

The Technological Influence on Lexicography: The Advantages of Electronic Dictionaries Over Paper Dictionaries

*¹Dr. Qabas Noor Ali Jarallh.

DOI: <https://doi.org/10.37376/ajhas.vi4.xxx>

Date of Receipt: 14/06/2025

Acceptance Date: 25/06/2025

Publication Date: 13/09/2025

Abstract:

Traditional paper dictionaries faced numerous challenges, ranging from limited spaces to the lack of comprehensive explanations of words meaning. Creators of electronic dictionaries addressed these challenges, aiming to provide solutions to these long-standing issues. The main interest of this study was to explore the implications of technology in lexicography, viewing how electronic lexicography advocates have addressed the limitations of traditional paper-based dictionaries. as well as examining the English Language department students` perspectives and attitudes towards the use of electronic dictionaries and paper dictionaries.

Participants of the study were 83 English language students, a Google form questionnaire reached the target sample by assisting the heads of the English language departments from different faculties at University of Benghazi: Faculty of Arts and Science - Al-Abyar campus and Al-Marj campus and the Faculty of Education – Benghazi campus

The aim of the questionnaire was to discover insights from the participants side, towards different aspects, including what type of dictionaries they prefer to use what are the advantages and disadvantages of each type of dictionaries. Findings of this study revealed strong preference of electronic dictionaries among participants, according to the participants electronic dictionaries are more flexible and dynamic and easy to access however they also acknowledge that paper dictionaries still hold some value particularly in regard of the fact the paper dictionaries.

1. lecture at The English language department faculty of Arts and Science EL Abyar.

* corresponding author: Dr. Qabas Jarallh, qabasnoor86@gmail.com.

Copyright©C2024University of Benghazi.

This.open.Access.article.is Distributed under a CC BY-NC-ND 4.0 licens.

التأثير التكنولوجي على علم المعاجم: دراسة عن فوائد القواميس الإلكترونية مقارنة بالقواميس الورقية

د. قابس نورعلي جارالله الكيلاني¹.

الملخص:

ان القواميس التقليدية الورقية تواجه عدت مصاعب، تشمل هذه المصاعب عدة أمور منها مساحات القاموس المحدودة وعدم وجود تفسيرات شاملة لمعني الكلمات داخل القاموس. وقد واجه مبتكرو القواميس الإلكترونية هذه التحديات، بهدف تقديم حلول لهذه المشاكل التي طال أمدها. الهدف الرئيسي لهذه الدراسة هو استكشاف تأثير التكنولوجيا في علم المعاجم، ورؤية كيف تعامل مؤيدي المعاجم الإلكترونية مع قيود القواميس الورقية التقليدية. بالإضافة إلى دراسة وجهات نظر الطلاب من قسم اللغة الإنجليزية ومواقفهم تجاه استخدام القواميس الإلكترونية والقواميس الورقية.

شارك في هذه الدراسة 83 طالباً وطالبة من طلاب اللغة الإنجليزية، وتم الوصول إلى العينة المستهدفة من خلال استمارة جوجل بمساعدة رؤساء أقسام اللغة الإنجليزية من مختلف كليات جامعة بنغازي: كلية الآداب والعلوم - فرع الأبيار وفرع المرج وكلية التربية - بنغازي.

كان هدف الاستبانة هو اكتشاف آراء المشاركين، تجاه جوانب مختلفة، بما في ذلك نوع القواميس التي يفضلون استخدامها وما هي مزايا وعيوب كل نوع من القواميس. كشفت نتائج الدراسة عن تفضيل قوي للقواميس الإلكترونية بين المشاركين، وفقاً للمشاركين، تعد القواميس الإلكترونية أكثر مرونة وديناميكية ويسهل الوصول إليها، إلا أنهم يعترفون أيضاً بأن القواميس الورقية لا تزال تحمل بعض القيمة خاصة فيما يتعلق بحقيقة القواميس الورقية تعتبر مصدر موثوق وأمن من أي عطل قد يرافق التكنولوجيا.



1. محاضر مساعد بقسم اللغة الإنجليزية كلية الآداب والعلوم الأبيار.

المؤلف الرئيسي: د. قابس الكيلاني، qabasnoor86@gmail.com

1 Introduction:

Lexicography can be defined as the act of compiling, editing, or writing a dictionary, it is the act of gathering the abstract system of language and compressing it into a physical tangible book known as dictionary. Lexicography, as a cultural practice, dates back to the 24th century BCE with the Sumerian-Akkadian glossary known as Urra-Hubullu.

The earliest reference in this field dates back more than 4,000 years, tablets featuring lists of words have been found in a region that's now known as Syria. These tablets were created around 2300 BCE during the time of the Akkadian Empire, a Mesopotamian civilization.



Figure 1 bilingual tablet from the Mesopotamian region

Though these tablets are remote from what is viewed as dictionary in modern perspective, they demonstrate the perfect example in how

human utilize materials and tools they possesses in creating storage units for languages. Moving from clay to technology, lexicographer preserve languages with the best way they have in hands.

Over the past 4300 years, the discipline has developed significantly, with dictionaries covering various languages and aspects of human life. Dictionaries can be monolingual dictionaries or bilingual dictionaries. Language users resorts to these dictionaries for various of reasons, including looking for words spellings, meanings within the language and its most famous use meaning between two languages i.e. translation.

The work of lexicography provides the field of translation with the sword and armor that translators use in the ongoing compact of languages. However, there is a huge obstacle that filed of lexicography faces, the dynamic nature of language and the fact that new words are created and used consistently, this matter makes any dictionary an outdated dictionary from the day of its publication.

This obstacle can also affect the field of translation sense dictionaries are utilized in the process of translation, an outdated dictionary will indeed be insufficient to use. To overcome this

obstacle, lexicography, like any other field took the technological turn and moved towards electronic dictionaries, facilitating the power of technology, providing dictionaries with two features, easy accessibility for users, and the constant updating of entries.

2 Objectives of The Study:

The main interest of this study was to explore the implications of technology in lexicography, viewing how electronic lexicography advocates have addressed the limitations of traditional paper-based dictionaries and to examine the English Language department students' perspectives and attitudes towards the use of electronic dictionaries and paper dictionaries.

3. Questions of The Study:

This study sought to answer the following questions

1. What are the students' perspectives and attitudes towards the use of paper and electronic dictionaries?
- 2 What are the advantages and disadvantages of electronic dictionaries?
- 3 What are the advantages and disadvantages of paper dictionaries?
- 4 What type of dictionaries do English language students prefer to use and why?

4. The Technological Turn in Lexicography:

Nesi (2000) classifies dictionaries into two modes of presentation: paper-based and computer-based also known as electronic dictionaries. This dictionary usually has offline or online types. Nesi (2000) states that an electronic dictionary is a dictionary whose data exists in digital form and can be accessed through several different media. The term "electronic dictionary" or ED can refer to any reference material stored in electronic form that gives information about the spelling, meaning, or use of words.

Historically speaking, electronic lexicography, can be traced back to the late 1950s early 1960s, and it was known as computer or computational lexicography. However those prototypes of dictionaries were merely machine-readable rather than electronic. The first dictionary to move from the machine-readable dictionary to the lexical database, was the Longman Dictionary of Contemporary English (1978). In the 1990s a rapid development occurred in the field leading many of today's specialists to predict the disappearance of paper dictionaries in the near future.



5.The Contribution of Technology to The Field of Lexicography:

Traditional printed dictionaries faced numerous challenges over the years, particularly with editorial conventions, challenges ranging from limited spaces to the lack of comprehensive explanations of words meaning. Creators of electronic dictionaries addressed these challenges, aiming to provide solutions to these long-standing issues. This section explores the significant role of technology in modern lexicography, highlighting the advantages of digital platforms over paper-printed dictionaries. Rundell (2015) highlights the significant role

of technology on the field of lexicography by addressing the main obstacle faced by the paper-printed dictionary industry, namely the editorial conventions. The limited space in dictionaries was the main discussion in the editorial circles, dictionary editors used various techniques including words numbering, abbreviations and telegraphic definitions to fit large amount of data into limited space. One of the most famous examples is the Merriam-Webster's Space-Saving Techniques, in the 1950s, the editor Philip Gove, was keen on space constraints, resorting to techniques such as using fewer commas and brief definitions.

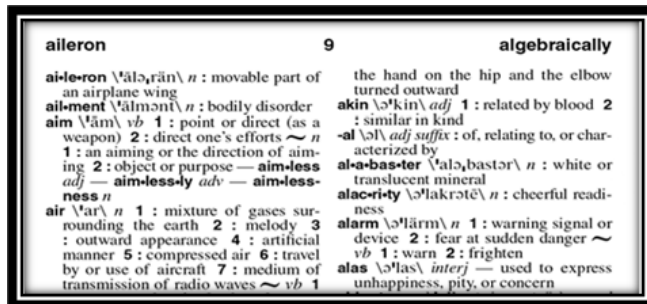


Figure2 Merriam-Webster's dictionary

The limited space in paper dictionaries has further implications, during the process of creating new editions, old entries must be omitted to give a space for new entries. This matter in itself caused a major conflict in the field, how can a lexicographer decide which entries that are no longer used and dispossessing them will be harmless.

According to Rundell (2015) these editorial obstacles vanished in the thin air with the emergence of electronic dictionaries platforms, offering unlimited space and the utilization of multimedia, like linking entries with images and pronunciation, which are better suited for reference materials.

Rundell (2015) states that "new media provide exciting opportunities for innovation and improved coverage, and open up endless possibilities for reference resources which will serve users' needs more effectively than their print-bound predecessors". (p.303) This entails that electronic platforms allow for creative improvements and enhancements that were not possible with traditional print dictionaries.

Editorial solutions to the limited space in paper-printed dictionary, led to the problem of not having comprehensive information, dic-

tionaries structures should go beyond a mere abbreviations and telegraphic definitions, to provide to their users profound understanding of what they are looking for. Shyrov and Ostapova (2011) emphasize on the importance of incorporating different means within the dictionary structure.(text, audio, video).

This expansion of information can hardly be covered in paper dictionaries, which gives an advantage of the electronic dictionaries in addition to the previously mentioned advantages, of both size and the fact that lexicographers are not doomed with hard choice of which words may stay and which are omitted.

The advantage of having more comprehensive illustration and the use of multi-media can be viewed in this example, in the second Figure, the Merriam-Webster's dictionary definition of the word aileron is movable part on an airplane wing, while this definition is perfectly clear and informative it is not as comprehensive as its counterpart. Definition of the same word is displayed in the Collins COBUILD Advanced Learner's Dictionary. As the following

Definition of 'aileron'

aileron

(ˈeɪləron ⓘ ⓘ)

Word forms: **ailerons** ⓘ

countable noun

An **aileron** is a section on the back edge of the wing of an aircraft that can be raised or lowered in order to control the aircraft's movement.

Collins COBUILD Advanced Learner's Dictionary. Copyright © HarperCollins Publishers



© Dmitri Ma, Shutterstock

aileron

in British English

(ˈeɪləron ⓘ ⓘ)

noun

a flap hinged to the trailing edge of an aircraft wing to provide lateral control, as in a bank or roll

Collins English Dictionary. Copyright © HarperCollins Publishers

Word origin

C20: from French, diminutive of *ail* wing

aileron

in American English

(ˈeɪləˌrən ⓘ)

noun

a pilot-controlled airfoil attached to, in, or near the trailing edge of an airplane wing, for controlling the rolling movements of the airplane

Webster's New World College Dictionary, 4th Edition. Copyright © 2010 by Houghton Mifflin Harcourt. All rights reserved.

Word origin

Fr < OFr *aleron*, wingtip < *aille*, wing < L *ala*, wing, armpit < **agsla* < IE **aks-*: see *axis*¹

Figure3 Collins COBUILD Advanced Learner's Dictionary.

Another advantage is discussed by Shyrokov and Ostapova (2011) work which is the fact electronic dictionaries can be easily updated, protocols for updating electronic soft wares are more flexible than printed ones, as it takes years for new editions of printed dictionary to be released. As Gouws(2014) has suggested, "The dynamic nature of e-dictionaries enables lexicographers to move away from a static to a dynamic data display that includes the use of a multi-layered structure of dictionary articles" (p.164)

The regular updates of electronic dictionaries are also featured in the work of Balkanov (2023) among other advantages, he conducted a comparative analytical study on Cambridge, Oxford, MacMillan, Lingvo Live and Multitran electronic dictionaries, aiming to identify the advantages and disadvantages of electronic dictionaries.

Balkanov (2023) believes that electronic dictionaries have a list of advantages over the printed ones, the first advantage is in terms of availability and accessibility, since it is nearly impossible in our current time to find a person divorced from technology, electronic dictionaries can be accessed from any device anywhere

in the world, making it the perfect tool when working remotely.

Second advantage relates to regular updates ensuring the relevance of the information available, Balkanov (2023) is in the same team with Shyrokov and Ostapova(2011) and Gouws (2014) in which they favor electronic dictionaries due to their reviving nature unlike paper dictionary, that might require years for a new edition to be published. The third advantage according to Balkanov (2023) is the commercial advantage, electronic dictionaries come in a low cost, most publishers offer free versions which are of great value for freelancers.

Final advantage that was observed in his work is the user-friendly feature, looking for an entry in paper dictionaries can indeed be frustrating process which requires going through indexes and page turning, an electronic one offers a lexeme search through bar and with a simple click offers a full list of possible translation.

In some dictionaries different context are offered to help the translators to find the most suitable translation, they also provide users with greater flexibility by offering definitions, equivalents, synonyms, etc. Back to the same example the word aileron if translated into Ara-



bic some electronic dictionary will provide different contexts for an even fuller understanding

🌀 Examples in context

Each **aileron** is equipped with outriggers compensators, which will significantly reduce the efforts of the pilots in the management of the machine.

وقد تم تجهيز كل الجنيح مع الركانتر المعوضات، والتي سوف تقلل إلى حد كبير جهود الطيارين في إدارة الجهاز.

To create a roll, the pilot deflects the handle control of the aircraft in the desired direction, which leads to the **aileron** deflection of the wing.

لخلق لفة، الطيار ينحرف في مقبض التحكم للطائرة في الاتجاه المطلوب، الأمر الذي يؤدي إلى انحراف الجنيح الجناح.

They dealt with hydraulics, poor **aileron** efficiency at low speeds, and there was a big dive moment when the parachute brake was released.

أنها المعنية الهيدروليكية، ضعف كفاءة من الجنيحات عند السرعات المنخفضة، وكذلك كان وقتا رائعا مع الافراج عن الفرامل المظلة الغوص.

No need to think through the angle of the **aileron** or flap deflection, just tilt the control joystick - and the computer will do everything itself.

لا حاجة للتفكير من خلال زاوية انحراف من الجنيحات أو اللوحات، وهو ما يكفي لإمالة عصا التحكم - وسيقوم الكمبيوتر تفعل كل شيء بنفسه.

Actually, this is called an **aileron**.

"في الواقع، إنها تسمى "جوينج"! ->

Figure 4 Reverso dictionary

Closing this section, it is clear that technology has significantly influenced lexicography, particularly with the shift from printed to electronic dictionaries. Tackling constraints imposed on paper dictionaries, which are no longer an issue with digital platforms. Rundell (2015), Shyrovkov and Ostapova (2011), Gouws (2014), and Balkanov (2023) all emphasize the marvelous advantages of electronic dictionaries, including unlimited space for entries, fuller comprehensive information, the ease of access and regular updates, commercial benefits and enhanced user experience. As lexicography continues to evolve, the integration of technology will undoubtedly play a crucial role in meeting the dy-

namic needs of language users worldwide.

6. Empirical Evidence on The Advantages of Electronic Dictionaries Over Printed Dictionaries

Several empirical studies have explored the advantages of electronic dictionaries in comparison to traditional printed ones. This section presents findings from various studies, regarding the benefits and challenges associated with the use of electronic dictionaries in translation learning domains.

The advantages of electronic dictionaries over printed dictionaries have been empirically proven by Kučič and Seljan (2014) study, in which they carried an experiment performed

on two groups, one group using traditional paper dictionaries and the other group using electronic translation dictionaries.

The participants of the study were a random sample of 38 Students from department of translation studies at the faculty of arts, university of Maribor. The two groups were asked to translate two texts from German into Slovene, both texts are similar in length and from the same domain, the only difference is in the type of tools used.

Results of Kučič and Seljan (2014) study indicated a major positive influence of electronic translation dictionaries, according to them the results confirmed their study hypotheses, the use of electronic translation tools can contribute to the development of translation competences, and the use of modern translation tools contributes to consistency and quality in the translation process.

Expanding on the findings of Kučič and Seljan, Mohamad (2017) attempts to explore the benefits and challenges that might encounter students while using electronic dictionaries, 10 participants were put under the investigation, three research instruments were utilized; open-ended questionnaire, focus group inter-

view, and email responses. Participants believe that electronic dictionaries make searching for word meanings process quicker compared to printed dictionaries, and according to the participants, electronic dictionaries are almost as reliable as the printed dictionaries.

Another beneficial factor of electronic dictionaries, learners can learn how to pronounce the words properly. They also use electronic dictionaries to check their spelling as well as the synonyms, by doing so, it guides the users to be more competent in the second language. According to Mohamad (2017) the only negative feedback has to do with network access.

In alignment with previous findings, Kieu Van and Minh Thu (2019) conducted an investigation into students' perception of utilizing electronic dictionaries in translation interpretation, a group of 98 students majoring in translation-interpretation were selected to be the participants of the research. A total of 120 questionnaires were delivered to the selected sample group under the format of online Google Form.

The study's results perfectly matched with the previous empirical studies in this section. Noticeably, the findings revealed that electronic



dictionaries generally appeared to be perceived as beneficial among university students whose major is translation and interpretation.

Lan Anh, Kim Ngan, Bao Ngoc, and Thu Suong (2021) study yielded similar results, as a data collocation tool, print questionnaires and some interview questions were used to get the learners' opinions or ideas about what kind of dictionary they usually use. Participants of the study were 300 junior students from Van Lang University in Ho Chi Minh City.

The results illustrated that students had a strong preference for electronic dictionaries, most students also use the dictionaries regularly as an effective tool to improve their language levels. Finally, most students at Van Lang University tended to choose electronic dictionaries for learning new vocabularies, although some of them still do not deny the value of paper dictionaries.

Within the same realm of exploration, Nisa (2022) aimed to test the effectiveness of electronic and paper dictionaries, as well as examining students perspective on the use of electronic and printed dictionary, a qualitative approach with a semi structured interviews used in this study. There were ten participants,

from the English language department. The results of the research showed that in terms of advantages, the electronic dictionaries are portable, fast in word search, and have many features such as synonyms, antonyms, grammatical information, and so on.

Disadvantages on both types of dictionaries from students' perspectives are that not all electronic dictionaries can be accessed without an internet connection, and printed dictionaries are difficult to carry because they are heavy, take time to find words. Nevertheless, students in the study believe that electronic dictionaries are the most effective for writing because of its speed, convenience, and completeness of features

7. The Methodology:

Data for this study were collected via a Google form questionnaire, the questionnaire aimed to gather the English language department students' perspectives toward the use of dictionaries and the influence of technology on the field of lexicography. The questionnaires reached the target sample by assisting the heads of the English language departments of these faculties, namely from the University of Benghazi, Faculty of Arts and Science - Al-Abyar campus,

Al-Marj campus and the Faculty of Education –
Benghazi campus

7.1 Results and Discussion

Participants of the study were 83 English language students from the faculties mentioned above, this study aimed to discover insights from the participants side, towards different aspects, including what type of dictionaries they prefer to use what are the advantages and disadvantages of each type of dictionaries.

Finding of the study revealed strong preference of electronic dictionaries among participants, according to the participants, electronic dictionaries are more flexible and dynamic and easy to access. They also acknowledge that paper dictionaries still hold some value particularly in regard to the fact that paper dictionaries are reliable source and safe from any malfunction that might accompany technology.

7.1.1 Preference of Dictionary Use:

The majority of the participants, more specifically 69 out of 83 stated that they prefer to use electronic dictionaries, while only 18 participants stated that they use paper dictionaries. These numbers suggest that there might be a complete shift towards electronic dictionaries in the near future.

Figure 5 Preference of Dictionary Use

7.1.2 Advantages of Electronic Dictionaries

The participants of the study believed that electronic dictionaries are highly advantageous, among these advantages is accessibility, they believe that electronic dictionaries are more convenient to use on a daily basis. Another advantage is the constant updates, the dynamic nature of these dictionaries which keep up with the dynamic nature of the languages was found preferable among these participants. There is also the advantage of Contextualized examples, according to the participants most of the electronic dictionaries provide in context examples which make them gain comprehensive understanding of the world and its usage.

7.1.3 Advantages of Paper Dictionaries:

While this study aimed to provide an unbiased platform by providing the same questions about both electronic and paper dictionaries, 55% of the participants stated that there are no advantages of paper dictionaries. However, there are some advantages that were mentioned among the participants including, the process of searching might foster a deeper focus and the lack of reliance on technology. These are the two advantages that were agreed



upon among the participants.

7.1.4 Disadvantages of Electronic Dictionaries:

When it comes to the disadvantages of electronic dictionaries, reliance on technology came to the top, where participants believed that a lot of problems might encounter them during usage ranging from battery life to device malfunction. Lack of personal interaction was also seen as a disadvantage where participants believed that electronic dictionary browsing might make the learner feel disconnect from the learning process. The last disadvantage was problems in Internet connection. due to the fact that a lot of electronic dictionary requires a live Internet connection which might be a problem in certain areas in neighborhoods.

7.1.5 Disadvantages of Paper Dictionaries:

The overarching disadvantage of paper dictionaries, was the slow searching process and that most participants feel bored from flipping pages searching among the small lines. It is also a time consuming process. The other disadvantages include the stiff nature of paper dictionary they are not constantly updating it is not easy to be carried around all the time.

7.1.6 The Benefits of Electronic Dictionaries in Language Learning:

In the context of language learning, the majority of the participants 62% stated that electronic dictionaries have more benefits than paper dictionaries. The participants were asked a number of questions regarding the utilization of dictionaries in their learning process and what type of dictionaries they prefer to use, in all these questions the majority of the participants have chosen electronic dictionaries.

These questions includes:

1. How do you prefer to learn new information about new words?

The answer for this question gave a solid foundation for the central role played by electronic dictionary in the process of the acquisition of new words and their meanings. where the majority of the participants 97% claimed that electronic dictionaries are the most frequent tool they use to learn new information about new words.

2 What Type of Dictionaries Do You Use During Lectures?

The answer for this question as well supports the claim that technology has a positive influence on the field of lexicography where 49 par-

participants stated that they are using them, and 27 participants stated that sometimes they use them. Only 6 participants stated that they don't use them during lectures at all.

These results contrast with the results regarding the use of paper dictionaries during lectures, in which 65 participants stated that they don't use paper dictionaries during lectures and 18 participants stated that they use them sometimes during lectures and only 8 participants stated that they use paper dictionaries during lectures. These results indicate that the vast majority of participants view electronic dictionaries more beneficial than paper dictionaries.

3 What Type of Dictionaries Have More Influence in the Contribution of Understanding English Text?

Again the results of this question demonstrate the participants' preference of electronic dictionaries where 70 participants stated that electronic dictionary has a positive influence in their overall process of understanding English text. As opposed to responses regarding the paper dictionaries, where 30 participants reported that there is a positive influence of this type of dictionaries in their overall process for understanding English text.

7.2 Discussion:

Results for this study aligns with all the results from the studies mentioned in section number 6, the finding highlights that language learners prefer to use electronic dictionaries over paper dictionaries. Due to multiple factors including, easy to access, speed, dynamic and constantly updating as well as the fact the electronic dictionaries tends to provide contextual examples and some are equipped with pronunciation software making the learning process more efficient, one of the participant have stated that electronic dictionaries:

helps you read more smoothly without losing focus. Many electronic dictionaries also offer example sentences, pronunciation guides, and translations, all of which can deepen your understanding of how a word is used in different contexts. Additionally, using them regularly can expand your vocabulary over time, making it easier to understand more complex texts in the future. This statement supports the researcher's claims, that there is indeed a positive influence of the digital world into the field of lexicography. Nevertheless just like everything in the world, an electronic dictionary suffers from numbers of drawbacks most of these drawbacks



are linked to the heavy reliance on technology and the fact that some devices might just broke down causing an impediment for the language learner. There is also the problem of Internet connection, some dictionaries require internet connection to work this might reflect a problem since it is common knowledge that internet access in our country "Libya" is not available in all locations.

This study continues to include the students` attitudes towards paper dictionaries while limited it is paper dictionaries are still used among small portion of the students. The study acknowledged that the one thing that paper dictionary never needs which is reliance in technology is the main drawback of electronic dictionary therefore in this point it gives the advantages of paper dictionaries over electronic dictionaries.

Regardless to this advantage, according to participants` responses in language learning context, electronic dictionaries are what they prefer and opt for during lectures, learning new words and understanding English texts.

8. Recommendations:

Based on the results of this study, the researcher recommends that educators should take into

considerations, to shift the emphasis in lexicography course to incorporate technology and its role in enhancing the field of lexicography. Specific training course on how to use electronic dictionaries and soft wares should be implemented into the educational curriculum.

9 .Conclusion:

Technology evolution reshaped the field of lexicography, particularly with the emergence of electronic dictionaries, offering numerous advantages over traditional paper-based ones. The List of challenges that had paralyzed lexicographers while facing the dynamic nature of language and the limitations of print dictionaries, including space constraints and delayed updates, were given solutions by electronic platform, offering unlimited space for entries, multimedia integration, and real-time updates. This shift has transformed not only the way dictionaries are compiled and used but also how language is taught and translated, by providing the users with more sufficient enhanced tool. Empirical studies support the growing preference for electronic dictionaries, with improved features of speed, accessibility, and comprehensiveness. Scholars such as Kučiš and Seljan (2014), Mohamad (2017), Kieu Van & Minh

Thu (2019), Lan Anh, Kim Ngan, Bao Ngoc, Thu Suong (2021), and Adha Nisa (2022) have all provided valuable insights into the advantages of electronic dictionaries. These studies emphasize the efficiency of electronic dictionaries, providing faster word searches, flexibility, and further resources like synonyms, antonyms, and grammatical information.

Additionally, students' perspectives in this study clearly demonstrate that they favor electronic dictionaries over traditional printed versions, believing that they are more convenient to be used in translation process. In terms of disadvantages the only main one viewed through these studies is the reliance on internet connection for some electronic dictionaries.

It is clear that lexicography will further manifest on technological benefits, In other words, as technology develops, lexicography will flourish by these technological advantages, in enhancing dictionary compiling, updating and usage, making dictionaries more sufficient tool, comprehensive and user-friendly.

References:

1.Balkanov, I. (2023). Online dictionary – new opportunities and challenges of practical and theoretical lexicography. Moscow State Insti-

tute of International Relations (MGIMO University), Ministry of Foreign Affairs of Russia. Retrieved from SSRN.

2.Collins(2024.).Aileron. In Collins English Dictionary. Retrieved November 15, 2024, from <https://www.collinsdictionary.com/dictionary/english/aileron>

3.Gouws, R. H. (2014). Article structures: Moving from printed to e-dictionaries. *Lexikos*, 24, 155-177.

4.Gove, P. B.(1950s). Merriam-Webster's Dictionary. Merriam-Webster.

5.Kučiš, V., & Seljan, S. (2014). The role of online translation tools in language education. *Babel*, 60(3), 303-324. <https://doi.org/10.1075/babel.60.3.03kuc>

6. Mohamad, M. (2017). The advantages and disadvantages of e-dictionaries to enhance vocabulary learning of ESL learners. The Asian Conference on Education & International Development 2017 Official Conference Proceedings. The International Academic Forum. Retrieved from www.iafor.org

7.Nesi, H. (2000). The use and abuse of EFL dictionaries: How learners of English as a foreign language read and interpret dictionary entries. Berlin, Boston: De Gruyter. <https://doi.org/>



org/10.1515/9783110946031

Revista ESPACIOS, 40(39), 2. ISSN 0798-1015.

7.Nisa, A. (2022). Comparing the use of electronic dictionary and printed dictionary and their effects on writing skill. Fakultas Tarbiyah Dan Keguruan, Universitas Islam Negeri Ar-Raniry, Banda Aceh.

8.Reverso. (2024). Text translation: Aileron. Retrieved November 8, 2024, from <https://www.reverso.net/text-translation#sl=eng&tl=ara&text=aileron%250A>

9. Rundell, M. (2015). From print to digital: Implications for dictionary policy and lexicographic conventions. *Lexikos*, 25, 301-322.

10.Shyrokov, & Ostapova, B. (2011). Digital lexicographic systems and traditional paper dictionaries (from traditional paper dictionaries to digital lexicographic systems). *Cognitive Studies | Études Cognitives*, 15, 193-210. <https://doi.org/10.11649/cs.2015.015>

11.Thi Lan Anh, T., Kim Ngan, T., Bao Ngoc, V., & Thu Suong, H. (2021). The difference effects of paper dictionaries vs. online dictionaries. *Asia CALL Online Journal*, 12(3), 28-38. Retrieved from <https://asiacall.info/acoj>

12.Van, T. K., & Thu, D. T. M. (2019). An investigation into students' perception of utilizing online dictionaries in translation interpretation.