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Bridging the Linguistic Gap: Addressing Reading Comprehension Challenges for the Algerian Dentists

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Abstract

This study examines the reading comprehension challenges of French-educated Algerian dentists when reading English-language medical texts. With a quantitative survey sent to twenty-five (n=25) practicing dentists, the study identifies marked linguistic challenges, including challenges with medical terminology (particularly abbreviations), intricate sentence structures, and unfamiliar rhetorical conventions in English texts. It is revealed that although the participants employ coping mechanisms such as computer translation programs and peer suggestions, these strategies often lead to partial understanding or misinterpretation due to the complexity of medical texts. Systematic reading approaches, bilingual glossary development, and group learning techniques are suggested as targeted interventions to enhance professionals' ability to access and comprehend English medical literature. The results point to the need for programmatic English for Medical Purposes (EMP) education in francophone medical faculties, dental sciences in particular, to bridge this language divide and enhance evidence-based practice. The present study contributes to ongoing debates regarding multilingual medical literacy and offers practical recommendations for greater professional access to cross-cultural research. Long-term effectiveness of such measures in clinical contexts should be examined through future studies.

Keywords : EMP (English for Medical Purposes); French-educated dentists; linguistic barriers; reading comprehension

1. Introduction

Following WWII, English became a global language. The rise of the U.S. as a global superpower caused a decline in French and German science. By the late 20th century, academic publishing shifted towards English, so that almost 80% of medical literature was published in English. Later, it has become the prominent language of medicine; thus, in order to globalize medical research, major medical journals adopted it to reach broader audiences. This created challenges for non-English speakers who were obliged to use English. Driven by the demand of non-native English-speaking researchers needing access to journals, English for medical purposes (EMP) emerged as a subfield of English for specific purposes (ESP). It aimed at tailoring programs to healthcare professionals by focusing on medical terminology,

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clinical communication and academic research skills to provide them with specified language skills and features used in a medical context.

Although EMP has been partially introduced in Algerian medical education, its implementation remains limited, unstructured, and inconsistent. EMP, as a subfield of English for specific purposes (ESP), is designed to address the specific language needs of healthcare professionals, including medical terminology, clinical communication, and academic research skills. However, in the Algerian context, its effectiveness is hindered by the dependence of Algerian universities on French curricula. Despite English's global dominance in medicine, Algerian medical curricula and resources remain primarily in French due to a combination of historical (colonial legacy), political (francophone), and practical factors, in addition to the limited exposure to English and EMP teachers shortage which altogether hinders access to up to date advancements, participation in global research and career development.

Current research in the field of EMP conducted in Algeria explores the language barriers that healthcare professionals struggle with on the surface level. It discusses language proficiency problems in general, which, on the contrary, require a more profound understanding; this includes the four language skills (reading, writing, listening, speaking). There is little research that tackles the language skills, in which these skills are not analyzed individually. Besides, the diversity in needs between the medical staff of different specialties is not taken into consideration.

In the case of Algerian dentists who received dental education in French, the global trend of publishing research in English has left them at a disadvantage. To keep abreast of current research, they must read medical content in English, which poses comprehension challenges, especially with a limited pre-existing English proficiency acquired in middle school and high school. This study seeks to investigate the challenges that Algerian dentists face in reading comprehension of medical texts written in English. By assessing the current language proficiency level of dentists in reading, identifying obstacles that hinder their comprehension, and suggesting solutions to overcome these obstacles, this research is urgent and calls for immediate action in the field of medical education and language proficiency.

The investigation addresses the following research questions:

- What special challenges do Algerian dentists encounter in reading and understanding medical texts composed in English?
- What are the possible solutions or strategies that could help Algerian dentists deal with these problems?

2. Literature Review

Tardy (2004) points out that language barriers are a big problem for scientific exchange around the world. Nguyen et al. (2019) say that this is especially true in the medical field, where professionals need to understand particular vocabulary and idiomatic phrases quickly. Because English is the primary language used in science, it can be hard for people who do not speak it as their first language to read medical literature and communicate significantly in real professional settings. These language barriers can make it harder for scientists to share their work, work together on projects, and make progress in science on a global scale.

English for Specific Purposes (ESP) emerges as a beacon of hope in the face of these language barriers (Basturkmen, 2006). It is a tailored approach that equips professionals with

the English language skills necessary for their specific field, such as medicine. More than just basic English, ESP imparts the specialized vocabulary, grammar, and communication skills essential for effective medical communication. By enabling professionals like dentists to read complex medical texts and engage in scholarly conversations with fluency and accuracy, ESP is a promising solution to the language challenges in the medical field.

The effects of limited English proficiency extend beyond comprehension, influencing professionals' confidence and willingness to engage in scholarly communication. Al-Issa (2005) discovered that in North African and Middle Eastern contexts, a lack of proficiency can impede students' communicative competence. This can deter professionals from sharing their research, publishing in international journals, or participating in conferences. Consequently, the scientific community may miss out on crucial ideas and findings, and medical professionals may struggle to advance in their careers due to a lack of confidence in their language skills.

English domination of medical literature poses serious reading comprehension challenges to non-native English-speaking healthcare professionals. For French-educated Algerian dentists, access to up-to-date medical literature means negotiating complex linguistic changes directly impacting their reading comprehension of written medical texts. This review critically examines three significant reading comprehension issues:

- processing medical terminology,
- Discourse reading comprehension challenges, and
- systemic education gaps in reading instruction.

2.1 Difficulty in Processing Medical Terminology

The difference in abbreviation systems is one of the most significant problems. Zaidi and Al Jadaan (2022) found that an impressive 78% of non-native medical students had trouble with English medical abbreviations. This is a lot more than the 42% who had trouble with general medical terms. One big problem with English medical texts is that they use many abbreviations. A single abbreviation can stand for many things, and a system that is not familiar can lead to big mistakes.

The structure of French and English can be very different, even when the idea behind it is the same. French and English have different ways of saying the same thing. For example, "échelle visuelle analogique" (visual analogue scale) is structured differently from "visual analogue scale." The way the words are put together and the order they are in can make it hard to read and make you have to rearrange the words to understand what they mean mentally.

False cognates, or words that appear similar in different languages but mean different things, can make it difficult to understand information, especially in fields like medicine that require technical knowledge. These linguistic pitfalls can lead to serious consequences, such as misunderstanding clinical information. The importance of accurate medical translation cannot be overstated, as it directly impacts patient safety. Studies have shown that learners' existing language frameworks can make it difficult for them to process new information

correctly, leading to negative transfer, a cognitive process where the learner's native language interferes with the learning of a new language (Ringbom, 2012). Ķirřakmene (2023) highlights the importance of language training that goes beyond basic vocabulary and focuses on misleading semantic relationships to ensure accurate medical language. The prevalence of false cognates in medical interpretation and translation underscores the need for language training that goes beyond basic vocabulary to address these misleading semantic relationships and ensure accurate medical language.

2.2 Obstacles to Discourse Understanding

French-trained readers of medical texts struggled with understanding them because of the differences in language and rhetoric between French and English academic traditions. One of the most significant problems with writing in English is that it often uses nominalisation, which is when verbs or adjectives are turned into nouns (for example, "to analyse" becomes "analysis"). Linguists like Halliday (2004) talk about this grammatical feature, which allows for much lexical density, or putting much meaning into short phrases. This makes the writing sound more formal and authoritative, but it is different from the French academic style, which focuses more on verbs. This means that readers have to put in more mental effort to understand the abstract ideas and dense information (Halliday & Matthiessen, 2014).

The IMRAD format (Introduction, Methods, Results, and Discussion) is also a global standard for scientific publication. However, it may not fit with the more philosophical and discursive structures that are common in French academic traditions. Because of this structural mismatch, French readers have to change how they read and look for information in ways that are different from what they learnt in school. Ultimately, the use of complex sentence structures, like embedded clauses and the passive voice, makes things even harder to understand. As many studies have shown, these features can make it more challenging to process information and make reading less fluent because readers have to use more cognitive energy to figure out how grammatical relationships work and who is doing what (Grabe, 2009). These cumulative differences in language and rhetoric show how important it is to give non-native readers specific training to help them understand English medical literature.

The increasing impact of these differences in rhetoric and syntax is substantial. According to Vahdany and Gerivani (2016), these discourse markers can slow down reading speed by 40% and make it 35% more challenging for non-native readers to comprehend what they are reading. This significant decrease in both speed and accuracy underscores the urgent need for French-trained healthcare workers to understand and adapt to the unique features of English medical literature.

2.3 Systemic Reading Instruction Gaps

There are significant gaps in formal reading support in Algerian medical faculties right now. This is mainly because they focus too much on general English instruction, do not teach specific medical reading techniques, and the faculty is not ready to show students how to use effective reading strategies. All of these systemic problems make it harder for Algerian dentists to find and understand English medical literature quickly.

A primary reason for the insufficient assistance with reading is that the curriculum emphasises general English rather than specialised medical reading skills. The key English skills are essential; nonetheless, they are insufficient for comprehending intricate medical materials. General English lessons often include grammar, vocabulary, and conversational skills broadly. They do not include the specific terminology, distinctive syntactic constructions, and elevated information density prevalent in medical literature. This gap may result in students graduating with proficient general English abilities while lacking the specialised skills required to comprehend complex journal articles, therapeutic recommendations, or research papers published in English..

Ghafar's 2024 study shows that medical students still need to work on their reading comprehension skills, especially now that new infectious diseases are spreading quickly. The study says that a lot of medical school programs do not teach students all the different ways to read. It backs up the idea that students have a hard time understanding complicated scientific papers and keeping up with medical advances without the proper training. (Ghafar, 2024).

Kind et al. (2023) claim that students' peers are the best source of advice on where to find study materials. This discovery shows how important it is to not only give students time to develop good reading and study habits but also to point them to trustworthy, evidence-based resources from the very beginning of their training. According to the study, faculty and school leaders need to actively promote good reading strategies and reliable sources to make sure that students' recommendations to their friends are correct and helpful (Kind et al., 2023).

2.4 Research Gaps and Implications

Several crucial aspects of medical reading comprehension, particularly in trilingual settings like that of Algerian dentists who speak French, have not been comprehensively explored in previous research. To develop effective strategies that facilitate the reading and understanding of English medical literature, it is imperative to delve deeper into these unexplored areas. This research has the potential to bridge the gap in medical reading comprehension and inspire new approaches to teaching and learning.

There is not much research on the cognitive processes that go into understanding medical texts in three languages, especially for Algerian dentists who need to speak English, Arabic, and French. For teaching trilingual readers, it is important to know how the brain processes and switches between these languages. We need teaching methods that build on what students already know about French and Arabic, clear up common misunderstandings, and include reading strategies that work best for their learning styles and needs.

Poor reading skills have a significant effect on evidence-based practice (EBP), which is very important in healthcare. Healthcare professionals, such as Algerian dentists, encounter difficulties in understanding English medical literature due to language barriers, which can adversely affect patient care, perpetuate outdated practices, and impede professional development. To show how language barriers affect medical education and practice in the real world, it is important to understand how reading proficiency and EBP are related.

There is an immediate necessity for additional research to create reading programs specifically designed for the distinct circumstances of French-speaking Algerian dentists.

This research could significantly improve the professional growth of these dentists and ensure that all medical professionals, no matter what language they speak, have equal access to the most up-to-date scientific information. This would have a positive effect on global health.

3. Methodology

3.1 Approach

The research approach of the study was exclusively quantitative, using a survey technique to systematically gather empirical data. This approach was deliberately chosen to identify and quantify the unique linguistic challenges faced by the target population. The study employed a structured survey targeting a specific population to ascertain the prevalence and nature of issues encountered, including difficulties with medical terminology, the complexity of English syntax, and the unfamiliar rhetorical structures prevalent in English medical discourse. The quantitative approach enabled the assessment of participants' perceptions of the efficacy of their existing coping techniques, allowing the researcher to identify deficiencies in the participants' existing language abilities and comprehension techniques.

3.2 Participants

The research included twenty five (25) practicing dentists in Algeria, a group selected for their unique language and professional expertise. They are a crucial sample for examining the impact of language barriers on evidence-based practice, as they must comprehend medical productions globally, which are often articulated in English. The insights obtained from this group are crucial for comprehending the distinct challenges encountered by francophone medical practitioners as the scientific community increasingly adopts English.

3.3 Focus

The main goal is to find out what problems these dentists have when they read English medical literature. The study carefully looks at issues in three main areas:

Medical Terminology: This encompasses challenges associated with specialised vocabulary, abbreviations, and acronyms.

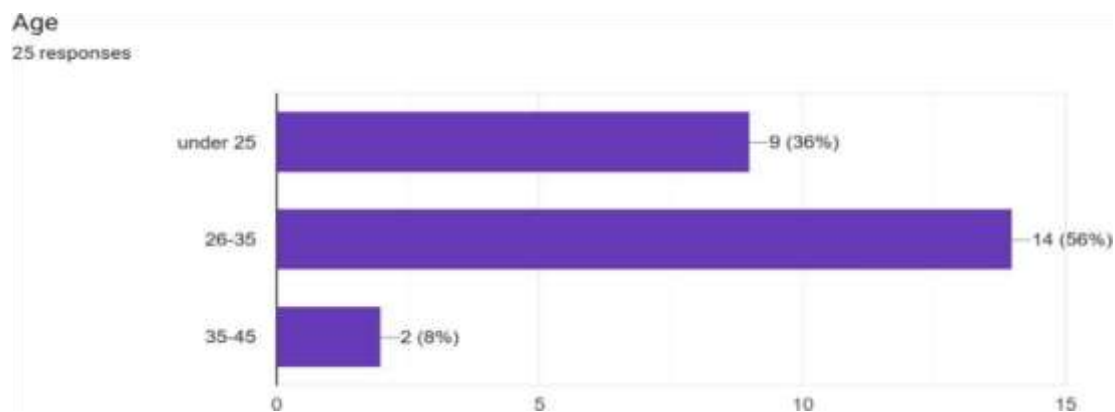
Linguistic Structures: This category includes problems with English syntax that are too complicated, like long sentences and grammatical constructions.

Rhetorical Structures: The study examines the difficulties presented by unfamiliar organisational and argumentative patterns prevalent in English medical discourse (e.g., IMRAD structure).

The study also looks at how the dentists perceive the coping strategies they are currently using and how well they work. This helps them better understand what they are missing in terms of language skills and ways of understanding.

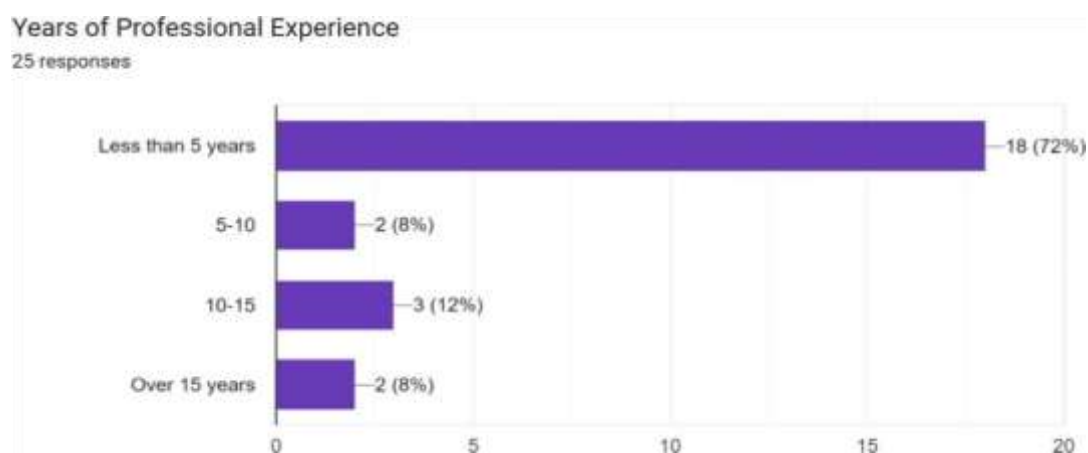
4. Results and Discussion

Figure N°01: the respondents' Age



The data reveals that most of the respondents (56%) who answered the survey were between the ages of 26 and 35. This shows that there are many dentists in the early to middle stages of their careers. Nine of the participants (36%) are under 25 years old, which suggests that some of them are new graduates or new doctors who are just starting their professions. On the other hand, just a tiny number of the participants, 2 (8%), are between the ages of 35 and 45. No one above the age of 45 is listed. The age range of the informants implies that it mainly included younger and newer experts in the Algerian dentistry area. This tendency might significantly influence their reading habits and reliance on current English-language medical literature.

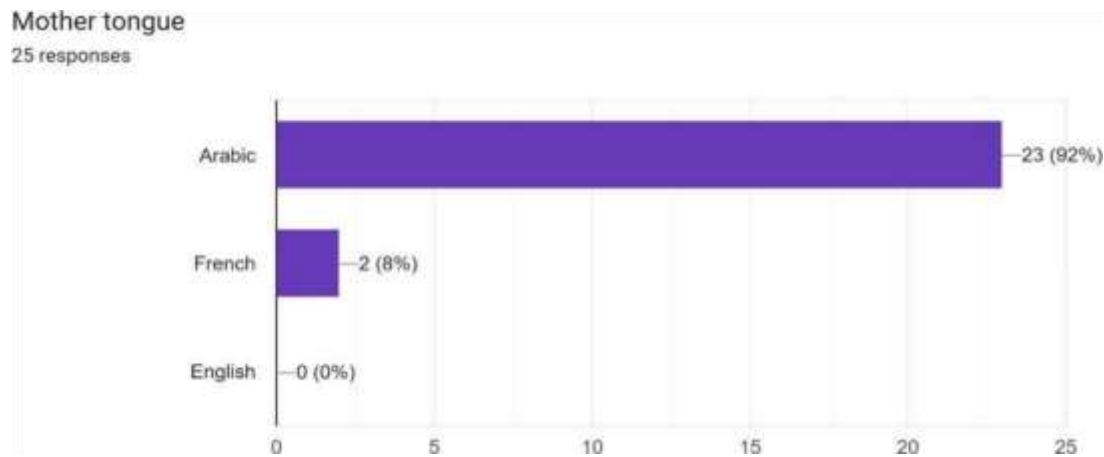
Figure N°02: Years of professional experience



The second bar chart shows the years of professional experience the participants have. There is a clear direction: 18 of the 25 respondents who answered (72%) had fewer than five years of work experience. This fits with the previously discussed age distribution, which suggests that there are a lot of early-career dentists. A lower number of informants fall within the more experienced groups. There are two doctors in each of the "5-10 years" and "Over 15

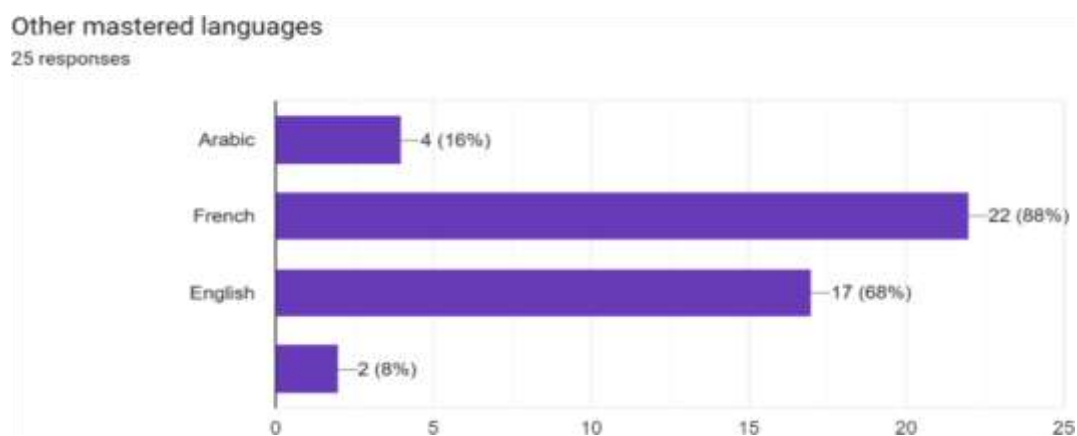
years" experience groups (8% each). There are a few more in the "10–15 years" group, with three dentists (12%). The fact that most of the dentists who took part had less than five years of experience supports the concept that the survey mainly questioned people who were new to the dentistry profession in Algeria. This demographic trait is important for understanding the consequences of their problems understanding English medical texts, since they may not have read a lot of them yet or learned how to deal with them.

Figure N°03: The mother tongue of the respondents



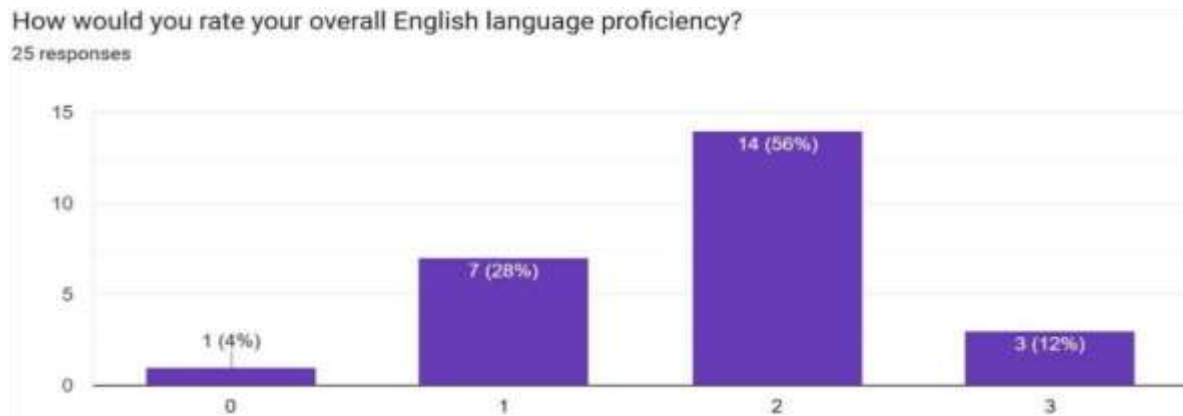
The bar chart visually represents the distribution of the 25 participants' first languages. The data reveals that a significant majority, 92% of the total number of dentists, speak Arabic as their first language. A small division of the participants, two individuals (8%), indicated French as their first language. Notably, none of the participants (0%) speak English as their first language. This demographic information is crucial to the study's focus on reading comprehension issues in English medical literature. It highlights that for almost all of the participants, English is at least their third language, after Arabic and/or French. This complex language background underscores the potential challenges in comprehending English medical material, emphasizing the urgency of addressing these issues.

Figure N°04: Other mastered languages



The bar chart shows how well the participants speak "other learned languages." French is by far the most popular, with 22 respondents (88%) saying they are fluent. English is the second most common language, with 17 people (68%) saying that they master this language. They use these languages in specific professional or academic settings. This shows that the Algerian context is a multilingual one, mainly because French is quite strong there and English is becoming more popular, which is in line with its historical links and worldwide trends.

Figure N°05: overall English language proficiency



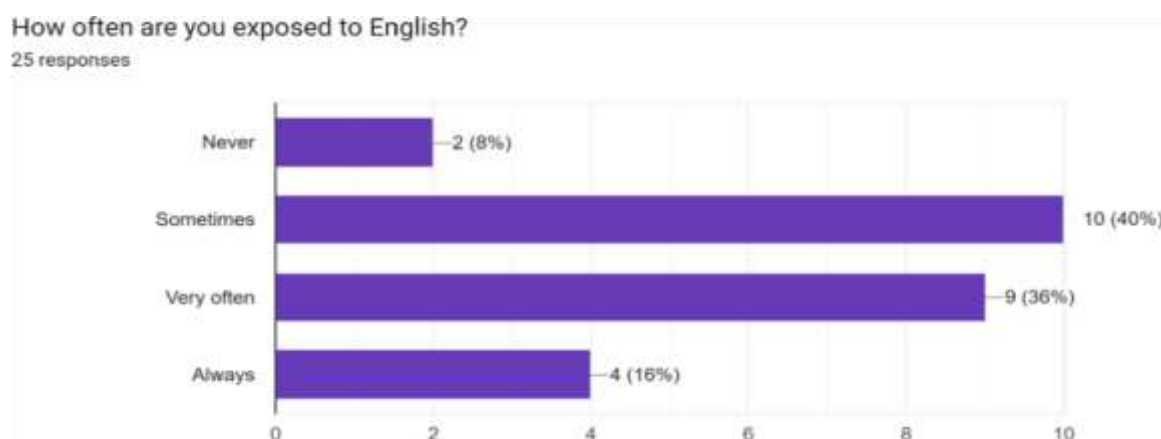
The bar chart shows that most of the dentists who answered rated their English skills as excellent or fair. 14 (56%) gave themselves a score of 2, which means they are very competent at the language. A large number of responders, 7 (28%), evaluate their competence at level 1, which means they have a basic to intermediate grasp. Only a tiny number of people, 1 (4%), say they are not very good at it (rating 0), while 3 (12%) say they are extremely good at it (rating 3). This distribution shows that the informants usually have a high degree of English proficiency. This is in line with the fact that English is becoming more important throughout the world and that many have "other mastered languages," as shown in earlier statistics.

Figure N°05: formal language training received



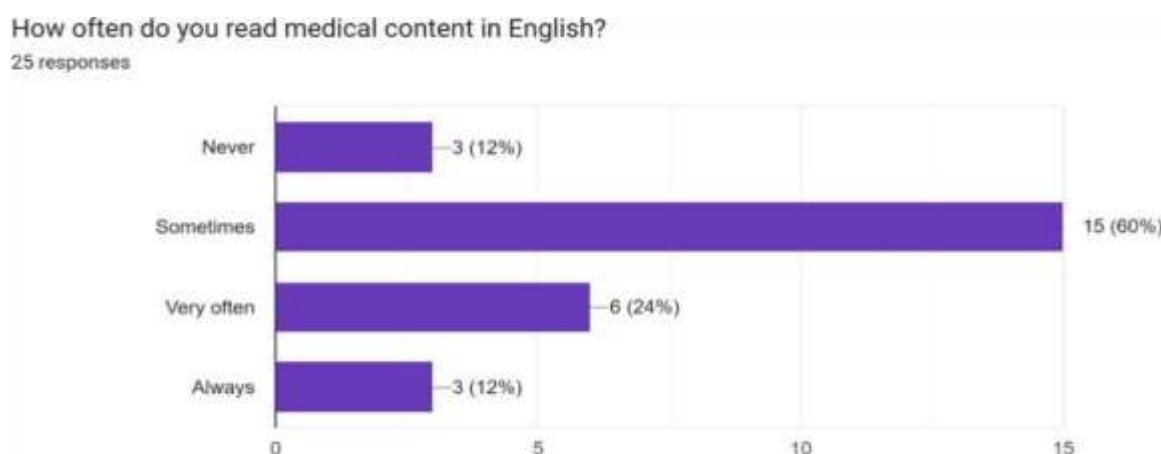
The above chart shows that 68% had not had official English language instruction, even if earlier data showed that they were typically proficient in English. This significant difference shows how important informal learning pathways, such as self-study, exposure to English-language media, and real-life usage, are for this population in Algeria when it comes to learning English. It means that people are becoming good at English by these methods, rather than just going to school. This is especially interesting because Algeria has a lot of different languages, and French and Arabic have historically been critical. This suggests that there is a strong desire to learn English outside of formal settings, probably because it is becoming more important in business, technology, and entertainment around the world.

Figure N°06: Frequency of exposure to English

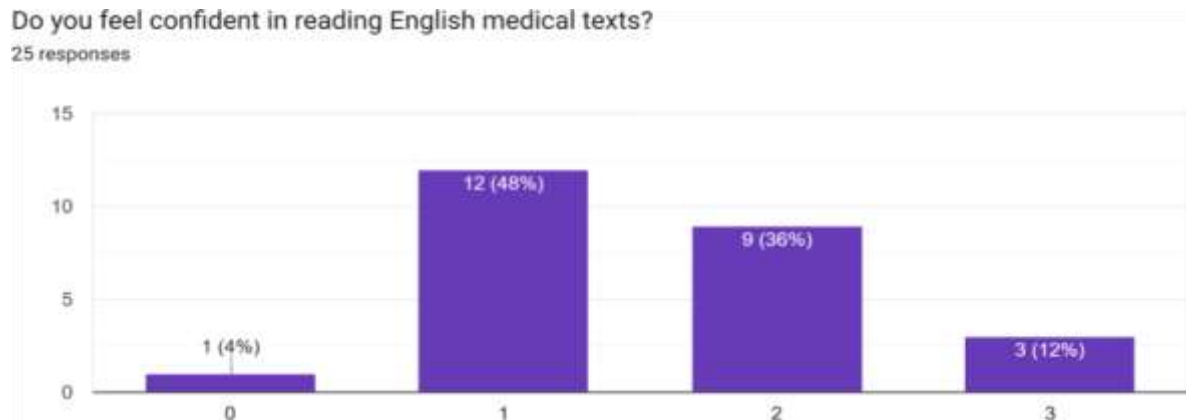


The last graph illustrates that a substantial portion of the population is regularly exposed to English: 40% 'Sometimes,' 36% 'Very often,' and 16% 'Always.' A small fraction (8%) claim to have 'never' been exposed to the language. The graph highlights the significant influence of informal exposure, possibly through media and everyday interactions, on the English language proficiency of Algerian dentists.

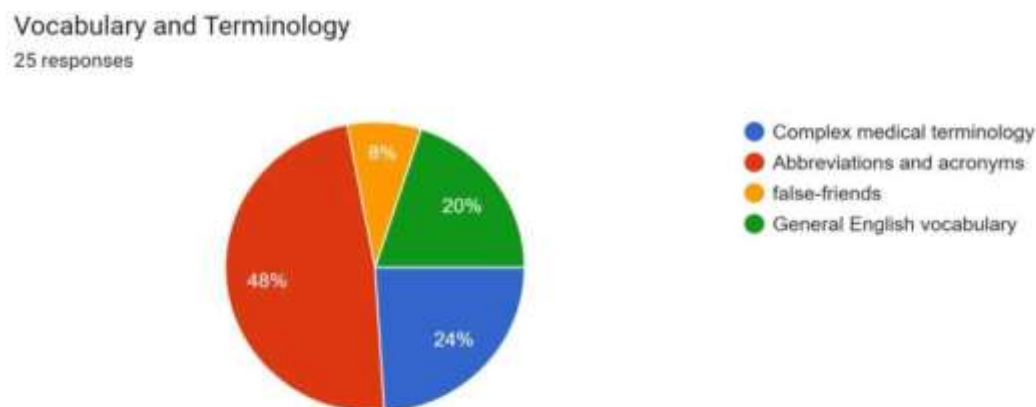
Figure N°07: The frequency of reading medical content in English



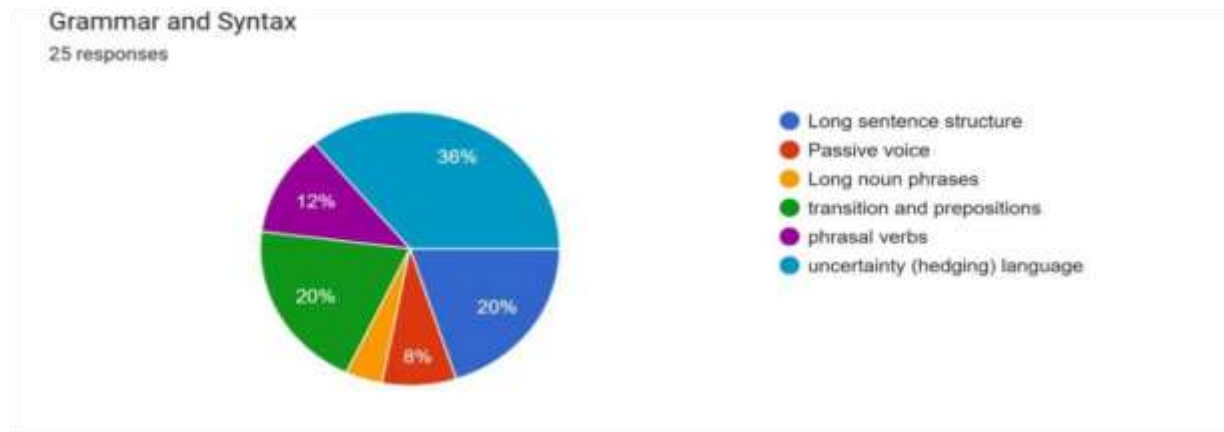
The bar chart reveals the frequency of reading medical content in English among the informants. A substantial majority, 60% (15 respondents), said they 'Sometimes' read medical information in English. Notably, 24% (6 respondents) read it 'Very frequently,' a significant portion in the survey. The remaining respondents (3, or 12% each) fell into the 'Never' or 'Always' categories for reading medical content in English.

Figure N°08: The participants' confidence reading medical content in English

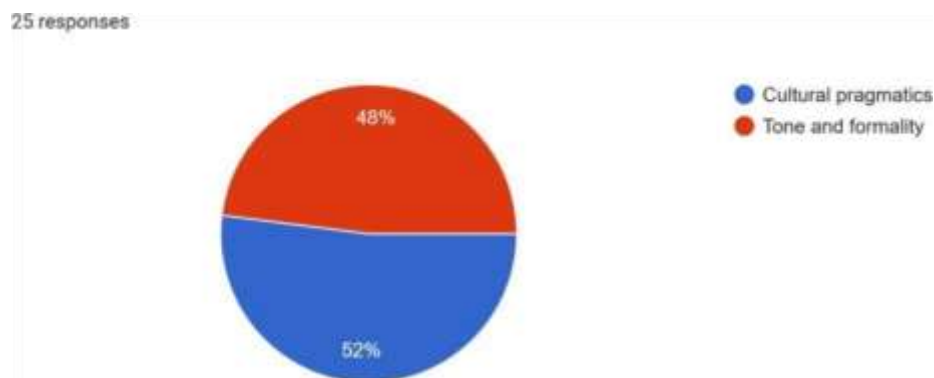
The bar chart shows us a fascinating picture of how sure the selected Algerian dentists are that they can read English medical texts. Out of a total of 25 respondents, 48% (12 people) said they were somewhat confident, and 36% (9 people) said they were very confident. Weirdly, 12% (3 respondents) were the most sure, and only one was the least sure. This distribution shows that most of the people who answered were pretty sure, which is interesting because it means that most of the people who answered were not at either end of the spectrum.

Figure N°09: Areas of difficulty with medical English terminology

The pie chart shows the precise parts of "Vocabulary and Terminology" the Algerian dentists found hard or interesting. A large majority of respondents, 48%, said that "Abbreviations and acronyms" is a critical topic, which means that this is a major problem or priority for them. "Complex medical terminology" is also a big worry for 24% of the respondents, which makes sense because medical English is highly specialized. "General English vocabulary" makes up 20%, which means that one out of five still focuses on basic vocabulary. "False-friends" are the least common problem, with just 8% mentioning them. This shows that while some are still working on their basic English vocabulary, a lot of the informants are having trouble with or are very interested in the more specialized or subtle parts of English, especially when it comes to abbreviations, acronyms, and complicated medical terms.

Figure N°10: areas of difficulty in grammar and syntax

The pie chart shows the grammatical and syntactic problems the respondents had. The biggest problem for 36% of them was "Uncertainty (hedging) language." "Long sentence structure" and "Transition and prepositions" are both hard for 20% of the respondents, which shows that these are typical problems people have while trying to write clear and complicated phrases. "Phrasal verbs" are a problem for 12% of them, "Passive voice" is a problem for 8%, and "Long noun phrases" are a problem for the lowest group at 8%. This shows that some basic grammar rules are still hard for the respondents, but they are having the most trouble with more advanced parts of English grammar that are important for writing that is clear and precise, like hedging and making complex sentences.

Figure N°11: Aspects of pragmatics posing difficulty to the learners

The pie chart shows that 52% of the total said that "Cultural pragmatics" is a little harder or more important than "Tone and formality," for 48%. This shows that both parts of English communication are important, but understanding the subtleties of how language is used in different cultural settings (cultural pragmatics) is a little more important than changing the level of politeness or seriousness (tone and formality). This means that this group thinks that learning how to understand the social and cultural effects of speaking English is very important for their growth. This may be because it is hard to communicate with people from other cultures in English.

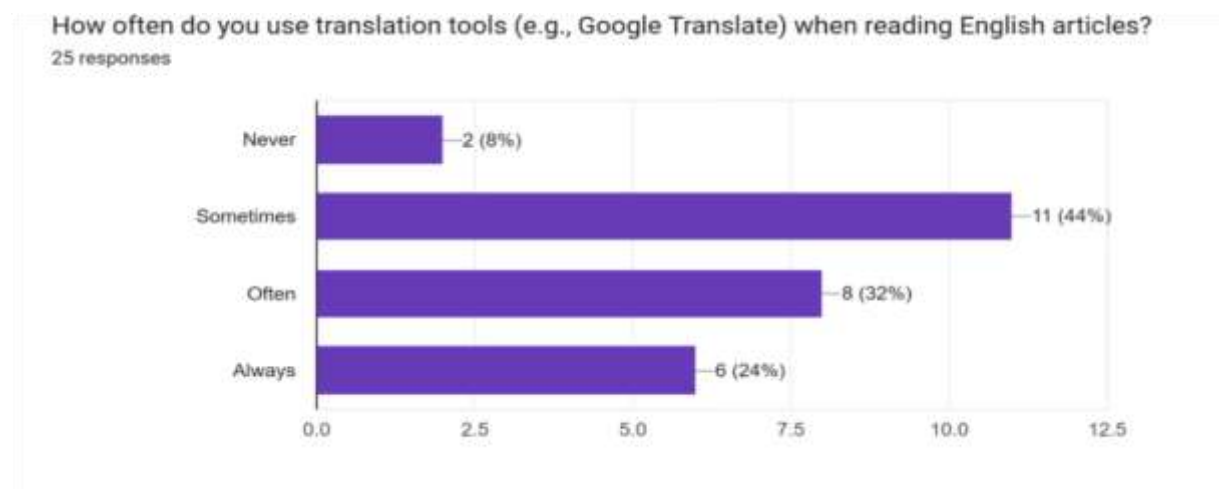
Table N°01: Participants identified significant difficulties
(mean scores, 1=minimal to 5=severe):

Challenge Category	Mean	SD
Medical abbreviations	4.2	0.8
Technical terminology	3.9	1.0
Complex sentence structures	3.7	1.1
Passive voice constructions	3.5	1.2
IMRAD structure navigation	3.1	1.3

The Respondents struggled significantly with medical terminology, particularly abbreviations differing from their French equivalents. Complexity of sentence structure and passive voice also constituted comprehension challenges, with required re-reading of portions of text multiple times. The majority of respondents struggled with adhering to the standard IMRAD (Introduction, Methods, Results, and Discussion) structure of research articles. These challenges led to slowed understanding of content and, in some cases, avoidance of certain English-language content. The most common difficulties cited were unknown technical terminology, dense syntactic constructions, and textual structure different from that of French medical texts. Students remarked that these difficulties particularly affected their capacity to efficiently extract significant information from research papers.

These findings align with Zaidi and AlJadaan's , (2022) work on non-native medical readers, particularly regarding abbreviation comprehension ($M=4.2$), which emerged as the most severe challenge. The high standard deviations (0.8-1.3) suggest substantial individual variability in perceived difficulties.

Figure N°12: the frequency of using translation tools when reading English articles

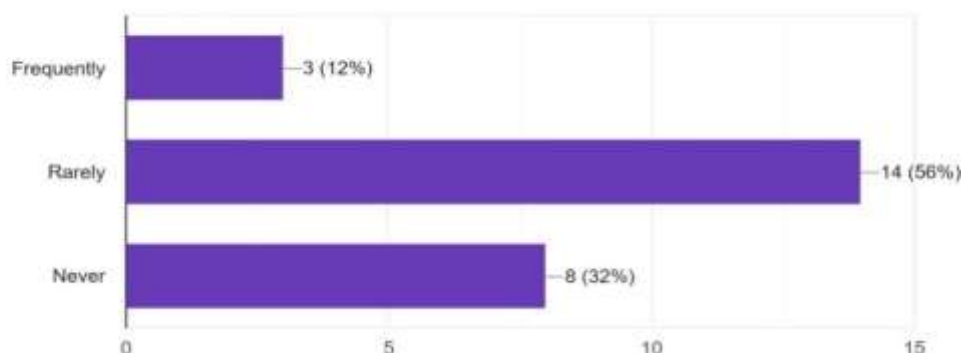


The bar chart shows that a large number of the participants utilize translation tools. In particular, 44% use translation tools to read English articles "Sometimes," 32% "Often," and

24% "Always." Only 8% say they "never" use these kinds of tools. The fact that 100% of respondents said they used translation tools at least sometimes shows that even if they say they are competent at English and are exposed to it a lot, many still have trouble reading English publications. This suggests that they could be better at general understanding or conversation than at reading specialist or academic texts, where translation techniques are needed to get over vocabulary or complicated sentence structure problems.

Figure N°13: Consulting Colleagues or experts for article comprehension

Do you consult colleagues or experts when you struggle to understand an article?
25 responses



The graph shows that most people do not often ask for assistance from outside sources. The biggest group, 56% (14 respondents), "Rarely" asks coworkers or experts for help, while 32% (8 respondents) "Never" does. Only 12% (3 responders) "often" ask others for help. When the dentists had trouble comprehending an article, they were more likely to depend on their own knowledge or other resources (such translation tools, as seen in the previous graph) than to ask their peers or experts directly. This might mean that they prefer to solve problems on their own, that they do not have easy access to such resources, or that they feel capable of handling difficult English texts on their own.

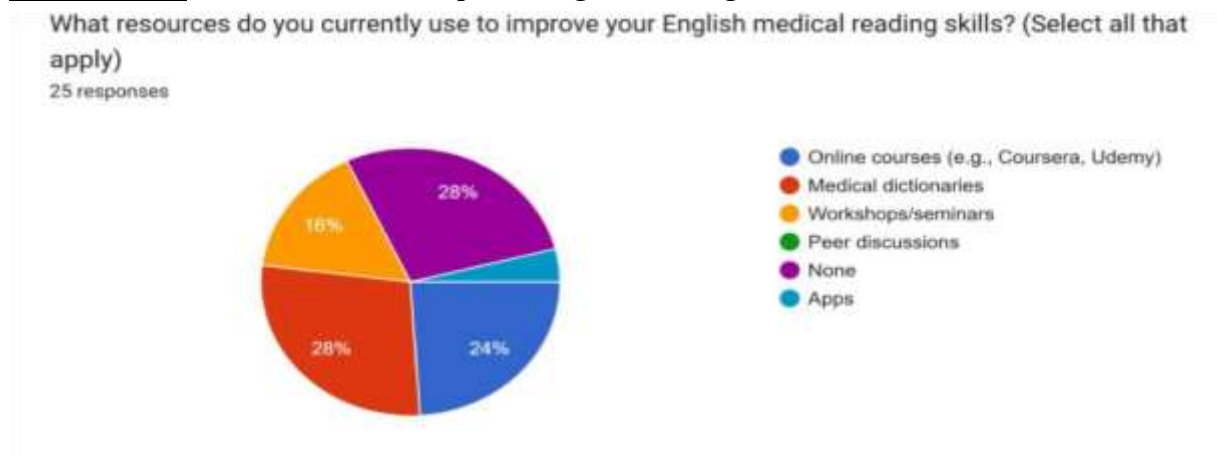
Table N°02: Strategies to Overcome Understanding Difficulties

Strategy	Number of students	Percentage
Translation using digital tools and dictionaries	20	80%
Re-reading	5	8%

The table shows that "Translation using digital tools and dictionaries" is by far the most popular way to deal with problems reading English medical materials, with 80% of responders saying so. Only 8% choose "Re-reading," which is quite different from the other options. The lack of other typical tactics, such as asking coworkers or experts for help, which were shown in a previous graph, or looking at the context, makes it further clearer that people rely heavily on digital translation tools. The fact that most people prefer translation tools shows that when they have to read specialist English literature like medical documents, they value quick lexical and semantic clarification above alternative ways of understanding. This

means that medical terms are frequently so complicated that they need to be translated directly, even for those who are competent at English.

Figure N°14: resources used to improve English reading skills



The pie chart shows that the respondents employ a variety of methods. "Medical dictionaries" are used by 28%, which means that a large number of them either rely on specialist dictionaries or do not actively use any particular resources to become better. "Online courses (like Coursera and Udemy)" are utilized by 24%, which shows that they are interested in organized digital learning. "Workshops/seminars" are popular with 16%, which suggests that they like training that is participatory and takes place in person or online. "Peer conversations" and "Apps" are the least used, with just 2% each. This shows that this group does not often use collaborative learning or mobile apps. The fact that a large group does not use any specific resources while others choose dictionaries or online courses shows that there are different ways to improve medical English reading skills. Most of the participants rely on self-direction or basic reference tools instead of interactive or modern technology tools beyond general online courses.

Figure N°15: The respondents' interest in specialized training English comprehension



The bar chart clearly illustrates that there is a need for specialized training programs. A clear "Yes" came from 60% of the 15 respondents, showing that there is a clear need for focused development in this area. Another 28% (7 responses) said "Maybe," which means they would be receptive to these kinds of programming depending on things like the content, format, or scheduling. Only 12% (3 respondents) said "No," which means that they think specialized training is helpful. This considerable interest from the group shows that they think

there is a gap in their existing medical English comprehension abilities and that they are eager to look for formal ways to improve this important professional ability.

Participants' Coping Strategies

The participants employed three main coping strategies for the comprehension of English medical documents. The most common practice was the use of translation aids (85%), i.e., mainly computer translators reinforced with dictionary checks. Peer consultation was a second-order strategy (62%), i.e., primarily to decipher unfamiliar abbreviations. Some participants (28%) maintained private glossaries of terms. Although it was possible to access formal English for Medical Purposes courses, these were, not utilized (12%), and practitioners cited lack of awareness, or perceived irrelevance to practice, as primary reasons. This evidence suggests that practitioners are far more likely to avail themselves of quick, pragmatic solutions rather than systematic skill development to address comprehension problems.

5. Recommendations

To create a strong framework for improving dental professionals' reading comprehension, specifically addressing the inherent difficulties of medical syntax, specialized language, and complex discourse structures, the researcher suggests these strategies based on solid pedagogical principles.

6.1 Structural Analysis

The strategy of structural analysis proficiency focuses on morpho-syntactic deconstruction to help learners understand complex medical texts better. This method goes beyond just recognizing words; it helps students understand the grammatical rules that control how sentences are put together (Smith & Jones, 2018). Sentence deconstruction drills are important because they help readers break down long, complicated sentences, which are common in scientific writing, into their constituent parts, such as the subject, verb, and different clauses. For example, you can break down the sentence "The interdisciplinary team's consensus was that the patient's refractory periodontitis, which was unresponsive to conventional therapeutic interventions, necessitated a surgical consult" in a systematic way to find its main points and supporting details. Also, active/passive voice conversion exercises help dentists change passive constructions (like "The treatment was given") into active ones (like "The clinician gave the treatment"). This makes it clearer who did what and why. From a cognitive load theory point of view, this practice is beneficial because it makes it easier for professionals to understand the information and what it means in clinical settings (Miller, 2019).

6.2 Language Bridging Tools

The linguistic bridging devices strategy is all about using background knowledge to construct new material. This fits perfectly with constructivist learning theory. This method works well to lower cognitive load and speed up learning by linking new ideas to ones that are already known (Bruner, 1966; Vygotsky, 1978). The creation of a "false-friends" glossary specifically for the medical field directly addresses potential lexical problems where words

look the same in different languages but have different meanings (for example, "actual" in English and "actuel" in French, which means "current"). This tool is handy for dental professionals who speak French because it reduces interference between languages and makes words more precise (Dubois & Martin, 2020). In addition, comparative bilingual text analysis involves reading medical texts in both French and English. This method helps the students become more aware of language, which lets them think about language itself and see how complicated medical ideas are expressed in different languages. This makes it easier to share knowledge and close the language gap (Johnson, 2021).

6.3 Strategic Reading

Strategic reading strategies are metacognitive, giving readers better ways to understand and organize information (Flavell, 1979). Section-prioritized skimming suggests starting with sections like the abstract and conclusion and then moving on to the results and introduction. This method is based on top-down processing, which means that the reader uses what they already know and clues from the context to guess what the text is trying to say as a whole. This strategic overview helps them prioritize important information, manage their time better, and stay focused (Anderson & Pearson, 1984). At the same time, transitional signal analysis looks for and explains the meaning of transitional phrases like "however," "therefore," and "in addition." These linguistic markers are important signposts that help the reader follow the author's argument and show how the ideas fit together logically. To build a clear mental picture of the text's structure, you need to have a firm grasp of these signals. This will make it much easier to understand the overall discourse (Meyer & Freedle, 1984).

6.4 Collaborative Learning

Collaborative strategies stem from the sociocultural theory, which says that learning is more social and that working with peers and mentors help learners improve (Vygotsky, 1978). Peer journal clubs are a good example of this because they give dentists a structured way to read and talk about scientific articles together. This collaborative setting encourages social scaffolding, where more experienced people can help and guide their less experienced peers. This leads to deeper critical understanding and knowledge consolidation through discussion and debate (Wood, Bruner, & Ross, 1976). In addition, mentored reading groups provide a structured way to learn, with an expert (like a senior dentist or researcher) leading discussions, showing how to read well, explaining difficult words, and giving real-time, specific feedback. This structured mentorship makes sure that learners get the right help at the right time, which effectively closes the gap between their current skill level and their potential. In the end, this leads to a community of continuous learners (Brown & Campione, 1994).

7. Conclusion

The study aimed to investigate the linguistic difficulties faced by Algerian dentists when interacting with English medical literature. A quantitative survey was used to measure the prevalence and characteristics of these challenges. The majority of the 25 dentists were young and working in a multilingual environment where English is often their third language. The data analysis showed that most of the participants had no formal instruction, so they relied primarily on informal learning methods to improve their English skills. Even though they

were sure of their English skills, the problems ran deeper, especially with grammar, syntax, and medical terms. 80% of respondents used digital translation tools to deal with these issues, highlighting a flaw in their current professional training. The study highlights the need for long-term skill building and reliance on quick, practical solutions rather than long-term learning.

The results of this study have important effects on evidence-based practice in the Algerian dental community. The recognised linguistic barriers can hinder professionals' ability to efficiently access and integrate the most recent global research, which is progressively disseminated in English. To address this issue, the study proposes a comprehensive set of recommendations grounded in established pedagogical theories.

- Structural analysis is essential for deconstructing intricate English medical syntax, thereby alleviating cognitive load and enhancing comprehension.
- Language bridging tools, like specialised "false-friends" glossaries and comparative bilingual text analysis, can help dentists understand by using their existing French and Arabic language skills.
- Strategic reading techniques, such as section-prioritised skimming, provide a top-down method for getting information, which helps professionals get through long articles more quickly.
- Peer journal clubs and mentored reading groups are examples of collaborative learning models that are suggested to help people learn new skills by giving them a social framework. This will help create a community of people who are always learning.

In conclusion, this study offers a fundamental quantitative analysis of the linguistic difficulties encountered by Algerian dentists and their existing strategies for coping. It asserts that, regardless of self-reported competence, there exists a considerable demand for specialised pedagogical interventions that transcend mere translation. Subsequent research may expand upon these findings by employing a qualitative methodology to investigate the lived experiences of these professionals, possibly through interviews or focus groups. A longitudinal study could also look at how well the suggested interventions work over time. Ultimately, bridging the language gap is not just a matter of professional growth; it is also necessary to keep dental practice in Algeria up to date, informed, and connected to the rest of the world.

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