

Challenges and solutions in self-learning English listening skills for engineering students at Hanoi University of Mining and Geology

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ABSTRACT

This paper explores the difficulties faced by engineering students at Hanoi University of Mining and Geology in self-learning English listening skills. It identifies specific challenges such as lack of exposure to native speakers, technical vocabulary, and limited resources tailored to their field. The paper proposes solutions including the use of specialized online platforms, integration of English listening into technical subjects, and regular listening practice through structured programs. The study aims to enhance the effectiveness of self-study methods and improve the overall English proficiency of engineering students.

Keywords: Self-learning; English listening skills; language learning challenges; educational solutions

1. Introduction

In the current era of globalization, the ability to comprehend spoken English is crucial for engineering students. This skill not only enables them to accurately grasp information from international technical documents but also facilitates effective communication with foreign colleagues and experts. At Hanoi University of Mining and Geology (HUMG), self-learning English listening skills have become an essential requirement for engineering students. However, this self-learning process encounters numerous challenges due to the specific nature of their field of study and the limited availability of suitable learning resources.

The main difficulties include the lack of exposure to native speakers, limited technical vocabulary, and the shortage of learning materials tailored specifically for engineering students. These barriers not only affect the effectiveness of their learning but also diminish their motivation to study. Therefore, it is crucial to research and identify effective solutions to overcome these challenges, aiming to enhance the quality of self-learning and improve the English listening skills of students.

This paper focuses on analyzing the challenges faced by engineering students at Hanoi University of Mining and Geology in self-learning English listening skills. Additionally, the paper proposes practical solutions to help students overcome these difficulties, thereby improving their learning outcomes, and enhancing their English listening comprehension skills.

2. Literature review and Research methodology

2.1. Challenges and solutions in self-learning English listening skills

Self-learning English listening skills pose a unique set of challenges and opportunities, particularly for engineering students who often require specialized vocabulary and technical language proficiency. This section explores the various obstacles these students face, such as limited exposure to native speakers, difficulties with technical terminology, and a lack of tailored learning resources. It also delves into effective self-learning strategies that have been identified through research, including the utilization of online platforms, integrative learning approaches, and the importance of regular, structured practice. By understanding both the challenges and solutions, educators and students can better navigate the complexities of self-learning and enhance their English listening skills in a technical context.

2.1.1. Challenges in learning English listening skills

Research has consistently highlighted several significant challenges faced by non-native English speakers, particularly engineering students, in developing their English listening skills.

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Limited exposure to native English speakers significantly hampers the development of listening comprehension. According to Tominaga (2009), the absence of authentic listening opportunities is a major barrier for language learners, resulting in difficulties in understanding natural speech patterns and accents. This challenge is particularly pronounced for engineering students who often have limited interaction with native English speakers in their academic environment.

The specialized vocabulary required in engineering disciplines presents a substantial challenge. Hyland (2006) emphasizes that proficiency in technical language is crucial for academic success in engineering. Many students struggle with this aspect due to insufficient vocabulary acquisition, which hinders their ability to fully comprehend technical lectures and discussions. This difficulty is compounded by the fact that standard language learning materials often do not adequately cover the technical terms and contexts relevant to engineering.

There is a notable scarcity of learning resources tailored specifically to the needs of engineering students. Hutchinson and Waters (1987) argue that standard language learning tools often fail to address the specific demands of technical fields, resulting in less effective learning outcomes. Engineering students require resources that are specifically designed to bridge the gap between general English proficiency and the specialized language of their field.

2.1.2. Communicative language teaching self-learning strategies

Despite these challenges, various studies have identified effective self-learning strategies that can significantly enhance English listening skills for engineering students.

Various studies have demonstrated the effectiveness of online platforms and language learning apps in improving language skills. Wang and Vasquez (2012) found that these platforms offer diverse listening exercises that can be customized to meet individual needs, thereby enhancing listening skills. The flexibility and accessibility of online platforms make them a valuable resource for self-learners.

Integrating language learning with technical subjects has been shown to be highly effective. Dudley-Evans and St John (1998) suggest that using English in technical courses helps students improve both their language proficiency and their technical knowledge simultaneously. This approach ensures that students apply their language skills in relevant contexts, which enhances retention and comprehension.

Consistent and structured listening practice is critical for language acquisition. Ellis (2005) emphasizes that regular practice, supported by structured programs, leads to significant improvements in listening comprehension. Students who engage in regular listening exercises, whether through dedicated practice sessions or as part of their coursework, demonstrate substantial gains in their listening skills.

The literature highlights significant challenges faced by engineering students in self-learning English listening skills, including limited exposure to native speakers, difficulties with technical vocabulary, and inadequate learning resources. However, effective solutions such as the use of online platforms, integrative learning approaches, and regular structured practice can significantly enhance listening skills. These findings underscore the need for targeted interventions and tailored resources to support engineering students in their language learning journey.

2.2. Research methodology

This study employs a mixed-methods approach to collect and analyse data on self-learning English listening skills among engineering students at HUMG.

Surveys were conducted among engineering students at HUMG to collect data on their current self-learning practices, challenges faced, and resources used. These surveys included both quantitative and qualitative questions to provide a comprehensive view of the students' experiences. In-depth interviews were carried out with a selected group of students to gain qualitative insights into their experiences, aiming to identify specific obstacles and successful strategies in their self-learning processes. According to Creswell (2014), qualitative interviews are essential for understanding the nuanced experiences of participants. Additionally, case studies of students who showed significant improvement in their English listening skills were analyzed to understand the methods and resources they utilized. Yin (2009) suggests that case studies are valuable for providing detailed insights into individual learning journeys.

The study involved a diverse group of 350 engineering students from different years, departments and specializations within HUMG. This diversity ensured a comprehensive understanding of the issues and solutions applicable to various sub-fields within engineering.

Pre- and post-study listening comprehension tests were administered to measure improvement in skills. These tests were designed based on the guidelines provided by Buck (2001) to ensure validity and reliability. Feedback forms were collected from participants to gather their opinions on the usefulness and

effectiveness of the proposed solutions and resources. According to Dörnyei (2007), feedback forms are instrumental in evaluating the impact of educational interventions.

Statistical methods were used to analyze survey results and test scores, identifying common challenges and measuring the effectiveness of different solutions. The data were analyzed using SPSS software, as recommended by Pallant (2013). Thematic analysis was employed to interpret interview and case study data, identifying recurring themes and patterns in student experiences. Braun and Clarke (2006) argue that thematic analysis is suitable for examining complex qualitative data. This mixed-methods approach aims to provide a comprehensive understanding of the challenges and effective solutions for self-learning English listening skills among engineering students at HUMG.

3. Research findings and Discussion

Table 1. Challenges and solutions in self-learning English listening skills

Challenge/Solution	Number of students	Percentage (%)
Limited exposure to native speakers	273	78
Technical vocabulary issues	228	65
Dissatisfaction with learning resources	252	72
Effectiveness of online platforms	297	85
Integrating English into technical subjects	280	80
Regular and structured practice	315	90

The findings of this study underscore the multifaceted challenges faced by engineering students at Hanoi University of Mining and Geology in self-learning English listening skills. The data from Table 1 indicate that a substantial majority (78%) of the students, equivalent to 273 out of 350 participants, suffer from limited exposure to native English speakers. This limitation impedes their ability to understand natural speech patterns, accents, and colloquial expressions, highlighting the need for more immersive language experiences, such as language exchange programs or increased use of English-speaking tutors.

Moreover, the difficulty with specialized vocabulary reported by 65% of the students (228 out of 350) highlights the necessity for more tailored learning resources. Engineering students require materials that bridge the gap between general English proficiency and the technical language specific to their field. Developing and providing access to such resources could significantly improve their comprehension and retention of technical content delivered in English.

In addition, the dissatisfaction with current learning resources, expressed by 72% of the students (252 out of 350), further emphasizes the gap in available support. Standard language learning tools often fail to meet the unique needs of technical students, suggesting that educational institutions should invest in developing specialized materials and integrating them into the curriculum. This integration would help students apply their language skills directly to their field of study, making learning more relevant and effective.

Despite these challenges, the study also identified several effective solutions. Notably, 85% of students (297 out of 350) who regularly used online platforms and language learning apps reported significant improvements in their listening skills. These platforms offer diverse and customizable content that can adapt to individual learning paces and needs, providing a flexible and effective solution for enhancing listening skills.

Furthermore, integrating English into technical courses proved beneficial, with 80% of students (280 out of 350) indicating that it enhanced both their language proficiency and their understanding of technical material. This integrative approach demonstrates the effectiveness of combining language learning with subject-specific content.

Finally, the importance of regular and structured practice is underscored by the 90% of the students who showed significant gains in listening comprehension. This finding aligns with established language acquisition theories that emphasize the need for consistent practice. Educational programs should therefore include structured listening exercises within their curricula, providing students with regular opportunities to practice and improve their skills.

In summary, the study highlights not only significant challenges in self-learning English listening skills among engineering students but also identifies effective strategies to overcome these barriers. The results suggest that a combination of immersive experiences, tailored resources, technological tools, integrative

learning, and structured practice can significantly enhance English listening skills. Implementing these strategies can help engineering students at Hanoi University of Mining and Geology achieve greater proficiency, better preparing them for the globalized academic and professional environment.

4. Conclusion

This study has explored the challenges and solutions associated with self-learning English listening skills among engineering students at Hanoi University of Mining and Geology. The findings reveal several significant barriers, including limited exposure to native English speakers, difficulties with specialized technical vocabulary, and inadequate learning resources tailored to the needs of engineering students. These challenges hinder students' ability to develop effective listening skills, which are crucial for their academic and professional success in a global context.

The research also identified several effective strategies to address these challenges. Regular use of online platforms and language learning apps has been shown to significantly improve listening skills, offering diverse and customizable content that meets individual learning needs. Integrating English language practice into technical subjects has proven effective in enhancing both language proficiency and technical knowledge. Additionally, the importance of regular and structured listening practice cannot be overstated, as it leads to substantial improvements in listening comprehension.

Based on these findings, it is recommended that educational institutions, including Hanoi University of Mining and Geology, take a proactive role in facilitating better access to suitable resources and integrating English language practice into the technical curriculum. Developing specialized learning materials, increasing opportunities for immersive language experiences, and incorporating structured listening exercises into regular coursework can significantly enhance the self-learning experience for engineering students.

In conclusion, by addressing the identified challenges with targeted and effective solutions, engineering students can achieve greater proficiency in English listening skills. This improvement will not only enhance their academic performance but also better prepare them for the demands of the globalized professional environment. Further research could explore the long-term impacts of these strategies and extend the study to other technical disciplines and educational institutions.

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TÓM TẮT

Thách thức và giải pháp trong việc tự học kỹ năng nghe cho sinh viên ngành kỹ thuật tại trường Đại học Mở - Địa chất

Vũ Thanh Tâm
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Bài báo này nghiên cứu về những khó khăn trong việc tự học kỹ năng nghe tiếng Anh mà sinh viên kỹ thuật tại Trường Đại học Mở - Địa chất Hà Nội đang phải đối mặt. Các thách thức chính được xác định bao gồm thiếu cơ hội tiếp xúc với người bản ngữ, sử dụng từ vựng chuyên ngành và thiếu nguồn lực đáp ứng nhu cầu cụ thể của ngành. Để giải quyết những vấn đề này, bài báo đề xuất một số biện pháp như sử dụng các nền tảng trực tuyến chuyên biệt, tích hợp kỹ năng nghe tiếng Anh vào các môn học kỹ thuật, và thực hành nghe thường xuyên qua các chương trình có cấu trúc. Mục tiêu của nghiên cứu là nâng cao hiệu quả của phương pháp tự học và cải thiện năng lực tiếng Anh tổng thể cho sinh viên ngành kỹ thuật.

Từ khóa: tự học; kỹ năng nghe tiếng Anh; thách thức học ngôn ngữ; giải pháp giáo dục