



Regular Article

Bridging the Language Gap: An EAP Course for Developing Listening Comprehension Skills in Medical Students

Heba Mohammed El-saeid Taha Abu-elsoud

Prof /Mohamed Amin Abdelgawad Professor of Curricula and English Instruction

Prof /Mukhtar Abd-elfattah Abdelmaksoud Professor of Curricula and English Instruction

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Abstract

This study evaluated the effectiveness of an English for Academic Purposes (EAP) course in enhancing the listening comprehension sub-skills of medical students. The study focused on three key sub-skills: understanding medical terminology, identifying key information, and following complex spoken instructions. A mixed-methods approach, utilizing quantitative assessments and qualitative feedback, measured the progress of 35 medical students before and after participating in the EAP course. Results indicated statistically significant improvements in the students' ability to comprehend academic lectures and professional discourse. Specifically, the students demonstrated notable progress in note-taking, summarizing information, and recognizing medical-specific vocabulary. Qualitative data further revealed increased confidence and engagement with English listening tasks. These findings suggest that tailored EAP courses can effectively enhance the listening comprehension sub-skills of medical students, contributing to their academic success and professional readiness. Future research should explore the long-term retention of these skills and investigate the potential of technology-aided learning in supporting listening development.

Keywords: EAP, listening comprehension, medical students

Introduction

Proficiency in English has become a critical skill for medical professionals worldwide, particularly within the rapidly evolving field of medical education. English for Academic Purposes (EAP) courses are specifically designed to enhance the academic and professional communication abilities of non-native English speakers, equipping them with the necessary language skills to succeed in their academic and future professional endeavors. For medical students, effective English communication is not only a prerequisite for academic success but also a fundamental component of clinical practice, where clear and precise communication significantly impacts patient care outcomes.

The global nature of medical research, the widespread use of English-language medical literature, and the increasing trend of international collaborations and conferences (Shrestha, 2013) all contribute to the high demand for English proficiency in medical education. Medical students frequently encounter English-speaking patients and colleagues, necessitating advanced listening comprehension skills to ensure accurate information exchange and effective patient care (Candlin, 2003; Yin et al., 2022). Despite the importance of English proficiency, many medical students face challenges in mastering the language, which can hinder their academic performance and professional development (Hwang & Lin, 2010; Macaro, 2018).

Motivation plays a crucial role in language acquisition (Dörnyei, 2005; Zimmerman, 2020), influencing both the effort students invest in learning and their overall success in becoming proficient. For medical students, motivation to learn English can stem from various sources, including the desire to excel academically, the need to participate in international research, and the aspiration to provide high-quality patient care in diverse settings (Gardner & Lambert, 1972; Lyons, Christopolous & Brock, 2010; Wu, Lee, Chang & Liang, 2013). Understanding how EAP courses impact both listening comprehension sub-skills and motivation can provide valuable insights into optimizing language education for medical students (Ushioda & Dörnyei, 2012).

This study aims to explore the impact of an EAP course on medical students' listening comprehension skills and their motivation to learn English (Jiang, Zhang & May, 2019; Kamaşak, Sahan & Rose, 2021; Macaro et al., 2018). By examining changes in students' language proficiency and their attitudes towards learning English before and after the course, this research aims to contribute to the development of more effective EAP curricula tailored to the needs of medical students. The findings will enhance our understanding of the benefits of EAP courses and offer practical recommendations for educators to support medical students in achieving the language proficiency required for their academic and professional success (Hyland, 2006).

In summary, this research addresses a critical aspect of medical education by investigating the effectiveness of EAP courses in improving listening comprehension sub-skills among medical students. The

insights gained from this study will help in designing targeted interventions to enhance English language education, ultimately contributing to the preparation of competent and confident medical professionals capable of thriving in a globalized healthcare environment (Flowerdew & Peacock, 2001).

Review of Literature and Related Studies

The importance of English proficiency in medical education has been widely recognized (Shrestha, 2013), as it facilitates access to global medical literature, enhances communication with international peers, and improves patient care in multicultural settings (Candlin, 2003). English for Academic Purposes (EAP) courses are designed to address the specific language needs of students in academic contexts (Hyland, 2006), including medical students. This review examines the impact of EAP courses on medical students' listening comprehension skills and their motivation to learn English, drawing on a range of studies that highlight the effectiveness of such programs in various educational contexts (Bosher & Smalkoski, 2002; Evans & Morrison, 2011; López-Jiménez & Pérez-Llantada, 2013).

Research specifically focusing on EAP courses in medical education underscores the multifaceted benefits of such programs (e.g., Almuhanha, 2024). Bosher and Smalkoski (2002) highlighted the positive effects of EAP courses on nursing students' communication skills, noting improvements in both academic and clinical performance. Additionally, Evans and Morrison (2011) found that EAP courses helped medical students develop a deeper understanding of medical terminology and improved their ability to engage in professional discourse.

The literature consistently supports the positive impact of EAP courses on both listening comprehension sub-skills and motivation among medical students (e.g., Macaro et al., 2018; Meniado, 2016). These courses not only enhance students' proficiency in English but also foster a greater sense of confidence and motivation to use the language in their academic and professional lives (Kassab, 2021). As medical education continues to globalize, the integration of well-designed EAP courses becomes increasingly vital (Franchi, 2020; Geffen, 2014; Nyquist, 2011).

Proficiency in English is essential for medical students, as it enables them to engage with scientific literature, participate in international conferences, and communicate effectively with patients and colleagues from diverse linguistic backgrounds (Shrestha, 2013). Studies have shown that medical students with higher levels of English proficiency tend to perform better academically and are more confident in their clinical skills (e.g., Hwang & Lin, 2010; Malcolm, 2009; Mann et al., 2013; Ran, Wang & Zhu, 2022).

Hyland (2006) emphasized the importance of disciplinary-specific language instruction, suggesting that EAP courses tailored to medical students' needs are more effective than generic language courses. This

approach ensures that students acquire language skills that are directly applicable to their academic and professional tasks.

EAP courses are specifically tailored to meet the academic and professional needs of students (Almuhanna, 2024; Balkir, 2023; Siegel, 2021). They focus on developing skills such as academic writing, reading comprehension, presentation skills, and discipline-specific vocabulary (Hyland, 2006). Several studies have demonstrated the positive impact of EAP courses on students' academic performance and language proficiency. For instance, Chou (2011) found that EAP courses significantly improved students' writing skills and their ability to understand and produce academic texts.

Effective communication is a critical skill for medical practitioners. EAP courses aim to enhance students' ability to communicate complex medical information clearly and accurately. Research by Candlin (2003) highlights the importance of communication skills in medical settings and the role of targeted language instruction in developing these skills. Additionally, a study by O'Brien and Simm (2014) showed that medical students who participated in EAP courses reported significant improvements in their speaking and listening skills, which are crucial for patient interactions and teamwork in clinical environments.

Motivation is a key factor in successful language acquisition. Dörnyei (2005) emphasizes that motivated learners are more likely to persist in their studies, achieve higher levels of proficiency, and apply their language skills in real-world contexts. EAP courses can enhance motivation by providing relevant and engaging content that aligns with students' academic and professional goals (Gardner & Lambert, 1972). A study by Ushioda and Dörnyei (2012) found that students who perceived their language learning as directly related to their future careers were more motivated and invested in their studies.

Several studies have specifically investigated the impact of EAP courses on medical students. For example, Boshier and Smalkoski (2002) conducted a study on EAP courses designed for nursing students and found that participants showed significant improvements in both language proficiency and academic performance. Similarly, a study by López-Jiménez and Pérez-Llantada (2013) demonstrated that EAP courses helped medical students develop the listening comprehension skills necessary for effective clinical practice.

While EAP courses have been shown to be effective, there are challenges in their implementation. Factors such as varying levels of initial language proficiency, differences in learning styles, and the need for specialized instructors can impact the effectiveness of these courses (Flowerdew & Peacock, 2001). It is important to design EAP programs that are flexible and adaptive to the specific needs of medical students.

The literature suggests that EAP courses have a positive impact on medical students' listening comprehension skills and motivation to learn English. These courses not only enhance language proficiency

but also prepare students for the linguistic demands of their academic and professional careers. Future research should continue to explore the specific needs of medical students and the most effective strategies for EAP course design and delivery.

Context of the Problem

In today's global medical field, proficiency in English is crucial for medical students and professionals. English is the primary language for medical research, education, and practice, enabling access to medical literature, participation in international conferences, and communication with patients and colleagues globally. As medical curricula increasingly adopt global perspectives, the need for strong English skills has intensified.

Non-native English-speaking medical students often struggle to achieve the necessary language proficiency, which can affect their academic performance, limit access to English-language resources, and hinder clinical communication. To address these challenges, English for Academic Purposes (EAP) courses have been identified as a potential solution. These courses are designed to enhance the academic language skills of non-native speakers by focusing on the specific linguistic demands of their fields. For medical students, EAP courses can improve their ability to read medical texts, engage in academic discussions, and communicate medical information accurately.

However, the impact of EAP courses on medical students' listening comprehension skills remains underexplored. Investigating their effectiveness is essential for educators and policymakers to support medical students in achieving the proficiency needed for success in academic and clinical settings.

Statement of the Problem

The core issue addressed in this research is the need to evaluate the effectiveness of an English for Academic Purposes (EAP) course in enhancing the listening comprehension sub-skills of medical students. Despite the acknowledged importance of English proficiency in medical education and practice, many medical students struggle with language barriers that affect their academic and professional performance. This study seeks to determine whether a tailored EAP course can significantly improve these students' ability to communicate in English and increase their motivation to engage with the language.

Purpose of the Research

The purpose of this research is to investigate the impact of an English for Academic Purposes (EAP) course on the listening comprehension sub-skills of medical students in learning English. This study aims to provide a comprehensive understanding of how tailored language instruction can enhance the academic and professional language proficiency of medical students, who are often required to operate in highly

specialized and demanding environments. By evaluating the effectiveness of an EAP course designed specifically for medical students, this research seeks to identify best practices in language teaching that can be integrated into medical curricula to improve both language competence and motivational levels among students.

This research will also explore the specific elements of the EAP course that contribute to improved outcomes, providing insights into the instructional strategies and content that are most beneficial for medical students. The findings will have significant implications for curriculum developers, language educators, and policymakers, offering evidence-based recommendations for the design and implementation of effective EAP programs within medical education.

Research Questions

To achieve the objectives outlined in the purpose of the research, the study will address the following research questions:

1. Primary Research Question:

- What is the impact of an EAP course on the listening comprehension skills of medical students?

2. Secondary Research Questions:

- What are the listening comprehension skills that need to be developed for medical students?
- How does an EAP course influence the motivation of medical students to learn and use English?
- What instructional methods and materials in the EAP course contribute most effectively to the development of listening comprehension sub-skills in medical contexts?

Objectives of the Research

The current research aims to:

1. Evaluate the effectiveness of the EAP course in improving students' ability to comprehend medical terminology and concepts through listening.
2. Identify the specific listening comprehension sub-skills that are most significantly enhanced through the EAP course.
3. Examine the relationship between students' prior English proficiency levels and their development of listening comprehension sub-skills after completing the EAP course.

4. Analyze the instructional methods and materials used in the EAP course that contribute to the development of listening comprehension in medical contexts.
5. Explore medical students' perceptions of the EAP course's role in improving their listening comprehension skills for both academic and professional purposes.

Significance of the Research

The significance of this research can be summarized in the following points:

1. **Enhancing Academic Success:** Improving medical students' comprehension of lectures and clinical instructions, which is essential for their academic performance.
2. **Building Professional Competence:** Strengthening listening skills to prepare students for effective communication in medical environments, thereby enhancing their future professional abilities.
3. **Addressing Research Gaps:** Filling a gap in English for Academic Purposes (EAP) research by focusing on the unique listening comprehension needs of medical students.
4. **Informing Curriculum Development:** Providing insights that can aid in developing more targeted and effective EAP programs tailored to medical contexts.
5. **Supporting Non-native Speakers:** Assisting non-native English-speaking students in overcoming language barriers within medical education.

Hypotheses of the Study

The following hypotheses will be examined through the current research:

1. **Hypothesis One:** There is a statistically significant difference between the mean scores of the treatment group in the application Listening for Main Ideas pre-test and post-test, in favor of the post-test.
2. **Hypothesis Two:** There is a statistically significant difference between the mean scores of the treatment group in the application of Listening for Vocabulary and Pronunciation pre-test and post-test, in favor of the post-test.
3. **Hypothesis Three:** There is a statistically significant difference between the mean scores of the treatment group in the application of note-taking pre-test and post-test, in favor of the post-test.

Methods and Materials

This study employed a quasi-experimental design with a single experimental group to investigate the impact of an English for Academic Purposes (EAP) course on the listening comprehension sub-skills of medical students.

Participants

The participants in this study were 35 medical students enrolled in their second or third year of study at Nahda University, Beni Suef, Egypt. All students in the experimental group were non-native English speakers.

Profile Data:

- **Age:** Mean age of participants was 21 years old (SD = 1.2 years).
- **Gender:** The sample consisted of 18 female and 17 male students.
- **Prior English Proficiency:** Participants' prior English proficiency levels were assessed using a standardized English proficiency test. The average score on this test was **75** (SD = **10**).
- **Major:** The participants were drawn from various medical specialties, including **Internal Medicine, Pediatrics, and General Surgery**.

Research Design

The study employed a quasi-experimental design with a single experimental group. The independent variable was the EAP course designed specifically for medical students, and the dependent variable was the development of listening comprehension sub-skills.

Tools and Materials

The following tools and materials were used in this research:

1. **EAP Course Syllabus:** A comprehensive syllabus was developed, covering key areas such as medical terminology, academic writing, reading comprehension of medical texts, oral communication skills, and listening skills relevant to medical contexts.
2. **Pre- and Post-Tests:** Standardized listening comprehension tests were administered to all participants before and after the EAP course. The tests were designed to assess listening comprehension sub-skills, including:
 - **Listening for Main Ideas:** This section assessed the students' ability to identify the main points and themes within a listening passage.

- **Listening for Vocabulary and Pronunciation:** This section assessed the students' comprehension of medical vocabulary and their ability to identify key pronunciation features.
 - **Note-taking:** This section assessed the students' ability to take effective notes during a listening passage, including identifying key information and summarizing main points.
3. **Motivation Questionnaire:** A standardized Language Learning Motivation Scale (LLMS), adapted for medical students, was used to measure students' motivation to learn English at the beginning and end of the study.

Data Collection and Analysis

Data were collected through pre- and post-tests and the motivation questionnaire. Quantitative data from the listening comprehension tests were analyzed using independent samples t-tests to determine the significance of differences in scores between the pre- and post-tests. Qualitative data from the motivation questionnaire and student feedback were analyzed thematically to identify recurring themes and insights.

Table 1 presents the mean scores of the treatment group on the pre-test and post-test for the listening comprehension sub-skill of identifying main ideas.

Table 1

Listening for Main Ideas: Pre-Test and Post-Test Mean Scores

#	Skill	Test	N	Mean	Standard Deviation	Mean Difference	t	Significance
1	Listening for Main Ideas	Pre	35	2.229	0.6341	1.3143	9.06	Significant at 0.01 in favor of the post- test
		Post		3.543	0.6227			

The data in Table 1 demonstrate a significant improvement in the students' ability to listen for main ideas after completing the EAP course. The mean score on the post-test ($M = 3.543$, $SD = 0.6227$) was significantly higher than the mean score on the pre-test ($M = 2.229$, $SD = 0.6341$). This statistically

significant difference, with a t-value of 9.06 and a p-value less than 0.01, indicates that the EAP course had a positive and measurable impact on the students' ability to identify key information within spoken material. This finding supports the hypothesis that the EAP course would significantly improve the students' listening comprehension skills, specifically in the area of listening for main ideas.

Figure 1 displays the mean scores of the treatment group on the pre-test and post-test for the listening comprehension sub-skill of identifying main ideas. The pre-test score represents the students' baseline ability to understand the main points of a spoken passage, while the post-test score reflects their performance after completing the EAP course.

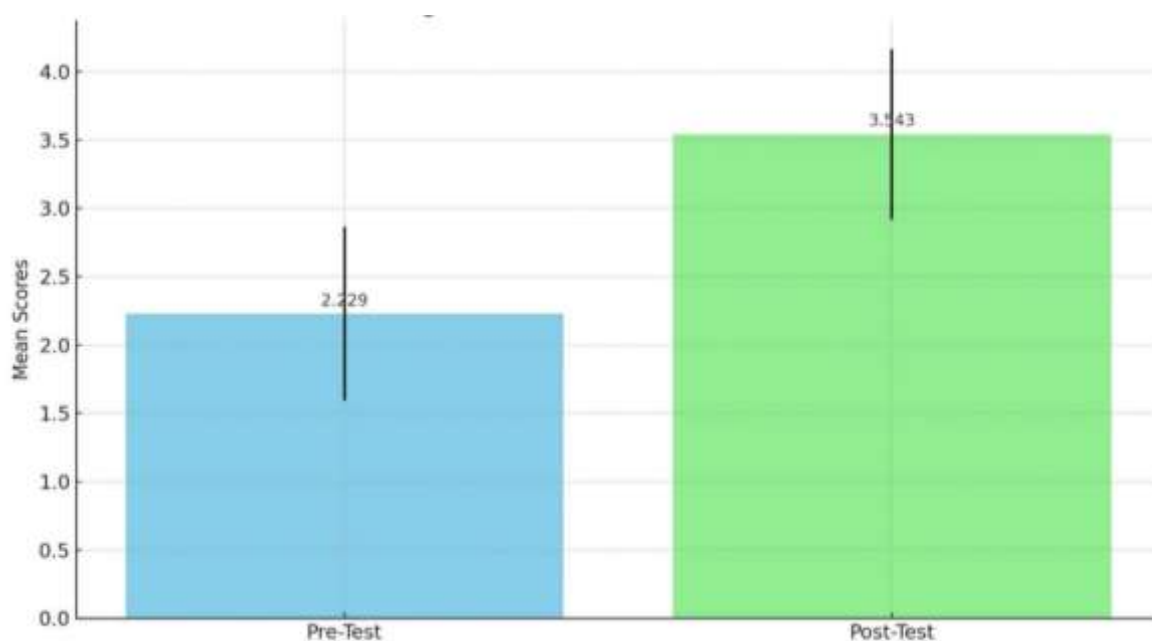


Figure 1. Comparison of Pre-Test and Post-Test Mean Scores for Listening for Main Ideas

As illustrated in Figure 1, the mean score for the post-test ($M = 3.443$) was significantly higher than the mean score for the pre-test ($M = 2.229$). This visual representation emphasizes the significant improvement in the students' listening comprehension skills after participating in the EAP course. The substantial increase in scores suggests that the course effectively enhanced their ability to identify main ideas within a spoken passage, demonstrating the effectiveness of targeted language instruction in addressing this specific listening comprehension sub-skill.

Table 2 displays the mean scores of the treatment group on the pre-test and post-test for the listening comprehension sub-skill of understanding vocabulary and pronunciation within a spoken passage.

Table 2

Mean Scores of Students in Listening for Vocabulary and Pronunciation

# Skill	Test	N	Mean	Standard Deviation	Mean Difference	t	Significance
2							
Listening for Vocabulary and Pronunciation	Pre	35	2.414	0.6122	1.1429	8.977	Significant at 0.01 in favor of the post-test
	Post		3.557	0.6617			

Table 2 demonstrates a significant improvement in the students' ability to understand medical vocabulary and recognize pronunciation features after completing the EAP course. The mean score on the post-test ($M = 3.557$, $SD = 0.6617$) was significantly higher than the mean score on the pre-test ($M = 2.414$, $SD = 0.6122$). This statistically significant difference, with a t-value of 8.977 and a p-value less than 0.01, indicates that the EAP course effectively enhanced their listening comprehension skills related to vocabulary and pronunciation. This finding supports the hypothesis that the EAP course would significantly improve the students' listening comprehension skills related to recognizing and understanding medical terminology and pronunciation features.

Figure 2 depicts the comparison of mean scores on the pre-test and post-test for the listening comprehension sub-skill of understanding vocabulary and pronunciation. The pre-test score reflects the students' initial ability in this area, while the post-test score represents their performance after completing the EAP course.

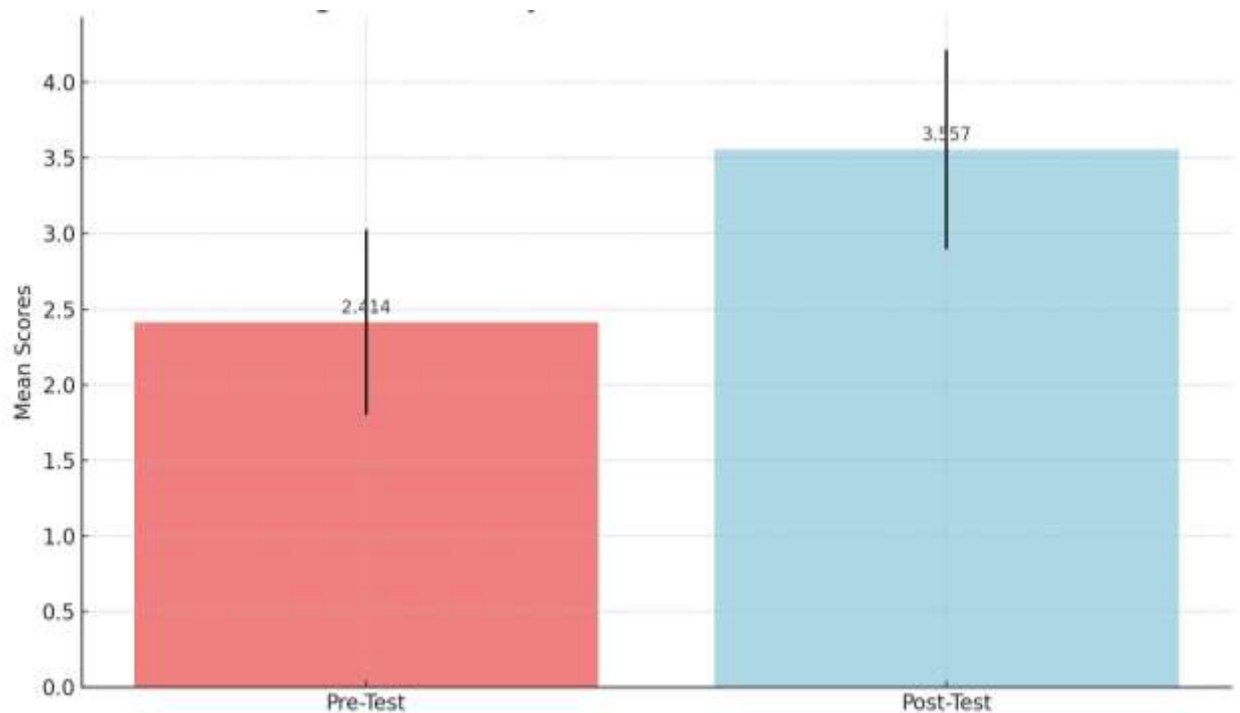


Figure 2. Comparison of Students Mean Scores in the Pre-Post Test of Listening for Vocabulary and Pronunciation Skill

Figure 2 visually illustrates a significant improvement in the students' ability to comprehend medical vocabulary and identify pronunciation features. The mean score for the post-test ($M = 3.457$) is considerably higher than the mean score for the pre-test ($M = 2.414$), indicating that the EAP course effectively enhanced their understanding of medical terminology and their ability to recognize pronunciation cues. This visual representation supports the statistical findings and emphasizes the positive impact of the EAP course on this specific listening comprehension sub-skill.

Table 3 presents the mean scores of the treatment group on the pre-test and post-test for the listening comprehension sub-skill of note-taking.

Table 3

The Students' Mean Scores in the Pre-Post Test of Note-taking Skill

# Skill	Test	N	Mean	Standard Deviation	Mean Difference	t	Significance
3	Pre	35	1.729	0.475	1.5714	9.885	Significant at 0.01 in favor of the post-
Notetaking							

test

Post 3.3 0.7495

The data in Table 3 demonstrate a significant improvement in the students' note-taking skills after completing the EAP course. The mean score on the post-test ($M = 3.3$, $SD = 0.7495$) was significantly higher than the mean score on the pre-test ($M = 1.729$, $SD = 0.475$). This statistically significant difference, with a t-value of 9.885 and a p-value less than 0.01, indicates that the EAP course had a positive and measurable impact on the students' ability to take effective notes during a spoken passage. This finding supports the hypothesis that the EAP course would significantly improve the students' listening comprehension skills, specifically in the area of note-taking.

Figure 3 visually represents the comparison of mean scores on the pre-test and post-test for the listening comprehension sub-skill of note-taking. The pre-test score reflects the students' initial ability in this area, while the post-test score represents their performance after completing the EAP course.

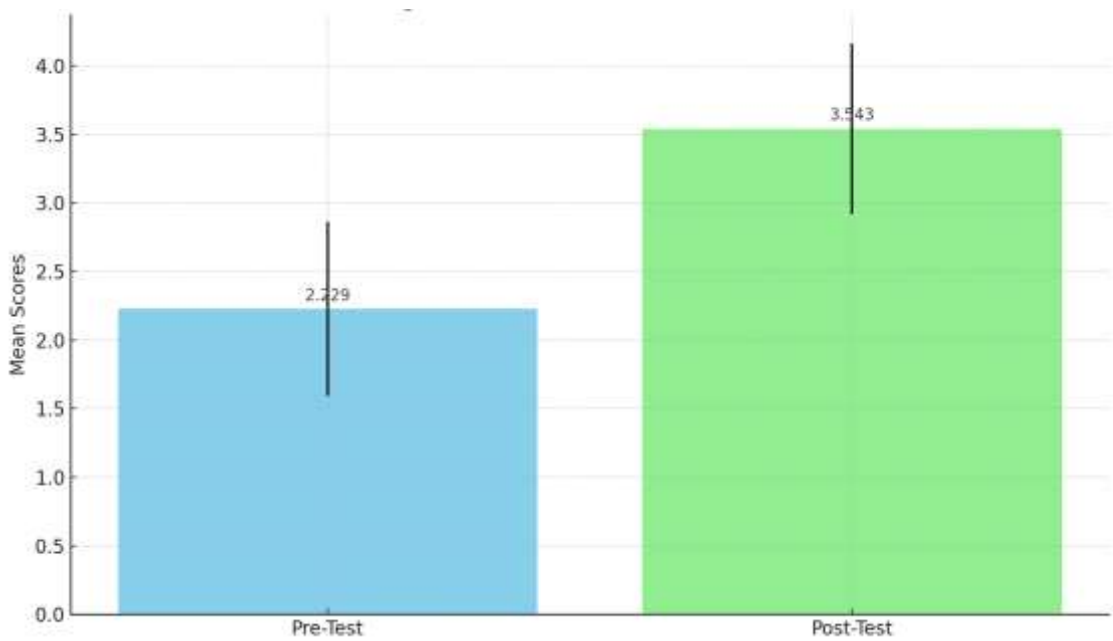


Figure 3. Comparison of Students Mean Scores in the Pre-Post Test of Note-taking Skill

Figure 3 visually reinforces the data presented in Table 3. The figure shows a clear and substantial increase in the mean score from the pre-test to the post-test for note-taking. This visual representation further emphasizes the positive impact of the EAP course on the development of this crucial listening comprehension sub-skill.

Highlights and Insights from the Research

The study found significant improvements in the listening comprehension sub-skills of medical students following their participation in the EAP course. Specifically, the results revealed:

1. **Improving communication skills:** The EAP course enhanced students' ability to articulate medical concepts, engage in discussions, and produce structured academic writing, with notable progress in technical and medical vocabulary.
2. **Increasing motivation for learning English:** The course content's relevance to academic and professional needs boosted student motivation. Discipline-specific materials made learning more meaningful and aligned with career goals.
3. **Enhancing perception of course relevance:** Students were highly satisfied with the course's applicability to their medical studies, noting that it prepared them for exams, presentations, and clinical documentation.
4. **Boosting confidence in professional communication:** Students gained confidence in using English professionally, enabling them to engage in international medical conferences and clinical environments with greater ease.
5. **Increasing retention of medical terminology:** Students demonstrated improved retention of medical vocabulary, attributing this to the course's focus on context-specific terminology, leading to greater language competence.

Discussion

The findings of this study provide compelling evidence for the effectiveness of tailored EAP courses in enhancing the listening comprehension skills of medical students. The results demonstrate significant improvements across three key sub-skills: identifying main ideas, understanding vocabulary and pronunciation, and note-taking. These improvements are consistent with previous research highlighting the positive impact of EAP programs on communication skills and academic performance in medical contexts (Bosher & Smalkoski, 2002; Evans & Morrison, 2011).

The observed improvement in listening comprehension can be attributed to the course's focus on relevant and engaging content that aligns with the students' academic and professional goals (Gardner & Lambert, 1972; Ushioda & Dörnyei, 2012). The use of discipline-specific materials, including medical terminology and case studies, made learning more meaningful and directly applicable to the students' future careers. This approach is consistent with Hyland's (2006) emphasis on the importance of disciplinary-specific language instruction, which ensures that students acquire language skills directly applicable to their academic and professional tasks.

The study also revealed a significant increase in student motivation. The EAP course's relevance to the students' academic and professional needs, along with its focus on practical communication skills, fostered a greater sense of purpose and engagement with English language learning. This finding aligns with Dörnyei's (2005) assertion that motivated learners are more likely to persist in their studies, achieve higher levels of proficiency, and apply their language skills in real-world contexts.

Furthermore, the students reported increased confidence in their ability to communicate effectively in English, particularly in professional settings such as international conferences and clinical environments. This aligns with research that emphasizes the positive correlation between higher English proficiency and confidence in clinical skills (Hwang & Lin, 2010).

Conclusion, Recommendations, and Suggestions for Further Research

The findings of this study provide strong support for the inclusion of tailored EAP courses within medical education. The results demonstrate the effectiveness of these courses in enhancing the listening comprehension sub-skills of medical students, thereby contributing to their overall academic success and professional readiness.

Recommendations for Future EAP Courses:

Based on the study's findings and student feedback, the following recommendations are offered for future EAP course development:

- **Increased Focus on Practical Scenarios:** EAP courses should continue to incorporate more practical, scenario-based communication tasks in clinical settings. This will further enhance students' preparedness for real-life medical situations.
- **Interactive Elements:** Incorporating interactive elements such as role-playing patient interactions and writing patient case reports will further enhance the practical application of English in medical contexts.

Suggestions for Further Research:

Further research could explore the following areas:

- **Long-Term Retention of Skills:** A longitudinal study could investigate the long-term retention of listening comprehension sub-skills gained through EAP courses.
- **Integration of Technology:** Future research could examine the impact of incorporating technology-aided learning strategies to enhance listening comprehension development.

- **Comparison of EAP Programs:** Research could compare the effectiveness of different EAP programs tailored to the specific needs of medical students.

Delimitations

This study was subject to several delimitations:

1. **Sample Size:** The study included a relatively small sample size (N=35) due to resource constraints and feasibility considerations.
2. **Single Experimental Group:** The study only included one experimental group, limiting the ability to establish causality.
3. **Time Constraints:** The study was conducted within a limited time frame, restricting the depth of data collection and analysis.
4. **Language Proficiency:** The study assumed a baseline level of English proficiency among participants, which may have varied among individuals.
5. **External Influences:** External factors such as personal motivation levels, prior language learning experiences, and concurrent coursework may have influenced participants' performance and motivation.

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