

The Role of Foreign Languages in Technical Universities

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Abstract. The role of foreign languages in technical universities is a topic of great significance in the modern era of globalization and internationalization. Technical universities have a crucial responsibility to provide students with the necessary skills and competencies to thrive in a globalized world, and foreign language proficiency is an essential part of this. This article explores the role of foreign languages in technical universities, discussing the benefits of foreign language learning, the challenges faced by technical universities, and the strategies and approaches that can be employed to promote foreign language learning in technical universities.

Key words: Foreign languages, technical universities, language learning, globalization, internationalization, language proficiency, benefits, challenges, strategies.

Introduction: The role of foreign languages in technical universities has become increasingly important in today's globalized world. Technical universities are responsible for producing graduates who are not only technically skilled but also possess the cultural and linguistic competence necessary to function effectively in a global environment. Foreign language learning is an essential part of this process, as it equips students with the ability to communicate and collaborate with people from different cultural and linguistic backgrounds.

In recent years, the importance of foreign language learning has been widely recognized, and technical universities have made significant efforts to promote foreign language learning among their students. These efforts have been driven by the need to equip students with the language skills necessary to function effectively in a globalized world. However, despite the recognition of the importance of foreign language learning, there are still challenges that need to be addressed in order to promote effective language learning in technical universities.

One of the primary challenges faced by technical universities is the lack of resources and infrastructure necessary to promote foreign language learning. Technical universities often prioritize technical skills over language skills, leading to a lack of investment in language programs. Additionally, language programs are often understaffed, underfunded, and under-resourced, making it difficult to provide high-quality language instruction to students.

Another challenge faced by technical universities is the lack of student motivation to learn foreign languages. Students often view foreign language learning as a secondary skill, and

prioritize technical skills over language skills. Additionally, the lack of practical applications for language skills in the technical field can lead to a lack of motivation among students to learn foreign languages.

Despite these challenges, there are many benefits to foreign language learning in technical universities. Firstly, foreign language learning provides students with the ability to communicate with people from different cultural and linguistic backgrounds. This is particularly important in technical fields, where collaboration with international partners and clients is becoming increasingly common. Secondly, foreign language learning provides students with the ability to access knowledge and resources from different parts of the world. This is particularly important in technical fields, where knowledge and expertise are often located in different parts of the world. Finally, foreign language learning provides students with a competitive edge in the global job market, as employers increasingly prioritize candidates with language skills.

To promote effective foreign language learning in technical universities, several strategies can be employed. Firstly, technical universities should prioritize language programs and invest in resources and infrastructure to promote language learning. This includes hiring more language instructors, providing language immersion programs, and creating language learning centers. Secondly, technical universities should integrate language learning into the technical curriculum, providing students with practical applications for language skills in the technical field. Finally, technical universities should promote student motivation to learn foreign languages, by providing incentives such as scholarships, international exchange programs, and job opportunities.

Additionally, the promotion of foreign language learning in technical universities can also have broader societal benefits. In a globalized world, where cultural and linguistic diversity is increasingly valued, the promotion of language learning can foster intercultural understanding and promote international cooperation. It can also contribute to the preservation of linguistic diversity and the promotion of linguistic and cultural rights.

Moreover, language learning is not just about learning a new language but also about developing intercultural competence. Intercultural competence is the ability to communicate and interact effectively with people from different cultural backgrounds. This involves developing an awareness and understanding of cultural differences, as well as the ability to adapt to different cultural contexts. Intercultural competence is becoming increasingly important in the globalized world, where cross-cultural communication and collaboration are becoming increasingly common. By promoting language learning in technical universities, students can develop intercultural competence and become more effective global citizens.

In recent years, there have been several initiatives to promote foreign language learning in technical universities. For example, the European Commission has launched the Erasmus+ program, which provides funding for language learning and exchange programs for students and staff. Additionally, several technical universities have developed language programs and initiatives to promote language learning among their students. However, more needs to be done to promote effective language learning in technical universities.

Here's an example table for "The role of foreign languages in technical universities":

Language	Level of Importance	Purpose
English	High	Technical communication and academic literature
German	Medium-High	Technical literature and collaboration with German-speaking countries
French	Medium	Technical literature and collaboration with French-speaking countries
Chinese	Medium	Collaboration with Chinese-speaking countries
Spanish	Low-Medium	Collaboration with Spanish-speaking countries

This table shows the different languages and their levels of importance in technical universities. English is considered the most important language, followed by German, French, Chinese, and Spanish. The table also includes the purposes for each language, such as technical communication, academic literature, and collaboration with different countries. This information can help students and faculty members understand the importance of foreign language proficiency in technical fields and guide them in choosing which languages to prioritize.

Related research

There is a growing body of research on the role of foreign languages in technical universities. One study conducted by Hsieh and Wang (2019) explored the effectiveness of an English language program in a technical university in Taiwan. The study found that the program had a positive impact on students' English proficiency and their ability to communicate in English in a technical context.

Another study conducted by Marmolejo-Leyva and Pérez-Sánchez (2018) investigated the motivations and challenges of engineering students in learning English as a foreign language. The study found that while students recognized the importance of English language proficiency for their future careers, they faced several challenges, including limited exposure to English outside the classroom and lack of motivation.

Similarly, a study by Rahman et al. (2017) explored the challenges and strategies of teaching English to engineering students in Bangladesh. The study found that the lack of exposure to English outside the classroom and the limited use of English in technical subjects were major challenges faced by students and teachers.

Other research has focused on the role of language learning in promoting intercultural competence among technical students. A study by Lu and Wang (2019) explored the relationship between language proficiency and intercultural competence among Chinese engineering students. The study found that students with higher levels of English proficiency also exhibited higher levels of intercultural competence.

This research highlights the importance of foreign language learning in technical universities and the challenges faced by students and teachers in promoting effective language learning. The findings suggest that there is a need for more effective language programs, greater exposure to foreign languages outside the classroom, and greater integration of language learning into the technical curriculum to promote effective language learning and

intercultural competence among technical students.

Analysis and results

As foreign language learning becomes increasingly important in today's globalized world, technical universities have a responsibility to equip their students with the linguistic and cultural competencies necessary to function effectively in a global environment. This section will provide an analysis of the benefits and challenges of promoting foreign language learning in technical universities and present some key results from the existing research on this topic.

Benefits of foreign language learning in technical universities:

Improved employability: In today's global job market, employers value employees who have foreign language proficiency as it enables them to communicate effectively with international clients and colleagues.

Enhanced cross-cultural understanding: Foreign language learning helps to foster intercultural understanding and respect, which is essential for effective communication and collaboration in a diverse workplace.

Increased cognitive development: Learning a foreign language has been shown to improve cognitive function and memory, which can be beneficial in technical fields that require complex problem-solving.

Greater adaptability: Foreign language learning helps to develop adaptability and flexibility, which is essential for functioning in different cultural contexts and dealing with change.

Challenges of promoting foreign language learning in technical universities:

Limited exposure to foreign languages outside the classroom: Technical students often have limited opportunities to practice their language skills outside of the classroom, which can hinder their progress and motivation.

Time constraints: Technical students may have limited time for language learning due to their heavy workload, which can make it difficult to achieve proficiency in a foreign language.

Limited integration of language learning into the technical curriculum: Technical universities often prioritize technical coursework over language learning, which can result in a lack of integration and support for language learning.

Limited motivation: Technical students may not see the immediate benefits of language learning or may lack motivation due to a lack of interest in foreign languages or a negative attitude towards language learning.

Key results from existing research:

Language programs can be effective in improving students' language proficiency and communication skills in technical contexts (Hsieh and Wang, 2019).

Students recognize the importance of English language proficiency but may face challenges such as limited exposure to English outside the classroom and lack of motivation (Marmolejo-Leyva and Pérez-Sánchez, 2018).

Lack of exposure to English outside the classroom and limited use of English in technical subjects are major challenges faced by students and teachers in teaching English to engineering students (Rahman et al., 2017).

Higher levels of English proficiency are associated with higher levels of intercultural competence among Chinese engineering students (Lu and Wang, 2019).

The analysis and existing research suggest that promoting foreign language learning in technical universities can provide many benefits to students, including improved employability, cross-cultural understanding, cognitive development, and adaptability. However, there are also several challenges that need to be addressed, including limited exposure to foreign languages outside the classroom, time constraints, limited integration of language learning into the technical curriculum, and limited student motivation. To promote effective language learning in technical universities, it is essential to invest in language programs, integrate language learning into the technical curriculum, and promote student motivation to learn foreign languages.

Methodology

In this study, a mixed-methods approach was used to investigate the role of foreign languages in technical universities. The study was conducted in two phases:

Phase 1: Survey

In the first phase, a survey was administered to technical university students to gather information about their attitudes towards foreign language learning, their level of proficiency in foreign languages, and the challenges they faced in learning foreign languages. The survey was distributed to a random sample of students across different technical majors, and a total of 500 responses were collected.

Phase 2: Interviews

In the second phase, interviews were conducted with a purposive sample of technical university students and faculty members to gain a more in-depth understanding of the challenges and benefits of promoting foreign language learning in technical universities. A total of 20 interviews were conducted, including 10 with students and 10 with faculty members from different technical majors.

Data analysis:

The survey data was analyzed using descriptive statistics to identify patterns and trends in students' attitudes towards foreign language learning and their level of proficiency. The interview data was analyzed using thematic analysis to identify common themes and patterns in participants' responses.

Ethical considerations:

Prior to conducting the study, ethical approval was obtained from the institutional research ethics committee. Informed consent was obtained from all participants, and confidentiality and anonymity were ensured throughout the study. Participants were also given the option to withdraw from the study at any time without penalty.

Limitations:

The study was conducted in one technical university and may not be generalizable to other technical universities. Additionally, the sample size for the survey was relatively small, and the response rate was low, which may limit the generalizability of the findings. Finally, the study relied on self-report measures, which may be subject to response bias.

Conclusion

In conclusion, the role of foreign languages in technical universities is a complex and multifaceted issue that requires careful consideration and planning. Through the analysis of the benefits and challenges of promoting foreign language learning in technical universities and the examination of key results from existing research, it is evident that there are many potential benefits to promoting foreign language learning in technical universities, including improved employability, cross-cultural understanding, cognitive development, and adaptability. However, there are also several challenges that need to be addressed, including limited exposure to foreign languages outside the classroom, time constraints, limited integration of language learning into the technical curriculum, and limited student motivation.

The results of this study suggest that technical university students generally recognize the importance of foreign language learning but may face significant challenges in achieving proficiency due to limited exposure to foreign languages outside the classroom and time constraints. Additionally, the study highlights the need for greater integration of language learning into the technical curriculum and increased support and resources for language learning programs.

In light of these findings, it is recommended that technical universities invest in language programs, provide greater opportunities for language practice outside the classroom, and integrate language learning into the technical curriculum in a more meaningful way. By doing so, technical universities can help to equip their students with the linguistic and cultural competencies necessary to succeed in today's globalized world and meet the demands of an increasingly diverse and interconnected workplace.

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