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Lexicographical Landscape: An Investigation into Digital Tools, Preferences, Challenges and Usage Patterns among Pakistani Graduate ESL Learners

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ARTICLE DETAILS	ABSTRACT
<p>History: Received: December 20, 2023 Accepted: December 31, 2023</p>	<p>The present study explores the uses, preferences and challenges of ESL learners in using digital lexicographical tools in typical Pakistani context. As technologies continue to shape language learning, the importance of digital lexicographical tools has increased substantially. However, the specific preferences and challenges in using these tools by the ESL learners are less explored in Pakistani context. The researchers employed mixed method approach and floated a questionnaire among 200 ESL learners from public sector universities eliciting their preferences, challenges and frequency of use. Additionally, focus group discussions and individual interviews provide deeper insights into participant’s perspective. Findings of the study reveal that these ESL learners exhibit strong tendency in using digital lexicographical tools (DLTs) due to easy accessibility and convenience in use. Most popular DLTs include Google online dictionary, Oxford Dictionary, thesauruses and Merriam Webster (Mobile Apps). Nevertheless, the study identifies challenges faced by the participants, such as limited internet connectivity, Google advertisements that impede a successful and trouble-free consultation process, the terminology used to describe the difficult terms they seek is beyond their comprehension lack of teachers’ guidance in selecting appropriate tools. They have positive attitude towards digital lexicographical tools to help them enhance their lexical development and language knowledge. Through DLTs, they have experienced a sense of autonomy and independence in learning. Furthermore, the study proposed that there is a need to gain guidance from teacher to select an appropriate and suitable digital lexicographical tools and suggested digital lexicographical tools based on their level of understanding.</p> <p style="text-align: right; font-size: small;">© 2023 The Authors, Published by WUM. This is an Open Access Article under the Creative Common Attribution Non-Commercial 4.0</p>
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1. Introduction

In the dynamic landscape of English language teaching (ELT) integration of digital Tools has emerged as a pivotal facet of pedagogical practices both outside and within institutions

during the period of COVID.

Their popularity has surpassed social media, spreading to websites such as Facebook, YouTube, and android apps for teaching and learning, with many more to follow. These tools are used to meet the objective of education. On the other hand, the digital tools are used to assist students with their educational needs are constantly improved and updated to ensure that students' development is maintained. Digital reference tools offer the option of grammar, spelling, and phrase checking as well. Moreover, Digital Lexicographical Tools (DLT) has transformed the education sector in terms of language, scope and nature (Garcia-Botero et al. 2021). The significance of the lexical resources cannot be denied in language learning. These are used for multipurpose objectives of teaching and learning like pronunciation, grammar, etymology and register besides providing the meaning of the browsed lexical item (Chan, 2011). Technology based reference resources provides numerous opportunities to make education more enjoyable and productive in terms of lexical growth. Solanki (2012) mentioned that students' visual and auditory senses are satisfied by using technology to elevate current trends.

Digital Lexicographical Tools have grown in popularity in English language instruction in the twenty-first century. Solanki (2012) made the argument that new and updated teaching methods will become available, including audio, visual, and animation effects as technology develops. As a result this will create a conducive environment for reform and the investigation of English lexical development in the modern era. ESL learners in Pakistan have been utilizing lexicographical tools to get assistance in learning English language. It is absolutely right to say that "Today's learners are Digital Natives". Advancement and development in lexicographical tools have become the center of attention of graduate level learners all over the world.

ESL learners in Pakistan have been facing problem regarding vocabulary building. According to Din and Ghani (2018) the learners' difficulties with lexical development exacerbate the problem in Pakistan. The majority of the learners who have completed intermediate level of education (F.A / F.S.C) have been facing problem related to lexical development of English as L2, when they move from intermediate level studies to graduate or university level education. As in intermediate level education these students used to be given exposure up to two to three synonyms of a single word. They don't have the sound knowledge about the usage of different meanings of a single word in various contexts. However, it is deepest desire of the learners at intermediate level of education to enhance vocabulary up to the level that can help them to face the challenges faced in the beginning of B.S level education studies and to understand the different meanings of a single word in various contexts. Their utmost urge is to be successful enough to keep up with today's trends and digital technologies.

Students nowadays rely on the internet, laptop computers, and mobile phones (Bayne & Ross, 2007). Vocabulary and intuitive abilities are the most important motivators of L2 learning engagement (Goo & Mackey 2013; Loewen & Sato 2018; Mackey 2007; Mayo & Soler 2013). Developing one's vocabulary is one of the most difficult aspects of teaching English as a foreign language. In Pakistan, classes are packed with students who primarily speak L1, with little use or awareness of L2. The world has progressed to the modern digital era. The methods of teaching and learning in the educational system are modified. In order to meet the current digital world requirements, Pakistan's education ministry has begun incorporating digital technology into the curriculum (Howard J. et al., 2018).

1.1. Background of the Study

Digital Lexicographical Tools are becoming more and more popular today. Digital lexical tools are used in ESL classrooms on various devices. However, android cell phones are the tool to use in the software apps mentioned above from Google Apps for teaching and learning

English as a second language. Past studies show that technology based blended learning has been recognized to assist educational activities both within and outside of the classroom Sri Wahyuni (2020) and (Pitts et al., 2000). The use of digital lexicographical tools (DLT) has shown a significance development in lexical development of the ESL learners. The role of the teacher is more likely to be a co-learner and facilitator. Learners feel themselves independent and as a result perform better in learning Second Language (Zheng and Wang, 2016).

Past studies showed that DLT have been providing personal digital assistants that have aided in language learning and cooperation development (Hine et al., 2004), independent learning and continuous learning (Bull & Reid, 2004). Such DLTS are updated over time in response to the next emerging needs of learners. ESL learners are finding it difficult to keep up with the rapid changes in technology (Kingsley, 2007). As a result, ESL learners must be skilled in Digital Lexicographical Tools and be prepared to face challenges if they are used for academic purposes.

As per Lundh and Thomasson (2013), digital advancement has significantly increased in our education system, with a focus on Digital Lexicographical Tools. Lundh and Thomasson (2013) believe that effective education providers should recognize that students have grown accustomed to the digital world because they are already heavily connected to new technologies in their spare time language skills, particularly reading and writing, necessitate new aspects and possibilities in language learning and teaching as digital natives.

1.2. Objectives of the Study

As reference works, digital dictionaries are now designed largely according to the requirements of potential users, however, the usage of digital lexical tools change from learner to learner and their proficiency of learning a second language. ESL learners in Pakistan utilize digital lexical tools to study English inside as well as outside of the classroom. The prime focus of the study is the preferences and problems of Pakistani ESL learners in using (DLT). The following research objectives are the focus of this study:

1. To explore Pakistani ESL learners' preferences and challenges of digital lexicographical tools
2. To investigate the role of digital lexicographical tools in lexical development of ESL learners in Multan
3. To investigate the challenges come on the way while using digital lexicographical tools

1.3. Statement of the Problem

Pakistani L2 learners encounter multiple challenges when learning English at graduate level. There are several glitches that learners make in their speaking and writing assignments. They struggle with semantic as well as grammatical issues such as accurate verb synonyms, antonyms, homographs, surface difficulties, content problems, sentence patterns, process (want to write), conditional sentence problems, a shortage of lexicon, use of past tense, and spelling challenges (Din and Ghani, 2018). Some of the leading causes are rote learning education and evaluation system, a college atmosphere, an attitude toward learning, the strength of the class, less qualified teachers, the usage of Urdu as well as mother tongue in the classroom, and the lack of grammar practice (Ahmed, and Ahmed, 2017). Role of DLTs in Education is becoming highly significant in today's competitive world. A review of the literature revealed that very few studies on preferences and problems in using Digital Lexicographical Tools by ESL learners at graduate level in Pakistan (Multan) have been conducted. As per my knowledge this area is less explored and need further studies to explore the employed limitations in using tools. As a result, this study will contribute in the sense that a new dimension will be provided to be studied and shed light on

1.4. Significance of the Study

Utilizing innovation to learn a second language has evolved into a real necessity in recent years. According to Nomass (2013) "Use of (DLT) in ESL leaning is currently a hot topic in educational research worldwide". Lexical expansion and Digital Lexicographical Tools related to ESL learners have become a major discipline because it improves the learners' lexical development. The current study focuses on ESL learners' preferences and problems in lexical development using Digital Lexicographical Tools, which Cowie (2009) described as "the skills that the user is supposed to possess, or may be anticipated to develop, in utilizing dictionaries and incorporating efficient use of the knowledge dictionaries provides". The study have a remarkable significance in this regards, it provides more information from a different perspective related to the preferences and problems in the use of Digital lexicographical Tools (DLT) in Multan. The less developed educational infrastructure of Multan institutions indirectly reflects a very inadequate level of English learning. The study additionally highlights the requirement for digital dictionary for semantic development, reference abilities and, the needs of ESL learners at graduate level in the city. This study focuses on the idea of Pedro and Sandro Nielsen (2012)'s education and training in digital dictionary knowledge and skill. The study also highlights the potential shift from traditional dictionary usage and adoption of sophisticated tools to cater to the specific needs of ESL learners.

2. Literature Review

According to Eriksson and Olsson (2015), this digital tools are part of the teacher's digital toolkit when teaching in the classroom. According to Jönsson and Gjedde (2009), teachers use digital resources to supplement classroom instruction because the task frequently includes social networking, and accessibility for students allows them to collaborate with anyone who is using the tablets. As per Lundh and Thomasson (2013), digital advancement has significantly increased in our education system, with a focus on Digital Lexicographical Tools. Lundh and Thomasson (2013) believe that effective education providers should recognize that students have grown accustomed to the digital world because they are already heavily connected to new technologies in their spare time. Furthermore, Eriksson and Olsson (2015) mentioned that different teaching and learning approaches facilitate the incorporation of Digital Lexicographical Tool into classroom instruction. One of the researchers, Wolter (2015) examined ESL learners' use and perspectives about digital dictionaries, as well as the coaching they received in their classrooms. The information was collected and compiled in four different stages, including observation, interviews, and questionnaires. The findings of the above mentioned study revealed the learners exhibited enthusiastic responses while using lexicographical tools. The participants frequently used lexicographical tools to look into the meaning of glossaries and different terminologies. Furthermore, Digital Lexicographical Tools at graduate level are becoming increasingly associated with multicultural and lexical development. These points of view are significant in terms of how Digital Lexicographical Tools interact and are related to ESL learners' literacy and lexical development. Using Digital Lexicographical Tools in L2 based learning may aid in the development of learners' lexicon.

The prime focus of the past researches was the notion that using digital lexicographical tools proved to be supportive in increasing their knowledge of vocabulary in addition to the proficiency level in English. The learners employed techniques to communicate when they lacked the appropriate term in English. The center of the study were different digital lexicographical tools based activities for lexical development by order to engage the young Danish participants (Jenson, 2017).

Sundqvist and Sylvén (2014) explored that those participants scored higher to those of ones

who utilized such digital resources for their lexical development. Jenson (2017) concluded in his research that the group of participants who were given exposure of digital lexical development resources were able to recollect more vocabulary than the controlled group who were limited to curriculum books only.

In short, the review of the past studies proved that the role of digital lexicographical tools is significant in developing teaching and learning process. English being the most important tool of communication in Pakistan has supreme importance for the learners who incorporate various digital reference tools to enhance it as second language. It is obvious that effective use of these tools through specific skills and look-ups strategies enhance lexical development of the ESL learners at graduate level in Multan. Without these skills and trainings desired outcomes are not attainable. ESL instructors and learners should be well equipped with required skills, trainings and strategies for the better use of digital lexicographical tools.

2.1. The Impact of DLT on Second Language Learning:

Students at graduate level are asked to produce more academic assignments when using Digital Lexicographical Tools. By using such tools students learn about copyright and fair use through the use of digital technologies. These tools enhance ESL learners' lexical development and enable them to express themselves more creatively and personally, thanks to Digital Lexicographical Tools. According to Purcell (2013) today's Digital Lexicographical Tools make the learners to use grammar and spelling accurately. Furthermore, modern technology helps students' writing formation and development. Students can practice writing in a variety of ways thanks to digital technology. Because of mobile technologies, ESL learners can use Lexicographical tools everywhere either online or offline at any time and from any location. Time and geography no longer limit creativity. According to Purcell (2013) Digital Lexicographical Tools help many students make writing more meaningful and less intimidating.

2.2. Role of Digital Lexicographical Tools in Vocabulary Learning:

Vocabulary is one of the most important component among the four skills of a language. According to Nation (2001), studies of users' demands are more thorough than those of dictionary users' skills. It is important for the digital lexicographers to be aware of the needs and demands of the ESL learners. Boonmoh (2010) continues to make the case that as compare to paper made dictionaries digital lexicographical tools are easily accessible to learners, which are more popular among ESL learners, are preferred than PC or CD-ROM dictionaries and paper-made dictionaries. Employing digital lexicographical tools, similar research in the Chinese setting looked at how well learners comprehend digital materials. The findings revealed that participants' competence was increased (Wang 2012). In short, digital lexicographical tools has been playing a significant role in teaching and learning domain. These tools have brought a revolutionary change in the lives of the learners especially at graduate level.

2.3. Theory Underpinning: Socio-cultural Theory by Vygotsky (1978):

As the theoretical framework of the current study Socio Cultural Theory SCT particularly mediation theory provides a clear Vygotskian feature. Sociocultural theory SCT has become more and more well-liked and has made a significant contribution to the social facets of second language acquisition (SLA) since 1990s. Sociocultural theory SCT emphasizes social contact as the foundation of interaction and instruction. It is considered a theory of the formation of higher mental practices. The most notable aspect of sociocultural theory is the way it views that the nature of learning is social, wherein meaning is created by utilization of language in an environment of social interaction. In the field of digital world the advancement and mediation of digital lexicographical tools in education process are

employed as the tools which are integrated in teaching and learning to meet the objectives of education process. According to Vygotsky (1978) the role of material and cognitive tools are intervened. As cited by (McDonald et al., 2005) "All kinds of items have been viewed as tools if their purpose or result is to mediate".

Following the sociocultural approach, in learning process individuals adopt societal instruments like digital tools (Wertsch, 1998; Vygotsky, 1978). Learning is defined from a sociocultural viewpoint as a method by which individuals adopt societal instruments (Wertsch, 1998; Vygotsky, 1978). SCT recognizes tools, including modern digital lexicographical tools, facilitate the educational development and that enhance interaction between users and the tools. As a result it will promote comprehension and generates ideas, therefore using SCT to examine the usage of digital lexicographical tools in the present era of digital learning is generally suitable. In short, according to Vygotsky (1978), learning is a social process through which human intellect is born in society or culture. The main premise is that social interaction is required for cognitive development.

2.4. Functional Theory of E-Lexicography by Fuertes (2012):

The theory of e-lexicography by Fuertes (2012) deals with such lexical resources named as internet dictionaries or lexicographical e-tools. He believes that the fundamental basis of E-lexicography is the ability to attain lexical material from various resources quickly and easily. According to Fuertes (2012), digital lexical tools are regarded an authentic web-based knowledge tools that take advantage of the technological opportunities provided by the global web. Such digital lexical tools applies revolutionary lexicographic notions and intends to provide evolving pieces of work with continually changing information. It relates to such type of informational needs of the users. Furthermore, supportive in executing particular lexicographical pertinent tasks may have in any interaction circumstance. The conception of Fuertes (2012)'s e-lexicography is grounded in a more comprehensive understanding in which individuals play a crucial role both the producers and users of digital lexica tools.

Bergenholtz, Bothma and Gouws, (2011) supporting the notion of Fuertes (2012) mentioned that "Digital lexicographical tools are not only progressively superior to those that exist now but also supply new tools by revolutionary development." In short. Fuertes (2012)'s theory initiated a revolution in the field of e-lexicography. He claimed a bright future of digital lexicographical tools. Thanks to the internet for the creation of brand-new categories of lexical tools.

2.5. Theory of Transformation and Digital Dictionary Assistance:

Nielsen (2011) believes that dictionaries are making progress with a wider shift from the domain of production towards the field of supplying services in providing information and technology based assistance as the new artefacts have been taking place of the previous ones. In his theory of transformation and digital dictionary assistance Nielsen (2011) mentioned multiple developments that may determine the future of the dictionaries in the digital age. First and foremost, he emphasized the conceptual change from languages to lexicography as a distinct study and a prominent component of technology. It is considered an intellectual progression. The second development is the practical development. It is the shift in the appearance and overall size of digital dictionaries. Finally, the authors discovered that an increasing number of lexicographers recognized that theoretical and practical developments in specialized lexicography will develop lexicography in general. The transformative theory of Nielsen (2011) believes that future lexicography is built on two fundamental elements. Two fundamental functions of a digital lexicographical tools as mention by Nielsen are "cognitive function and communicative function, cognitive aspect assists in learning the language whereas communicative aspect enhances translation skills" (Bergenholtz and Tarp, 2010). The information given in a digital dictionary and its structure enhance relevant function by maintaining a strong relationship. He assured the possibility of wide range of

digital lexicographical tools launched by supermarket of lexicographic in future to fulfil the cognitive and communicative needs of the users.

The uniqueness of digital lexical tools will be determined by its useful information and provision of all the features which are required by the users otherwise its existence will be questioned. Digital lexicographical tools are successful in presenting a structured data result that will be the target search of the consultants.

3. Methods and Materials

Mixed methods design was incorporated as the ideal strategy for the current investigation. The study's sample included 200 students from the 'The Women University Multan' and 'Bahauddin Zakeriya University Multan'. The technique of purposive sampling was employed. The entire sample population was fluent in Urdu, Punjabi, or Saraiki and learning English as a Second Language (ESL). Google form was designed to collect the data from the population of the study. The data collected through Google form questionnaire and it was analysed through SPSS software. Respondents were requested to fill the questionnaire according to their desired preferences by recording their response on a Nominal Scale (1= Yes, 2= No, 3= To some Extent) Follow up interview were also considered a valid tool to collect the information.

4. Results and Discussion

The first section of the questionnaire was about students' preferences towards digital lexicographical tools. The detailed description of the section is provided below. First question addressed the medium of communication in academics. The results of the questionnaires showed that or 53.5% of the participants were aware of the significance of DLTs. 67% of the participants utilize DLTs in class as well as at home. 54% of the whole population prefers to read the whole description of the difficult term provided. This shows that DLTs are popular among ESL learners in Multan. DLTs are being used by them show a positive correlation with the theory of Nielsen (2012).

Table1: Preference towards DLTs

Statement	Yes	No	To some extent	Mean	SD
Know the significance of the DLTs	53.5%	15%	31%	1.78	0.898
DLTs are utilized through mobile Apps and computer based software	67%	10.5%	22.5%	1.56	0.837
Read the whole description of the word provided	54%	16.5%	29.5%	1.76	0.883
Consult DLTs in class or at home	67%	8%	25%	1.59	0.867

4.1. Use of DLT

Students were asked to check the DLTs installed in their devices. As the findings revealed that maximum number of the participants utilize Digital lexical tools that show a positive correlation with the notions of Fuertes (2012) and Tono (2001) stated that proficiency in second language is affected by the use of lexical tools. 50.5% respondents mentioned Google Dictionary (Online) as the most preferred lexical tools. Oxford dictionary is used by 18% of the respondents, Meriam Webster is installed and consulted by 13.5% learners, dictionary.com is utilized by 6.5% learners and the Free Dictionary is used by 3% learners. Vocabulary.com 2.5% and Thesaurus 2%, Urban dictionary by 1.5% and Advanced Dictionary and Thesaurus by 1% are installed by the respondents of the research. The results

of the survey shows that the ESL learners' most widely used is Google Online dictionary. It shows that DLTs support ESL learning. The results are shown in the table below.

Table 2: DLTs Installed in Devices

DLTs	Frequency	Percentage (%)
Google Dictionary	101	50.5%
Oxford Dictionary	36	18%
Merriam Webster	27	13.5
Dictionary.com	13	6.5%
The Free Dictionary	6	3.0%
Vcabulary.com	5	2.5%
Thesaurus	4	2.0%
The urban Dictionary	3	1.5%
Advance Dictionary & Thesaurus	2	1.0%

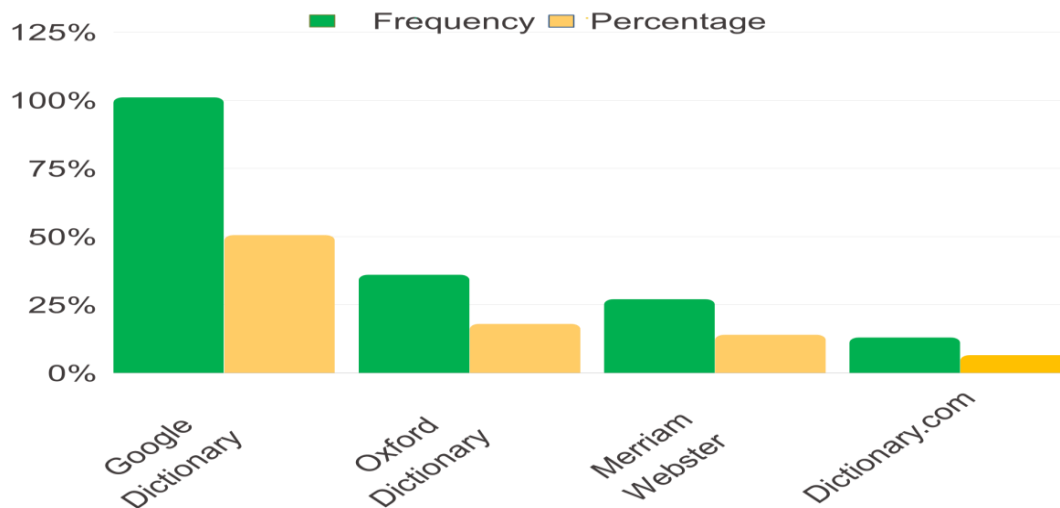


Figure 1: Preferred DLTs Installed in Devices

4.2. Role of DLT

Alfallaj (2013) stated that DLTs are sources which enhance the vocabulary and pronunciation of ESL learners. 90% participants responded that DLTs are informative. 81% participants consult DLTs helpful in their lexical development and support in translation needs. 82% participants utilize DLTs to look for synonyms and antonyms. Moreover, 79.5% of the participants acknowledged DLTs as a source of building and meaning. Voice search feature is employed by 83% participants. All of these findings shows a positive correlation with Fuertes and Nielsen (2012) that ESL learners with less proficiency faces numerous difficulties in comprehending the contextual meaning so they rush towards DLTs installed in their devices for each and every difficult word.

DLTs enhance the interest of the participants by enhancing language skills through 'Word of the Day' feature and interesting crossword and puzzles games which are played by ESL learners 60% of the respondents. 76% of the respondents were satisfied with the content that provided valuable instruction related to the different features of DLTs, their usage and

implied benefits. In short, these findings are related to the claim of Nielsen and Fuertes (2012) mentioned that digital lexicographical tools are designed to meet various needs of the learners in learning process and proved to be successful in fulfilling their cognitive, interpretive and operative. Table 3 is given below to present the results of this section.

Table 3: Role of DLT

Statement	Yes	No	To some extent	Mean	SD
Utilize DLTs for educational purpose	78%	7.5%	14.5%	1.37	0.724
DLTs are helpful to fulfill Lexical Development	81%	6.5%	12.0%	1.32	0.684
DLTs are informative	90%	3%	7%	1.17	0.532
Use DLTS for synonyms/antonyms	82%	6.5%	11.5%	1.30	0.663
Consult DLTs to look for translation	81%	6%	13%	1.32	0.693
DLTs building knowledge about meaning & etymology	79.5%	4%	16.5%	1.37	0.752
“Voice search” feature improve pronunciation	83%	5.5%	11.5%	1.29	0.660
Take advantage of “Word of the Day”	60%	16%	24%	1.64	0.845
Enjoy playing Crossword/Puzzle games	60%	18.5%	21.5%	1.62	0.819
I am Satisfied with the content given in “User Guide”	76%	9.5%	14.5	1.39	0.728

4.3. Problems Using DLTs

One of the problem faced by ESL learners was the difficulty in selecting appropriate DLTs for ESL learners, 54% respondents has faced this. Now a days numerous reference tools are available so it causes a problem for the learners to select the most suitable one that can fulfill their multipurpose needs. Most (43%) ESL learners reported that illustrative materials used in DLTs are difficult to comprehend. This is because of the content used is above the level of the ESL learners or sometime inadequate to fulfill their thirst for the knowledge. The learners who are less proficient in English face the problem in comprehension because for them the content of the description of the target word is above their level particularly when ESL learners are at the initial level.

DLTs provide the phonological transcription of the word. 52.5% ESL learners faced difficulty to understand it. It might because of their lack of knowledge about the phonological transcription that become the hurdle in the comprehension of it. But this problem is compensated by the voice search that help the learners how to pronounce a particular word. 25.5% respondents faced this problem to some extent.

Majority (75%) of the respondents of the research reported that Google advertisements cause problems to use DLTs effectively. ESL learners considered it a wastage of time in their learning process moreover, it causes distraction too. The results of this section are given below in table 4.

Table 4: Problems Using DLTs

Statement	Yes	No	To some extent	Mean	SD
I face difficulty in installing DLTs	37.5%	47%	15.5%	1.78	0.696
I face trouble while looking for synonyms/antonyms	43%	41%	16%	1.73	0.721
It is difficult choose appropriate DLTs	54%	27%	19%	1.65	0.781
Illustrative materials are inadequate difficult to comprehend	43%	26%	30%	1.87	0.852

Phonological transcription is difficult to understand	52.5%	22%	25.5%	1.73	0.843
Google Ads cause problem to use DLTs effectively	75%	13%	12%	1.37	0.690

5. Results Discussion and Findings

This section presents the findings of the research under study. The research question 1 was aimed to explore the most preferred DLT at graduate level in Multan. The finding of the questionnaire and follow up interview revealed that ESL learners at graduate level in Multan are aware of the significance of the DLTs and for this they have been using various platform like smart/android phone and computer/laptops. The top most preferred DLTs consulted by the learners was Google dictionary, while Oxford dictionary ranked 2nd and Merriam Webster ranked 3rd. The reason for incorporating DLTs by the ESL learners was that DLTs are accessible, portable and cost free. Students can avail such resources whenever and where ever the need them. DLTs are availed by ESL learners either they are in the class or at home to enhance their vocabulary building their concepts clear about difficult terms. DLTs have been playing a vital role in preparing for their day to day assignments or in learning process. The second research question was intended to investigate the role of DLTs in Lexical development of ESL learners at Multan. In that regards the opinion of ESL learners was collected through both survey questionnaire and follow up interview. The findings reveal that DLTs are mainly used by the learners for educational purposes. According to the studies of Pia Sundqvist and Liss Sylvén (2014) Loucky (2003), Nielson (2012) and Fuertes’s (2012) this shows a positive correlation that DLTs have been playing a significant role in lexical development of the learners as they are dependent on DLTs whenever they find a difficult word and want to look for its meaning, etymology, synonyms or antonyms. Even for the translation from a source language to target they rely of DLTs every time. One of the significant features of DLTs is the Voice search facility. It is utilized by the ESL learners to look for the exact pronunciation of the word. ESL learners in Multan has diverse language background and less educational environment that causes problem in pronouncing difficult or new English word accurately. For any query or difficulty related to the DLTs application User Guide facility was quite helpful to facilitate the users. Here DLTs are not less than a blessing for ESL learners that enhance their English language skills and make them an autonomous learner as a results. The findings of the questionnaire and follow up interview reveals that ESL learners have shown tremendous interest in learning through fun based games offered by DLTs. The third research question was aimed to highlight the problems faced by ESL learners while using DLTs. The questions designed to collect the answers of by using both the questionnaire and interview clearly showed that though the participants of the research didn’t face any problem while installing different DLTs in their devices but it was difficult to choose the most suitable and appropriate DLTs among a long list available in their Play store or Google Download options. Another obstacle that was encountered by the learners was that illustrative material was difficult to comprehend by the subject of the research. They believed that the language used for the description of the difficult term they look for is above the level of their knowledge. ESL teachers can help ESL learners in this regards to look for most suitable and appropriate DLTs. Boonmoh (2010) strongly recommended that ESL teacher should help ESL learners in selecting an appropriate and suitable reference resource and provide guidance about how to use it. Moreover, various designs of DLTs causes problems for the users to look for the meaning or synonyms. Phonological transcription is one of the problems faced by them when they consult DLTs. The widely faced problem was because of the Google Advertisements which causes the distraction and make learning less effective. Additionally it is the wastage of student’s

precious time. Another problem that was faced by the participants that illustrative material was difficult to comprehend and the language used for the description of the difficult term they look for is above the level of their knowledge.

6. Conclusion

The present study provides valuable insights into the preferences, challenges, and usage patterns of digital lexicographical tools among Pakistani graduate ESL learners. The findings contribute to a deeper understanding of how these learners leverage technology to enhance their language learning experiences, thereby assisting educators and developers in tailoring digital lexicographical tools to better cater to the needs of this diverse group of language learners.

The research reflects that despite the challenges faced by the learners in using DLTs, the learners have a positive attitude towards role of DLTs as it helps in lexical development, improve English language skills, particularly writing and speaking skills, vocabulary development, identifying, and comprehending the meanings/ definitions and usage of English terms.

Low command on English is an obstacle in retrieval of information. In order to lessen the obstacles faced by the participants the role of ESL teachers is required to become a continuous source of motivation and awareness about DLTs.

Based on the conclusion above it can be stated that some suggestion based on the results of the research analysis and can be seen from the description of empirical studies are as follows

1. Digital lexicographical tools should be designed in such a way that must be according to their level of understating and knowledge of the learners.
2. Teachers should guide ESL learners in finding appropriate digital lexicographical tools.
3. All digital lexical tools should be free from Google ads so that ESL learners shouldn't get distracted and disturbed.
4. ESL teachers should assign such tasks on regular basis that motivate the learners to consult DLTs on regular basis that will eventually bring better results in their lexical improvements.

7. Future Implications:

The current study focuses on the empirical study at the level of graduate level in Multan, Pakistan. Future studies may expand it to broader level and confined to other level of education like, primary, secondary etc. for the population. The participants of the study were limited to only two public sector universities of Multan that can be increased by including other institutions (public or private sector). Another expansion can be the sample size of this work is 200 ESL learners that number that be increased to explore the impact of DLTs on a wider level to ensure the reliability of the findings. Future research could reconstruct and expand the study in other cities to determine whether DLTs are preferred by the ESL/EFL learners in various contexts. Future research could recreate the current study by employing more clear objectives criteria of theoretical constructs

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