool appealing for the learner profile?					
13. Is the content on the tool up-to-date?					
14. Does it include any game-like features like prizes and levels?					
15. Does the tool excite students to use it?					
16. Does it offer discovery learning?					
17. Does it offer content suitable for different types of learning styles?					
18. Is there any individualized instruction for learners with different learning styles?					
19. Is the content supported with more than one type of media (picture, audio, video etc.)?					

C) Language Learning Scope

1. Is the language used in the tool accurate?					
2. Is the target language used in the tool natural and authentic?					
3. Does it allow for various proficiency levels?					
4. Are the skills presented in integration?					
5. Does it prioritize communicative aspects of the target language?					
6. Is the language presented in meaningful contexts?					
7. Does it involve repetition for the purpose of review?					
8. Does the target language used in the tool match up with the common use?					
9. Does it provide learners with real life language use?					
10. Are there any cross-disciplinary (math, science, music etc.) materials on the tool?					
11. Is the language used intelligible enough in terms of phonological aspects?					
12. Does it offer different types of input for teachers to present the target language?					
13. Does it offer different types of input for students to practice the target language?					
14. Does the tool include samples for students to do tasks?					
15. Does it have any digital supporting features (visual, auditory, translation, collaboration) to assist learners?					
16. Are there any options for input enhancement (bold, underlined, highlighted etc.) in the target language content?					

#### D) 21<sup>st</sup> Century Skills

1. Does the content on the tool respond to the learners' own culture?					
2. Is the content on the tool sensitive to all cultures?					
3. Does it foster collaboration?					
4. Does it foster cooperation?					
5. Does it foster creativity?					
6. Does it foster communication?					

#### E) Teacher Engagement

1. Is it enough for teachers to possess basic technological skills to use the tool?					
2. Can teachers access it without creating an account?					
3. Does it ease the teacher work in any ways (time, effort etc.)?					
4. Is there any ready content within the tool?					
5. Does it allow teachers to adjust the ready-made content?					
6. Does it allow teachers to create their own content?					

F) Decision-making	Yes	No	Comments
1. General features of the tool are appropriate.			
2. The tool is methodologically suitable.			

3. Language aspects of the tool are linguistically okay.			
4. The tool serves for 21 <sup>st</sup> century skills.			
5. It is a teacher friendly tool.			

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Final Decision & Comments

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*GAZİLİ OLMAK AYRICALIKTIR...*