THE IMPACT OF BILINGUAL EDUCATION ON COGNITIVE DEVELOPMENT AND ACADEMIC ACHIEVEMENT IN ENGLISH LANGUAGE LEARNERS

¹Amara L. Jafari & ²Emre C. Kaya

¹Al Falah University, Dubai, UAE
²Al Falah University, Dubai, UAE
Correspondence: Amara L. Jafari, College of Education, Al Falah University, Dubai, UAE

Abstract

English language learners (ELLs) are subject to ongoing debates regarding the effects of bilingual education on cognitive development and academic achievement. According to some studies, bilingual education may enhance cognitive development and academic achievement; however, other studies suggest the opposite may be true. The purpose of this study is to explore the experiences and perceptions of students and teachers in a bilingual education program in order to better understand the impact of bilingual education on English-language learners. Using semi-structured interviews and observational data, the study will provide a nuanced understanding of bilingual education’s impact on cognitive development and academic achievement among English language learners. To identify patterns and themes related to the topic, the collected data will be analysed using thematic analysis. In addition to contributing to the growing body of research on bilingual education and its impact on English Language Learners, this study may provide insight into the design of more effective bilingual education programs in the future.

Keywords: bilingualism, cognitive development, English teaching, UAE, ELLs

1. Introduction

The ability to speak more than one language has become increasingly important in today’s globalized world, where multilingualism has become a key aspect of communication and intercultural exchange. The importance of English as a second language has also grown significantly, making it a crucial aspect of education and employment. Bilingual education, which involves teaching students in two languages, has become a popular method for English language learners to acquire the language and develop their cognitive skills.

In recent years, there has been a growing body of research on the impact of bilingual education on cognitive development and academic achievement in English language learners. For instance, according to a study by Bialystok (2001), bilingualism has been found to enhance executive function and working
memory, leading to improved cognitive abilities. Another study by Paradis and Crago (2011) found that bilingual children demonstrated stronger problem-solving skills compared to monolingual children. The aim of this research paper is to examine the impact of bilingual education on cognitive development and academic achievement in English language learners through a qualitative method. The paper will provide a comprehensive overview of the existing literature on bilingual education and its impact on language learners and explore the experiences of students and teachers involved in bilingual education programs. This paper will contribute to the current literature on bilingual education by providing a qualitative perspective on the impact of bilingual education on cognitive development and academic achievement in English language learners. The findings from this study will have implications for language education policies and practice, and will provide valuable insights into the benefits of bilingual education for English language learners.

**Research questions**

Q1: How does bilingual education impact cognitive development and academic achievement in English language learners (ELLs), as perceived by both ELL students and bilingual education teachers?

Q2: What are the subjective experiences and perceptions of ELL students and bilingual education teachers regarding the impact of bilingual education on cognitive development and academic achievement in ELLs?

**2. Literature Review**

The impact of bilingual education on cognitive development and academic achievement in English language learners has been extensively studied over the past few decades. A wealth of research has consistently shown that bilingualism can have a positive impact on various aspects of language development, including cognitive skills, academic achievement, and cultural awareness.

Recent studies have continued to build on the earlier research and provide further evidence for the benefits of bilingualism. For instance, a study by Kroll and Bialystok (2013) found that bilingualism enhances cognitive control, leading to improved executive function and working memory. This finding was supported by a study by Adesope et al. (2017), who found that bilingual students performed better on tasks requiring attentional control and mental flexibility compared to monolingual students. In terms of academic achievement, a growing body of research has shown that bilingual education can have a positive impact on the language development of English language learners. For example, a study by Genesee et al. (2015) found that students in bilingual education programs demonstrated improved language skills and better academic performance compared to those in monolingual programs. This finding was confirmed by a study by Hernandez (2018), who found that bilingual students performed better on standardized tests of English proficiency and had higher grades in academic subjects compared to monolingual students.

In addition to the cognitive and academic benefits, recent research has also shown that bilingual education can enhance cultural awareness and appreciation along with improvement on motivation and
learning retention (Alabidi et al., 2022; Alabidi et al., 2023; Hussain et al., 2020; Owais et al., 2020). For instance, a study by Baker and Jones (2019) found that bilingual students have a greater understanding of different cultures and perspectives compared to monolingual students. This increased cultural awareness can contribute to the development of intercultural competence, which is becoming increasingly important in today's interconnected world. The literature on bilingual education and its impact on cognitive development and academic achievement in English language learners is extensive and supportive of the benefits of bilingual education. Recent studies have continued to build on the earlier research and provide further evidence for the positive impact of bilingualism on English language learners. These findings provide compelling evidence for the continued implementation and promotion of bilingual education programs for English language learners. The debate surrounding bilingual education has been ongoing for decades. While some argue that it is a necessary approach to help English language learners (ELLs) achieve academic success, others believe that a monolingual education is more effective for these students. However, the overwhelming body of research supports the notion that bilingual education is a valuable tool for promoting cognitive development and academic achievement in ELLs.

One of the key benefits of bilingual education is that it enhances cognitive abilities in students. Research has shown that bilingualism improves executive function, working memory, attentional control, and mental flexibility (Kroll & Bialystok, 2013; Adesope et al., 2017). These cognitive skills are not only important for academic success, but they also have a broader impact on overall cognitive development. For example, improved executive function can lead to better problem-solving skills and increased creativity. Bilingual education also has a positive impact on academic achievement. Studies have shown that students in bilingual education programs outperform those in monolingual programs in terms of language proficiency and overall academic performance (Genesee et al., 2015; Hernandez, 2018). Bilingual education provides ELLs with the opportunity to develop their language skills in both their native language and English, which can lead to greater language proficiency and academic success in English. Furthermore, research has shown that students who are proficient in their native language are more likely to have a positive attitude towards school and are less likely to experience language barriers that can lead to poor academic performance (Baker & Jones, 2019).

In addition to the cognitive and academic benefits of bilingual education, research has also shown that it can enhance cultural awareness and appreciation. Bilingual students are exposed to different cultures and perspectives, which can help them understand and appreciate the diverse world in which they live (Brouwer & Parada, 2010). This increased cultural awareness can have a positive impact on the development of intercultural competence, which is becoming increasingly important in today's interconnected world. For example, students who have a greater understanding of different cultures are more likely to be tolerant and accepting of others, which can help to create a positive and inclusive learning environment. There are also several practical benefits of bilingual education. For example, bilingual education can be more cost-effective than monolingual programs, as it often utilizes existing resources, such as native language teachers, rather than requiring the hiring of additional personnel.
Additionally, bilingual education can help to bridge the gap between home and school, as it provides a bridge between students’ home culture and their education (Baker & Jones, 2019). This can be especially important for ELLs, as it can help to create a sense of belonging and increase their motivation to succeed in school. Despite the many benefits of bilingual education, there are still those who argue against it. Some believe that it is more important for ELLs to learn English as quickly as possible, and that a monolingual education is the most effective way to achieve this. However, this argument is not supported by the research, as numerous studies have shown that bilingual education can lead to faster language acquisition and greater language proficiency compared to monolingual programs (Genesee et al., 2015). The benefits of bilingual education are clear and well-supported by research. Bilingual education enhances cognitive abilities, academic achievement, cultural awareness, and intercultural competence, and has several practical benefits. These benefits make bilingual education an important tool for promoting the success of English language learners. As the world becomes increasingly interconnected and diverse, bilingual education will continue to play an important role in preparing students for success in the global marketplace.

3. Methodology

The present study employed a qualitative research design. Qualitative research was well-suited to explore the subjective experiences and perceptions of the participants, which was crucial in understanding the impact of bilingual education on cognitive development and academic achievement in ELLs. The qualitative method allowed for the collection of rich, in-depth data that could provide a nuanced understanding of the topic.

3.1. Participants

The participants for this study were selected from a bilingual education program in a large urban school district. A purposive sample of 20 students who were English language learners were selected for the study. The participants ranged in age from eight to fourteen years old and were selected based on the following criteria: (1) they were enrolled in a bilingual education program, (2) they were classified as English language learners, and (3) they had at least one year of experience in the bilingual education program. In addition, a purposive sample of ten teachers who taught in the bilingual education program were selected for the study. The teachers were selected based on their experience teaching in bilingual education programs and their willingness to participate in the study.

3.2. Data collection

Data collection was a crucial component of the present study as it helped to gather information about the experiences and perceptions of the participants regarding the impact of bilingual education on cognitive development and academic achievement in English language learners (ELLS). In this study, data collection was done through semi-structured interviews with 20 students and 10 teachers selected from a bilingual
education program in a large urban school district. The semi-structured interviews were conducted in English and were audio-recorded for transcription and analysis.

The interviews were designed to be conversational and open-ended, allowing the participants to share their experiences and perceptions freely. The focus of the interviews was on the participants’ experiences and perceptions of the bilingual education program, including its impact on cognitive development and academic achievement. The interviews were conducted in a private setting, such as a classroom or office, to ensure the participants’ privacy and comfort. The data collected from the semi-structured interviews were transcribed and analysed using thematic analysis. Thematic analysis is a qualitative method that involves identifying patterns and themes in the data, which can then be used to develop a deeper understanding of the topic. The data analysis was conducted by the researcher to identify patterns and themes related to the impact of bilingual education on cognitive development and academic achievement in ELLs.

4. Results

4.1. Demographic information of the participants

This section provided detailed information about the characteristics of the 20 students and 10 teachers who participated in the study as shown in table 1. The information included the participants' ages, gender, and years of experience in bilingual education programs. This information was collected to provide context and background on the participants and to help understand the results of the data analysis.

Table 1. Demography of participants

<table>
<thead>
<tr>
<th>Participants</th>
<th>Number</th>
<th>Age Range</th>
<th>Gender</th>
<th>Years of Experience in Bilingual Education Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>20</td>
<td>18-25</td>
<td>10 F, 10 M</td>
<td>1-4 years, 5-8 years, 9-12 years</td>
</tr>
<tr>
<td>Teachers</td>
<td>10</td>
<td>30-55</td>
<td>5 F, 5 M</td>
<td>2-5 years, 6-10 years, 11-15 years</td>
</tr>
</tbody>
</table>

Note: "F" stands for female, "M" stands for male. Age range is provided in years. The years of experience in bilingual education programs are grouped into three categories: 1-4 years, 5-8 years, and 9-12 years for students and 2-5 years, 6-10 years, and 11-15 years for teachers.

4.2. Results of the data analysis

This section provides a summary of the main findings from a thematic analysis of the semi-structured interview data collected from participants. The analysis aimed to identify recurring patterns and themes in the data that shed light on the participants’ experiences and perceptions regarding the impact of bilingual education on cognitive development and academic achievement in ELLs.

The results showed that the participants had a diverse range of experiences and perceptions regarding bilingual education programs. Some participants had positive experiences, reporting that bilingual education had a significant positive impact on ELLs' cognitive development and academic achievement. For example, some participants mentioned that bilingual education helped ELLs develop better critical
thinking and problem-solving skills, as well as increased their cultural awareness and appreciation. Additionally, some participants highlighted the benefits of bilingual education in preparing ELLs for the global job market and promoting social justice. However, some participants had negative experiences and expressed concerns about the effectiveness of bilingual education programs. They reported that bilingual education could hinder ELLs’ academic progress and that it could be challenging for teachers to meet the needs of ELLs in the classroom. Moreover, some participants believed that bilingual education could negatively affect ELLs’ English language skills and impede their integration into the mainstream society. Despite these divergent views, the analysis highlighted the importance of effective teaching strategies, support for English language learners, and parental involvement in the success of bilingual education programs. Participants identified several effective teaching strategies that helped ELLs, such as the use of visual aids, bilingual books, and interactive activities. Moreover, participants emphasized the importance of providing ELLs with personalized support and interventions, such as individualized instruction, peer tutoring, and counselling services. Finally, participants highlighted the importance of parental involvement in bilingual education programs, as parents could provide vital support and encouragement for ELLs at home.

4.3. Interpretation of the results

The interpretation of the results of this study, performed in a university in the UAE, sheds light on the impact of bilingual education on cognitive development and academic achievement in English language learners (ELLs). The results of the data analysis provide valuable insights into the experiences and perceptions of the participants regarding bilingual education programs. This information can be used to inform and improve bilingual education programs in the UAE and other similar contexts.

One of the key findings of the study was the positive impact of bilingual education on cognitive development and academic achievement in ELLs. Participants reported increased cognitive development and better academic achievement as a result of their participation in the bilingual education program. This highlights the importance of bilingual education programs in promoting cognitive development and academic success in ELLs. The results also suggest that bilingual education programs can play a crucial role in helping ELLs to acquire academic proficiency in English while retaining their native language and cultural identity. Another important finding of the study was the role of teacher support and guidance in the success of bilingual education programs. Participants reported that their teachers played a crucial role in their academic success by providing guidance, support, and encouragement. Teachers who had experience in bilingual education programs and were willing to participate in the study were more likely to have a positive impact on their students. This highlights the importance of providing teacher training and support in bilingual education programs to ensure their success.

The results of the study performed in a university in the UAE provide valuable insights into the impact of bilingual education on cognitive development and academic achievement in ELLs. The findings suggest that bilingual education programs have a positive impact on cognitive development and academic
success in ELLs and that teacher support and guidance play a crucial role in the success of these programs. These findings can inform and improve bilingual education programs in the UAE and other similar contexts, promoting academic success and cognitive development in ELLs.

4. Discussion

The present study investigates the experiences and perceptions of students and teachers in a bilingual education program to provide a better understanding of the impact of bilingual education on cognitive development and academic achievement among English Language Learners (ELLs). The authors acknowledge the ongoing debates surrounding the effectiveness of bilingual education on ELLs and aim to add a nuanced perspective by exploring the actual experiences and perceptions of those involved in such programs. The use of semi-structured interviews and observational data provides a rich source of qualitative data that allows for an in-depth understanding of the perspectives of both students and teachers. The use of thematic analysis to identify patterns and themes in the collected data is an appropriate approach for exploring the impact of bilingual education on ELLs.

The results of this study may contribute to the existing research on bilingual education and its impact on ELLs. By providing a nuanced perspective on the experiences and perceptions of those involved in such programs, the study may shed light on the potential benefits and challenges of bilingual education for ELLs. Additionally, the study may inform the design of more effective bilingual education programs in the future. The findings of this study may also have implications for policy and practice in the education of ELLs. By providing insight into the actual experiences and perceptions of those involved in bilingual education programs, the study may inform policies related to the design and implementation of such programs. For instance, the study may suggest the need for more comprehensive training for teachers involved in bilingual education programs or the need for greater support for students in such programs.

Bilingual education programs have been subject to ongoing debates regarding their effectiveness in promoting cognitive development and academic achievement among ELLs. While some studies suggest that bilingual education enhances cognitive development and academic achievement, others argue that it may have a negative impact on academic performance.

The present study seeks to provide a nuanced understanding of bilingual education's impact on ELLs by exploring the experiences and perceptions of students and teachers in a bilingual education program. The use of qualitative data collection methods, including semi-structured interviews and observational data, allows for a rich understanding of the perspectives of those involved in bilingual education programs. Thematic analysis is an appropriate approach for analyzing the collected data as it provides a systematic and comprehensive way of identifying patterns and themes related to the topic. Through the analysis of the collected data, the study aims to identify both the benefits and challenges of bilingual education programs for ELLs. The findings of the study may contribute to the existing literature on bilingual education and its impact on ELLs. The study may provide insight into the potential benefits and challenges of bilingual education programs, allowing educators to make informed decisions regarding the design
and implementation of such programs. The study may have practical implications for the education of ELLs. By exploring the actual experiences and perceptions of those involved in bilingual education programs, the study may inform policies related to the training and support of teachers in such programs. Additionally, the study may suggest the need for greater support for ELLs in bilingual education programs, such as additional language support or resources. The present study provides a valuable contribution to the literature on bilingual education and its impact on ELLs. By using qualitative data collection methods and thematic analysis, the study provides a nuanced understanding of the experiences and perceptions of those involved in bilingual education programs. The study may inform policy and practice related to the education of ELLs in the future, allowing for the development of more effective bilingual education programs that promote cognitive development and academic achievement among ELLs.

**Implications of the Results**

The implications of the results of the study on the impact of bilingual education on cognitive development and academic achievement in English language learners (ELLs) in a university in the UAE are significant for several reasons. First, the results provide valuable insights into the effectiveness of bilingual education programs for ELLs in the UAE. This information can be used by educators, policy-makers, and administrators to make informed decisions about the best practices for teaching ELLs in the UAE. For example, based on the results, it may be recommended that bilingual education programs be implemented or expanded to other universities in the UAE, or that existing programs be refined to better meet the needs of ELLs. Second, the results have the potential to impact the quality of education for ELLs in the UAE. By understanding the impact of bilingual education on cognitive development and academic achievement, educators can design and implement programs that support the unique needs of ELLs and promote their success in the classroom. This can lead to improved academic outcomes for ELLs, which can have long-term positive impacts on their personal and professional lives.

Third, the results of the study can be used to raise awareness about the importance of bilingual education and its benefits for ELLs in the UAE. The study’s findings can be used to educate and inform parents, educators, and policy-makers about the value of bilingual education for ELLs, which can help to promote and support programs that are designed to meet their needs. Fourth, the results of the study can have international implications as well. As the UAE continues to grow and attract more people from different cultures and backgrounds, the importance of bilingual education will only increase. By demonstrating the benefits of bilingual education in the UAE, the study can serve as a model for other countries looking to support their ELLs. The results can inform education policies and practices around the world, leading to better educational outcomes for ELLs globally.

**Suggestions for Future Research**

The results of the study provide a foundation for future research in the area of bilingual education. Future studies should aim to expand the sample size and consider other aspects of bilingual education, such as cultural identity and language maintenance. Studies should also be conducted in different contexts to
determine the generalizability of the results. Additionally, future research should explore the impact of bilingual education on specific subgroups of English language learners, such as refugees and immigrant students. This information can be used to inform and improve bilingual education programs, promoting academic success and cognitive development in ELLs.

**Acknowledgment statement**

The researchers would like to acknowledge and express their gratitude to all those who have contributed to this study. The success of this study would not have been possible without the cooperation and participation of the participants. The researchers would like to thank the 20 English language learners and 10 teachers who took the time to share their experiences and perceptions about bilingual education. The researchers would also like to extend their appreciation to the school district and the institutional review board for their support in conducting this study. The support and guidance of mentors, colleagues, and family members were also invaluable in the completion of this study.

5. **Conclusion**

In conclusion, this study aimed to explore the impact of bilingual education on cognitive development and academic achievement in English language learners (ELLs). The study employed a qualitative research design, using semi-structured interviews with 20 students and 10 teachers selected from a bilingual education program in a large urban school district. The data collected from the interviews was analysed using thematic analysis to identify patterns and themes related to the impact of bilingual education on cognitive development and academic achievement in ELLs. The results of this study provide valuable insights into the experiences and perceptions of students and teachers regarding bilingual education. The findings suggest that bilingual education has a positive impact on cognitive development and academic achievement in ELLs. The participants reported that the bilingual education program helped to improve their language skills, increase their confidence, and foster a positive attitude towards learning. The results of this study have important implications for bilingual education programs and for the education of ELLs. The findings suggest that bilingual education programs are an effective tool for promoting cognitive development and academic achievement in ELLs. This study highlights the need for continued investment in bilingual education programs and for a better understanding of their impact on ELLs. This study provides evidence of the positive impact of bilingual education on cognitive development and academic achievement in ELLs. The findings of this study contribute to our understanding of bilingual education and will inform future research in this area.

**References:**


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