

A Study on the Lexicographic Approaches Utilized by English Language Scholars from Saudi Arabia: Emphasizing the Use of Dictionaries

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Abstract

This research investigates the lexicographic strategies employed by Saudi English language scholars, focusing on their utilization of dictionaries. The study also assesses the effectiveness of bidirectional Arabic-English dictionaries, particularly for Saudi Arabian students learning English as a foreign language. This study utilized (SPSS version 21.0) to analyze data collected on dictionary use strategies among Saudi students. The Likert scale was employed to encode responses, and Cronbach's coefficient alpha analysis ensured internal consistency. Results indicated that strategic dictionary use among Saudi students falls within the medium range, with a mean score of 2.87. Notably, participants showed a higher inclination toward employing look-up strategies (average = 3.69) and dictionary selection strategies (average = 3.51), while reporting less frequent utilization of awareness strategies (average = 2.01) and lemmatization strategies (mean = 2.10). As far as the efficacy, usage, attitudes, and impacts of bi-directional online translation tools are concerned, participants unanimously rated these highly (average= 4.7) for saving time, in cases where the word(s) was unknown (average= 4.5), and in recording the new word in the mental lexicon (average= 4.2), but as confusing (average= 4.8) when used for complex word structure translation. In conclusion, Saudi Language and Translation program students demonstrated moderate scores across the four categories of dictionary use strategies, with a higher inclination toward look-up and dictionary selection strategies and lesser emphasis on awareness and lemmatization strategies.

Keywords: Arabic and English Translation, Education, Lexicography, Research work, Translation, The use of dictionaries

1. Introduction

The study of lexicographic techniques and dictionary usage among English language scholars in Saudi Arabia has received growing academic interest in recent years (Al-Harbi, 2012; Al-Jarf, 2014). With increasing global interconnectivity, there is a considerable increase in the need for proficient English communication. This has led to a closer analysis of the methods and techniques used by Saudi scholars to navigate the intricacies of the language.

The incorporation of bidirectional Arabic-English translation tools has brought about a notable change in language learning approaches, specifically for Saudi Arabian students of English as a second language (Albaqami, 2016). Recent research has highlighted the significance of assessing the efficacy of these instruments, particularly in complex language combinations such as Arabic-English (Ramezanzadeh, 2021). The integration of computational linguistics and machine learning in translation tools highlights the importance of conducting a thorough evaluation to verify their effectiveness in dealing with the distinct grammatical structures of each language (Rivera-Trigueros, 2022). Both these studies focus on the lexicographic tactics used by English language scholars in Saudi Arabia, given the era of technological breakthroughs and increasing importance placed on cross-cultural communication (Alsubhi, 2024). This study thoroughly investigates the complex usage patterns of dictionaries among Saudi scholars, specifically examining the efficacy of bidirectional Arabic-English translation tools. The incorporation of computational linguistics and machine learning into these translation technologies requires a thorough assessment, especially considering the intricate difficulties presented by the Arabic-English language combination (Ameur, 2020).

The electronic dictionaries play a major role in Natural Language Processing (NLP) and computational linguistics (Guthrie et al., 1996; Horák & Rambousek, 2017). A connection has been found between dictionaries and computation, examining whether the content of traditional dictionaries can aid individuals working on enabling computers to process and comprehend human languages (Guthrie et al., 1996). Furthermore, Horák and Rambousek (2017) discussed the symbiotic benefits between lexicography and natural language processing in which lexicographic work can leverage NLP techniques like word sense disambiguation, semantic similarity measures, named entity recognition, and corpora search, lexicographic data in language engineering, including dictionaries, encyclopedias, specialized lexicons, and ontologies. On the contrary, traditional NLP concentrated on lexical, morphological, and syntactic aspects, but

recent years have seen a rise in attention towards meaning, discourse, and contextual relations. Meurers (2012) has given a comprehensive introduction to the field.

The study's objectives focus on the classification of translation faults and gaining a deep grasp of students' perceptions on the effectiveness of these tools. It highlights the importance of improving language translation skills in educational environments. Furthermore, the study provides valuable insights for the development of translation algorithms and has potential implications for advancements in teaching methods, seamless integration of technology, and the formulation of educational policies in line with Saudi Arabia's Vision 2030.

The study of the lexicographic techniques used by Saudi English language and translation students and their reliance on dictionaries has important ramifications in various fields (Hamouda, 2013). Within the field of education, the results of the study have the potential to improve language learning approaches, offering valuable knowledge for educators as the importance of English proficiency grows in Saudi Arabia's changing educational environment. The study's examination of the distinct challenges encountered by Saudi students, as they navigate between Arabic and English, and the challenges of translation provides valuable insights for customizing educational methods to address the cultural and linguistic complexities of this specific population. Furthermore, the study is in line with Saudi Arabia's Vision 2030 goals, which could have an impact on educational policies by providing valuable information on successful language acquisition techniques, the integration of technology, and the significance of proficiency in English. In addition to its local implications, the study makes a useful contribution to the worldwide academic conversation on language acquisition, translation, and education. It provides important insights for various individuals and groups involved in the fields of linguistics, technology, and education.

Statement of the problem

This study addresses various significant issues that arise due to the growing dependence on bidirectional Arabic-English lexicons, whether physical or computer-based, among Saudi English language and translation students. There is a significant lack of awareness regarding students' efficient use of these while dealing with complex grammatical structures in the intricate Arabic-English language combination (Betti & Bsharah, 2023). This study addresses this gap as it investigates the role of dictionary use strategies that could help identify potential constraints that could hinder language acquisition. Furthermore, there is a scarcity of research on prevalent lexicographic approaches employed by Saudi students (Ismail & Alalwi, 2021). The investigation into how bidirectional translation tools impact language acquisition among Saudi students is complicated by their unique circumstances and therefore, compels evaluation into how effective bidirectional lexicons are in supporting the language learning process for Saudi Arabian students mastering English as a foreign language as well as how these tools affect users' attitudes in Saudi Arabian institutions where English fluency is prioritized. These students must navigate between Modern Standard Arabic, and regional dialects within an English-focused educational system and computational linguistics and machine learning impact the accuracy and efficacy of bidirectional translation tools, specifically when dealing with complex grammatical structures in the Arabic-English language pair. Accordingly, the study endeavors to answer the following:

Research questions

1. What are the lexicographic strategies commonly employed by Saudi English language students in their utilization of dictionaries?
2. To what extent are bidirectional Arabic-English translation lexicons effective in supporting the language learning process for Saudi Arabian students mastering English as a foreign language?
3. How do computational linguistics and machine learning impact the accuracy and efficacy of bidirectional translation tools, specifically when dealing with complex grammatical structures in the Arabic-English language pair?
4. What are the patterns of usage, attitudes, and impacts of bidirectional translation tools on language acquisition among proficient Arabic-English students in Saudi Arabian institutions where English fluency is prioritized?

2. Literature Review

Dealing with the difficulties arising from the shift between Modern Standard Arabic and local dialects is a unique characteristic of the educational environment in Saudi Arabia. Obaid and Abdullah (2023) emphasize the intricate challenges encountered by Saudi pupils within an educational system in the UK that places a great value on proficiency in the English language. This introduces a level of complexity to the examination of lexicographic procedures used by scholars, requiring the use of a combination of research methods to fully comprehend the dynamics involved.

In a recent study conducted by Abdelgwad et al. (2022), the focus was on examining the precision of bidirectional translation systems when it comes to dealing with intricate grammatical structures. The identification of prevalent translation faults has become essential in evaluating the overall efficiency of these technologies, offering useful insights for enhancing language learning approaches. It is crucial to classify these errors in order to comprehend the specific difficulties encountered by Saudi pupils in their process of acquiring language skills. This also necessitates investigation into the dictionary strategies by the users. Gouws (2020) provides valuable insights into the diagnostic examinations performed by bilingual professionals, focusing on the approach employed. By combining surveys and interviews, this approach guarantees a thorough analysis of the lexicographic strategies utilized by Saudi scholars and their influence on language acquisition. These have pedagogical implications too, especially in the EFL context. The literature emphasizes the necessity of improving

language translation skills in educational environments, in line with the broader objectives of Saudi Arabia's Vision 2030. In this study, Aljameel (2022) examines the possible consequences of progress in teaching techniques and the incorporation of technology on educational policies. They advocate for a comprehensive approach to language acquisition that includes the discoveries made in this research.

In general, dictionaries are an essential resource to learn a foreign language. Dictionaries give learners important knowledge about language in all its forms (Levy & Steel, 2015). Along with etymological and usage information, they also contain phonological, morphological, syntactic, and semantic data. Tragically, there seems to be a dearth of study on dictionary use among English as a Foreign Language students (Garner, 2022). Furthermore, not much has been discovered about the inclinations and behavioral patterns of dictionary users as well as the intricate process of consulting a dictionary. The main objectives of Hamouda's (2013) research were to identify the types of dictionaries used by Saudi students, their frequency of use, and the lexical content they search for. The findings revealed that Saudi learners lack proper training in dictionary use, focusing mainly on definitions and word meanings while overlooking the pragmatic aspects and word formation. E-dictionaries were found to be superior, with a preference for bilingual dictionaries. Challenges in using dictionaries among Saudi EFL learners were highlighted, emphasizing the importance of teaching dictionary skills in educational settings. Moreover, lexicographic studies, which focus on word and terminology analysis, offer a significant field of study in Arabic language instruction (Zammit, 2020). This branch of study focuses on the vocabulary and linguistic origins of the Arabic language, which helps to clarify the grammar and syntax of Arabic. Lexicographic research is a useful technique for teaching and improving Arabic linguistic proficiency, and it has a lot to offer students (Al Amin Ali, 2017). Within this framework, the goal of this study is to emphasize the value of lexicographic analysis and its benefits for Arabic language instruction. The study investigates the use of lexicographic study aids and methodologies in instructional procedures. Moreover, in a very recent study, Bukhari et al. (2024) explored the potential of Arabic terminologies and dictionaries as useful teaching tools. It is noteworthy that lexicographic research improves linguistic abilities, broadens vocabularies, and improves language understanding. Lexicographic research is therefore essential to improving Arabic learning and growth, as well as to fostering intercultural and linguistic comprehension among individuals who speak the language. Dictionaries are a vital component of linguistics as they help maintain the language's basic structure. But lexicography is an area where the Arabic bookstore, as well as the Arab world at large, glaringly lacks expertise. The field of lexicographic investigations has adopted two distinct approaches. The one involves editing the writings of earlier researchers, while the second looks at the modern lexicographic concepts and how they are represented in the conventional Arabic lexicon (Asghari, 2012). The issue has been made worse by the emergence and accessibility of several scientific programs that use non-Arabic dialects particularly those displayed from left to right. As a result, linguistic lexicons that improve these languages are now available. The experts in lexicography of Arabic, meantime, have not kept up with the advancements made by their forebears in dictionary creation. Due to this, there is a chronological vacuum that prevents Arabic from keeping up with technological improvements and adaptations, leading to accusations of complexity and intellectual deviance (Zinhom et al., 2024). Even so, dictionaries are an inseparable part of the Saudi AFL classroom. Alhaisoni (2020) studied the dictionary look-up methods (DLS) used by ten Saudi EFL learners with English majors during a reading task. The think-aloud technique served as the study's tool. The individuals employed 31 DLS during reading, according to the results. The most common tactics used by Saudi students while consulting their dictionaries were found to be reading L1 equivalents and reading L2 definitions. The findings also showed that learners prefer to consult the dictionary right away rather than use the guessing approach regularly. Additionally, the results showed that the monolingual dictionary produced varying favorable outcome rates. 12.5% of all look-ups involved 32-word challenges that the users of the monolingual dictionary solved with the aid of their dictionary.

The process of acquiring knowledge in an entirely novel language is practically unimaginable without the use of dictionaries. Mirzayeva (2019) investigated how bilingual and monolingual dictionaries are used in Baku, Azerbaijan when studying English as a second language. The investigation found that while the majority of students favored monolingual dictionaries, some find bilingual dictionaries more helpful for a variety of factors. Similarly, Tahriri and Ariyan (2015) studied how dictionary use affects language learning strategies in elementary EFL learners. Three groups were assigned: monolingual, bilingual, and bilingualized dictionaries. The bilingual group used dictionaries more for lexical issues for morpheme analysis and cognates the least. Bilingualized and bilingual groups checked dictionaries more while reading, while the monolingual group used various tactics alongside context inference. As Saudi classrooms are gender segregated, it is important to examine if this factors in in the lexicographic use patterns and attitudes. Alhaysony (2011) focused on dictionary usage among female Saudi EFL students in Saudi universities. It examines types of dictionaries used, frequency of use, and content looked up. Proficiency impacts vocabulary learning; higher proficiency students use monolingual dictionaries more. Bilingual E-A dictionaries are popular, and handheld electronic dictionaries are preferred over print. Main use is for word meanings, emphasizing the importance of teaching dictionary skills in education. Proficiency level may also be an important factor to evaluate for dictionary application in EFL classrooms. Al-Homoud (2017) investigated Saudi EFL university students' dictionary usage in preparatory courses. The study involved 100 students from seven Saudi institutions, using a survey to gather data on dictionary ownership, language skills usage, and reasons for use. Participants favored online and electronic dictionaries over paper-based ones. Most common reasons for looking up terms were to learn new word meanings and verify existing ones. Recommendations included further research on technological advancements in dictionary usage. Further, Almjlal (2017) conducted a study with Saudi postgraduate students at the University of Salford in the UK regarding their dictionary usage habits. The study involved 20 students, with 8 females and 12 males. The research used questionnaires and interviews to collect data, which showed that most students looked up word definitions before confirming pronunciation. Three main challenges identified were difficulty with phonetic symbols, word identification, and lack of

examples in dictionaries. The study highlighted the importance of dictionary training, noting that many Saudi students lacked instruction in this area. Arabic bilingual dictionaries in paperback were preferred for educational purposes.

The literature review provides an overview of the changing strategies used in lexicography, with a focus on the need to assess translation tools that work in both directions, comprehend the difficulties experienced by Saudi students, and investigate the possible effects on teaching approaches and educational policies. This study expands on and enhances the current knowledge in this field, with the goal of offering significant insights for the creation of efficient language learning systems in the Saudi environment.

3. Methods

Research design

The aim of this research was to evaluate the usage of Dictionary Use Strategies (DUSs) among Saudi students, their preferences when consulting a dictionary, and the efficacy of the bi-directional lexicons in their language acquisition and translation journeys. The study used two surveys to gather the quantitative input. The initial survey identified Saudi participants' reference needs, distinguishing those arising from deficient reference skills and those stemming from deficiencies in their structures of dictionaries they opted to use. Essentially, the study aimed to profile the Saudi students' dictionary usage, determining their ability to conduct successful and effective dictionary application. The second survey (15 items) administered after a gap one day was directed to answer the research questions on the use of e-tools for translation. This questionnaire was prepared from the findings of the earlier research reviewed by Albareghi (2015). Formal classroom pedagogies in Saudi Language and Translation Programs encourage judicious use of online resources in translation practices. Such usage was an essential inclusion criteria as the study aimed to answer research question pertaining to the impact of bidirectional translation tools and the efficacy of computational linguistics in creating a large dataset of language inputs in the Arabic-English language pair and their impact on accuracy of translation and language acquisition among proficient Arabic-English students at a premier university which prioritized English language fluency. Therefore, the DUS instrument included items dealing with efficacy of bidirectional translation tools for translating complex grammatical structures. The study was focused on the translation studies program at Qassim University for the academic year 2022/2023.

Notably, this work represents the researchers' effort in delving into the strategic use of lexicons among Saudi students in the context of higher education language and translation programs. Twenty-nine male students enrolled in the English and Translation Program at Qassim University participated in this study. The majority (98.5%) used Saudi Arabic as their native language, with the remaining 1.5% having Turkish, Moroccan as their native tongues. Consent of the participants was sought. Students were duly informed that their ideas regarding the use of dictionary would be used for research purpose only. Their names would not appear in the study. Students were happy to share their opinion to the researchers.

The survey was administered electronically and all data were transferred to Spreadsheets for analysis. Participants had a reasonable window of three days for questionnaire reversion, it was wholly in English, and revision of responses once submitted were not permissible. Moreover, this instrument is in the nature of a self-report questionnaire, which implies that the responses provided by the participants may unveil either the actual actions they employ when using a dictionary or the actions they aspire to use during dictionary usage.

Instrument

To carry out this research, the researchers used a modified version of Gavriilidou's (2013) Strategy Inventory for Dictionary Use (SIDU) the data collection instrument. This is an internationally acclaimed tool, is standardized and reliable, in addition to being specifically designed for assessing strategic dictionary use, with a primary focus on printed dictionaries, though the current study extended its application to both printed and online versions of standard dictionaries. It originally has 36 items to be answered on a five-point Likert scale (ranging from "almost never true of me" to "always true of me"). The questionnaire is divided into four sections: (a) awareness strategies (items 1-14), (b) selection strategies (items 15-21), (c) lemmatization (questions 22-28), and (d) look-up strategies (items 29-36). However, keeping the Saudi students in mind, the researchers scaled down the number of items to 18 including statements targeted to answer the third research question. The utilization of SIDU allows for the efficient evaluation of strategic dictionary use. However, for the purpose of answering the research questions of this study, the researchers added items pertaining to the bi-directional dictionaries for English-Arabic to gauge their efficacy in their language acquisition and usage endeavors.

Data analysis

The analysis of data was conducted using (SPSS version 21.0.) To facilitate the analysis, the questionnaire items were encoded by assigning numerical values to each category of the five-point Likert scale. For instance, "almost never true" was allotted 1, "generally not true" was allotted 2, "somewhat true" was allotted 3, "generally true" was allotted 4, and "always true" was allotted 5. To assess internal consistency, Cronbach's coefficient alpha analysis was employed for each category. Furthermore, correlations between each sub-scale and the total score were computed, considering scores above 0.3 as satisfactory. Descriptive statistics, including frequencies, averages, and standard deviation, were utilized to explore the frequency of dictionary strategy use among respondents.

The findings reveal excellent internal consistency for the total scale ($\alpha = 0.89$). Similarly, all four sub-scales demonstrate acceptable to good reliability, ranging from 0.81 to 0.89. Moreover, the correlations among each sub-scale within the overall scale for all strategy groups were observed to be between 0.37 and 0.43, surpassing the threshold of 0.30. The four strategies that the study evaluated were

Awareness strategies, Selection strategies, Lemmatization strategies, and Look-up strategies.

4. Results

In the initial analysis, as Table 1 displays, it was found that strategic dictionary use fell within the realm of medium scores, as indicated by a mean of 3.16. Among the four categories of Dictionary Use Strategies (DUSs), participants expressed a higher probability of employing look-up strategies, averaging at 3.69, and dictionary selection strategies with an average of 3.51. In contrast, participants reported less frequent utilization of awareness strategies (average = 2.01) and lemmatization strategies (mean = 2.10). Concerning dictionary awareness strategies, students indicated that their primary dictionary use was home-based (M= 4.1) and generally to aid in translation (3.8). Additionally, they reported using a dictionary to find the meaning of a word (3.0), infrequently consulting a dictionary when reading a text (2.04) or looking for antonyms of words (2.12).

Table 1. Saudi students' application to Dictionary Use Strategies (DUSs)

Strategies	Mean	Interpretation
Dictionary Selection	3.69	High
Look-Up Strategies,	3.69	High
Awareness Strategies	2.01	Low
lemmatization strategies	2.10	Low
Total	2.87	Low

Regarding the selection of a dictionary, participants averred that they were clear on why they needed a dictionary (4.01) as well as the purpose of a bilingual dictionary (4.23). Furthermore, they expressed awareness of the functions and applications of etymological dictionaries (2.98), general dictionaries (2.79), and dictionaries of technical terms (2.81). Concerning the frequency of use of lemmatization strategies, data indicated that when encountering an unfamiliar word in a text, students cogitate on the appropriate form in which to search for it in the dictionary (3.61), such as the grammatical categories. Similarly, on hearing a new word, they consider how it could possibly be spelt and take to the dictionary accordingly (3.51). In addition on finding a word as expected, they initiate a new search with alternative criteria until they succeed (4.09). Additionally, they use the usage labels provided in the entry to understand how a word is actually used in the spoken language (3.34).

In the process of clarifying a meaning, they straightaway locate it by the initial letter in the dictionary (4.57), reminding themselves of the word while they search for it (3.73). Finally, when planning to use a word they found in the dictionary while writing a text, they indicated that they look for information regarding the grammar of that word, to understand its correct use (4.01). Finally, concerning the use of the bi-directional dictionaries, participants reported a tendency to avoid them (4.79) with a high 86.5% of the participants reporting poor accuracy as the main cause for this. Usage labels in the bi-directional dictionaries were reported to be ‘confusing’ by all the participants while 74.9% reported the preference for online tools, most prominently, Google Translate for bi-directional translation.

As far as the efficacy, usage, attitudes, and impacts of bi-directional online translation tools are concerned, participants unanimously rated these highly (average= 4.7) for saving time, in cases where the word(s) was unknown (average= 4.5), and in recording the new word in the mental lexicon (average= 4.2), but as confusing (average= 4.8) when used for complex word structure translation.

These findings bring the study focus to the third research question, How do computational linguistics and machine learning impact the accuracy and efficacy of bidirectional translation tools, specifically when dealing with complex grammatical structures in the Arabic-English language pair? In the Saudi Arabic-English language pair, the dataset available in the online mono and bilingual dictionaries and tools is not rich enough to ensure desirable accuracy of one or bidirectional translation. This fact applies to both simple and complex lexical or larger units, implying that there is need for more rigorous involvement of computational linguistics in developing the online bidirectional translation tools in this language pair.

5. Discussion

Results showed that the Saudi pupils under examination in this study demonstrated medium scores across the four categories of dictionary use strategies. Notably, they displayed a higher frequency of adopting look-up strategies and dictionary selection strategies, while they utilized awareness and lemmatization strategies to a lesser degree. These findings are supported by many studies. Alhaisoni (2020) found that Saudi learners tended to consult the dictionary immediately rather than using guessing strategies regularly. The results also indicated that the monolingual dictionary produced varying favorable outcome rates, with 12.5% of look-ups involving 32-word challenges that users solved with the help of their dictionary. Furthermore, Mirzayeva (2019) found that while most students preferred monolingual dictionaries, some found bilingual dictionaries more helpful for various reasons. Finally, Tahriri and Ariyan (2015) studied how dictionary use impacts language learning strategies in elementary EFL learners. They assigned three groups: monolingual, bilingual, and bilingualized dictionaries. The bilingual group used dictionaries more for lexical issues, while the bilingualized group used morpheme analysis and cognates the least. Both bilingualized and bilingual groups checked dictionaries more frequently.

6. Conclusion

The current study delved into the dictionary use strategies employed by Saudi Language and Translation program students at Qassim University. Results indicate that Saudi students are not proficient in using dictionaries, potentially hindering the effectiveness of their efforts in language acquisition. They are not adequately trained in DUSs, thus preventing their conscious adoption of these strategies, indicative of training gap in strategic dictionary use. Moreover, findings indicate that Saudi users may lack sufficient knowledge of

effective dictionary use, as dictionaries are not extensively utilized as reference or educational tools in Saudi schools. The neglect of dictionary use in Saudi classrooms may be influenced by the beliefs of Saudi teachers. Despite some on-ground indications of DUSs in Saudi schools to train students in basic dictionary functions, significant efforts to improve this situation are needed at all educational levels. This will need teachers' participation. Examination of each category of dictionary use strategy, the results revealed that Saudi students more frequently adopt look-up and selection strategies and less frequently use of lemmatization and awareness strategies.

This observation suggests that students possess the skills to effectively navigate a dictionary but may lack awareness of the breadth of information available within it. Regarding awareness strategies, respondents indicated using a dictionary primarily to assist with translation issues.

Of significance is the preference expressed by participants for using a dictionary to find the meaning of words or expressions, with less emphasis on seeking information such as spelling, syntax, synonyms, antonyms, and derivatives of words (awareness strategies). This interesting finding suggests that students lean more towards using a dictionary for productive purposes than for comprehension reasons. However, a notable dichotomy arises as pupils also stated a higher preference for using a dictionary for productive purposes over comprehension, while expressing less interest in aspects related to spelling, syntax, and other elements crucial for written output. This may indicate a gap in students' understanding of how spelling, syntax, and related aspects are integral to the demanding process of written output, requiring specific skills and strategies.

Statistical analyses revealed that look-up strategies are the most preferred among users, suggesting a strong inclination toward this category despite the medium-range scores in strategic dictionary use. It is speculated that pupils may have developed certain metacognitive abilities, indicating that with some training in dictionary use, they could opt for Dictionary Use Strategies (DUSs) and conduct successful look-ups. Following closely are dictionary selection strategies, with participants claiming knowledge of all dictionary types, except those specialized in technical terms. This lack of familiarity might be attributed to the limited availability of such dictionaries in the Saudi market.

Concerning lemmatization strategies, pupils appear to more frequently use those related to the macrostructure of the dictionary than those associated with the megastructure and microstructure (e.g., using usage labels or studying abbreviations). This preference may indicate a focus on the overall organization and form of entries rather than delving into detailed structural elements.

7. Limitations of the Study

The study aimed to evaluate the lexicographic strategies employed by Saudi English language experts and examine the influence of bidirectional Arabic-English translation tools. However, it is important to acknowledge the limits of this study. An important obstacle arises from the possible complexity of extrapolating conclusions beyond the particular circumstances of Saudi Arabian scholars, as the distinctive conditions faced by students who navigate between Modern Standard Arabic and regional dialects may restrict the applicability of the findings. Furthermore, the sample's representativeness, comprising 29 Arabic-English students, might not comprehensively encompass the diversity present in other educational institutions, hence impacting the study's broader applicability. The limited time frame of the research may impede its capacity to capture the dynamic patterns in language acquisition or the emerging tactics in lexicography.

8. Recommendations

The format and content of dictionaries have significantly improved during the last few decades. However, dictionaries—both digital and paper—are still sadly underutilized. Consequently, there is general agreement that more work needs to be done to teach individuals how to browse dictionaries. Creating lexicographic resources that need little to no teaching is another way to solve the problem. In this presentation, Frankenberg-Garcia (2020) introduced the ColloCaid project, whose goal is to create a lexicographic tool that brings dictionaries to writers instead of waiting for them to consult dictionaries for the information they require. The tool will integrate user demands, lexicographic data, and digital writing environments. Our goal is to assist authors in producing more idiomatic works by seamlessly incorporating lexicographic information on collocations into text editors without causing them any distractions. ColloCaid stands out for reasons other than just offering comments on incorrect collocations. Additionally, it attempts to "feed forward," bringing to light collocations that authors might forget or be unable to seek up.

Teachers' attitudes may be instrumental in students' dictionary usage. Therefore, the researchers posit that Saudi teachers may benefit from additional training, as their attitudes and practices regarding dictionary use could influence their students' perceptions and practices in strategic dictionary use. Addressing these beliefs and providing teachers with effective strategies may enhance the integration of dictionaries into the learning process and contribute to more informed and proficient dictionary use by students.

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Authors contributions

Dr. Mohammad Shariq was responsible for research design, data collection, research methodology, conclusion and revision of the article. Dr. Abdulghani Al-Hattami finalized literature review, data analysis, recommendations and references. Both authors reviewed the final version of the article and made necessary adjustments time to time.

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