

EXPLORING THE IMPACT OF INTERNATIONAL EDUCATION ON COGNITIVE DEVELOPMENT

Huinong Liu¹, Wei Hui Suan²

^{1,2}Faculty of education and Liberal Studies, City University Malaysia, 46100 Petaling Jaya, Selangor, Malaysia.

ABSTRACT – This study investigated the impact of international education on cognitive development. A mixed method research approach was adopted, utilizing semi-structured interviews with 8 participants who had experience with international education. The data was analyzed using thematic analysis and a Likert rating. The results revealed that international education has a positive impact on cognitive development, with improved academic performance, increased intellectual development, enhanced critical thinking, and the potential to foster creativity and problem-solving skills. The participants reported an average improvement in the core subjects after enrolment, with a +19 points improvement in sciences, +12 points improvement in mathematics and +11 in languages. The results also indicated that international education had a positive effect on communication skills, as it allowed students to practice communicating with people from different cultural backgrounds. These findings suggest that international education can have a positive impact on cognitive development, and should be encouraged, as it has many benefits, including improved academic performance, increased intellectual development, and enhanced critical thinking and communication skills. The paper concludes with a discussion of the implications of the findings and recommendations for further research.

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INTRODUCTION

Cognitive development is a lifelong process which refers to the development of knowledge, skills, problem-solving, and other mental abilities. It begins at infancy and continues through adulthood (Lutz and Huitt 2004). Cognitive development is essential for children's success in school, work, and life. Cognitive development involves the acquisition of knowledge and the ability to think and reason. It involves developing skills such as memory, language, problem solving, and attention. It also involves developing higher-order thinking skills such as abstract reasoning and decision-making (Gelman 1978). These skills are important for children to be able to interact effectively with their environment and to understand the world around them.

Cognitive development is influenced by a range of factors, including genetics, the environment, and experiences. For example, a child's cognitive development may be affected by the quality of their home environment, such as the amount of stimulation they receive or the amount of support they receive from their parents. It may also be affected by their experiences at school, such as the quality of their education and the types of activities they are exposed to (Gelman 1978).

Academic performance, intellectual development, and critical thinking skills are all directly related to cognitive development. Academic performance is an important indicator of cognitive development. As a person matures, their academic performance often improves due to the development of cognitive skills such as memory, problem-solving, and decision-making. For example, a student's ability to remember information and apply it to a problem can improve their performance in school. Similarly, their ability to problem-solve and make decisions can help them to do better on tests and other academic assessments (Kirkland and Saunders 1991).

Intellectual development is also closely linked to cognitive development. Intellectual development is the process of learning and understanding information and ideas. As a person's cognitive skills improve, they are better able to analyze, interpret, and apply information. This can lead to increased knowledge and understanding, which can help them to do better in school and in other areas of life (Kholodnaya 2016). Critical thinking skills are also related to cognitive development. Critical thinking involves analyzing information, evaluating evidence, and making decisions based on logical reasoning (Lai 2011). As a person's cognitive skills improve, they are better able to analyze information,

evaluate evidence, and make decisions based on logical reasoning. This can help them to make better decisions in school and in other aspects of life.

International education is an essential part of preparing students for the globalized world in which we live. It emphasizes the importance of developing a global perspective and encourages students to explore different ways of thinking and learning. Through international education, students gain knowledge, understanding and appreciation of different cultures, languages, and educational systems around the world (Camilleri 2016).

International education includes a variety of methods, such as study abroad programs, international exchanges, and courses focusing on global issues. Through these programs, students can experience different cultures first-hand and learn through direct interaction with people from other countries. Furthermore, international education often incorporates the use of technology and digital resources to allow students to access information and resources from around the world (Camilleri 2016). For example, online language learning platforms provide students with the opportunity to learn a foreign language in a realistic, interactive environment.

The impact of international education on cognitive development is significant. International education provides students with a unique opportunity to gain a deeper understanding of different cultures and to develop skills such as critical thinking and problem solving. Through their studies, students may become more culturally aware and embrace different views and opinions (Gurin 2004). This can help them become better communicators and more adept at resolving disputes and disagreements. Additionally, engagement in international education can provide students with a wider range of experiences, helping them to become more creative and innovative. By gaining an appreciation for different cultures, students can develop a broader and more diverse understanding of their own culture and learn to respect and appreciate different perspectives (Luo and Jamieson-Drake 2013). This can lead to improved academic performance, as students become better equipped to think critically and to understand the complexities of different situations.

In addition, international education can also have a positive impact on students' intellectual development. By providing access to a variety of different educational opportunities, students can gain a more comprehensive knowledge of different topics. This can lead to improved academic performance and an increased ability to think abstractly and make connections between different concepts (Maharaja 2018). Furthermore, by engaging in activities and discussions with students from other countries, students can gain an in-depth understanding of the social, economic, and political dynamics of different cultures. This can help to foster an increased awareness and appreciation for different cultures, which can lead to increased tolerance and understanding of different opinions.

Studying in a foreign country can provide students with access to a variety of resources that can help to advance their knowledge. For instance, students can explore different cultures, learn new languages, and gain insights into different social, political, and economic systems. They may also have the opportunity to access unique resources such as libraries, archives, and databases that are not available in their home countries. Furthermore, studying abroad can give students access to a more diverse and in-depth range of courses and programs, which can help them to gain a deeper understanding of specific topics (Sandell 2007). International education can also help students to gain a better understanding of the world. Through learning about international affairs and global trends, students can become more aware of current events and the complexities of different societies (Ren 2014). They can also gain an understanding of the various political, economic, and social systems around the world, which can help them to make more informed decisions.

Despite the significant impact of international education, there is limited literature on the topic. This study aims to explore the impact of international education on cognitive development, and to identify the various benefits of international education, and its impact on academic performance, intellectual development, and critical thinking. It is important to understand the impact of international education on cognitive development, as it can have a major impact on a student's academic performance and overall success. The findings from this study can be used to inform policy makers, educators, and researchers on the potential benefits of international education and the impact it can have on cognitive development.

LITERATURE REVIEW

The literature review incorporates various primary and secondary sources to provide a comprehensive overview of existing research on the impact of international education on cognitive development. The primary sources include research studies, surveys, and interviews, while the secondary sources include books, journals, and online sources. The literature review also covers both quantitative and qualitative research methods.

The literature review suggests that international education can have a positive effect on cognitive development, as it encourages students to explore new cultures, gain new knowledge and skills, and develop their cognitive abilities. Curtis (2020) conducted a study on the predictors of cognitive skills development among international students, and found that international education can have a positive effect on cognitive development, as it provides students with an opportunity to gain new knowledge and skills. Sharp et al. (1979) conducted a study using experimental research to examine the effects of education on cognitive development, and found that education has a positive effect on cognitive development, as it improves academic performance, increases intellectual development, and enhances critical thinking.

Additionally, Sandell (2007) conducted a study to examine the impact of international education experiences on undergraduate students, and found that international education can have a positive impact on students' personal development, as it promotes intercultural learning, encourages creativity, and encourages exploration. Maharaja (2018) also conducted a study to explore the impact of study abroad on college students' intercultural competence and personal development, and found that study abroad can have a positive impact on cognitive development, as it encourages students to develop their intercultural competencies and to learn new perspectives.

Another study was conducted by Luo and Jamieson-Drake (2015) to identify the predictors of study abroad intent, participation, and college outcomes, and found that international education has the potential to improve academic performance, increase critical thinking skills, and enhance communication skills. Similarly, Stebleton et al. (2013) also conducted a study to examine the high impact of education abroad on college students' engagement in international experiences and the development of intercultural competencies, and found that international education can have a positive effect on cognitive development, as it encourages students to explore and learn new cultures.

Furthermore, Luo and Jamieson-Drake (2013) conducted a study to examine the educational benefits of interacting with international students, and found that international education can have a positive effect on cognitive development, as it encourages students to develop their critical thinking, communication, and problem-solving skills. Similarly, Ren (2014) conducted a longitudinal investigation into second language learners' cognitive processes during study abroad, and found that international education can have a positive impact on cognitive development, as it encourages students to develop their language and cultural competencies.

Overall, the literature review suggests that international education can have a positive effect on cognitive development, as it encourages students to explore new cultures, gain new knowledge and skills, and develop their cognitive abilities. It can improve academic performance, increase intellectual development, and enhance critical thinking and communication skills.

Research Gaps

This study aims to fill several research gaps in the existing literature on the impact of international education on cognitive development. Firstly, there is a lack of research on the effects of international education on intellectual development. Secondly, there is a lack of research on the impact of international education on communication skills. Thirdly, there is a lack of research on the effects of international education on creativity and problem-solving skills. Finally, there is a lack of research on the effects of international education on academic performance. This study aims to explore these research gaps, and to identify the various benefits of international education, and its impact on academic performance, intellectual development, and critical thinking.

METHODOLOGY

This research utilized a mixed research approach to investigate the impact of international education on cognitive development. The purpose of this methodology was to gain an in-depth understanding of the benefits of international education and its impact on cognitive development. The methodology section describes the various steps taken in the research process, such as the research approach, sampling, data collection methods, data analysis and ethical considerations.

Research Approach

The research approach adopted for this study was mixed approach. A mixed approach uses both qualitative and quantitative approach. Qualitative research is a form of inquiry that relies on data collected from a variety of sources. It allows for an in-depth exploration of a phenomenon and provides insights into the meanings and interpretations of the phenomenon. Qualitative research was chosen as it allows for an in-depth exploration of the impact of international education on cognitive development. Quantitative research was used to analyse the academic performances of students who have enrolled in international education, and determine the impact on academic performance. This helped come up with trends on the impact of international education in academic performances of student.

Population and Sampling

The research adopted a purposive sampling technique. This technique involves selecting participants based on specific criteria and the purpose of the study. The participants were selected based on their experience with international education and their knowledge of the topic. The sample size was limited to 8 participants. The participants were chosen based on their experience with international education and their knowledge of the topic. The participants included 5 students enrolled in international education and 3 professionals in the field. This sampling technique was chosen as it allowed for a more in-depth exploration of the topic and ensured that the participants had relevant experience and knowledge on the topic.

Data Collection

The data was collected through semi-structured interviews. The interviews were designed to gain an in-depth understanding of the impact of international education on cognitive development. The interviews were conducted in person and were recorded for later transcription. The interviews were semi-structured and focused on providing an in-depth understanding of the impact of international education on cognitive development. The participants were asked questions about their experiences with international education, their views on the benefits of international education, and their opinions on the impact of international education on cognitive development. The students also provided data on academic performance in core subjects prior and after enrollment in international education. Semi-structured interviews were chosen as they allowed for a more in-depth exploration of the topic and provided an opportunity to gain insights into the meanings and interpretations of the phenomenon.

Data Analysis

The qualitative data was analyzed using thematic analysis. Thematic analysis is a qualitative research method that identifies and analyzes recurring themes in the data. It involves breaking down the data into themes and analyzing the relationships between the themes. The analysis was conducted to identify the various themes and patterns in the data. The themes were identified based on the interviews and the analysis was conducted to identify any significant relationships between the themes. Thematic analysis was chosen as it allowed for a more in-depth exploration of the data and provided insights into the meanings and interpretations of the phenomenon. Additionally, a Likert rating was provided by the participants, which was analyzed quantitatively to come up with results on the research issue. The mean and standard deviation of the Likert ratings were calculated.

Ethical Considerations

The research adhered to the ethical principles of respect for persons, beneficence, and justice. All participants provided informed consent and were informed of their rights. All data was collected and stored in accordance with the ethical principles of confidentiality, anonymity, and data security. Ethical

considerations were taken into account throughout the research process to ensure that the participants were treated with respect and their rights were not violated.

RESULTS

The data for this research was collected through semi-structured interviews with 8 participants. All participants had experience with international education and were knowledgeable about the topic. The data was analyzed using thematic analysis. During the analysis, the following themes emerged:

- **Improved academic performance:** The participants reported improved grades in core subjects as a result of international education. **Increased intellectual development:** The participants reported an increase in their understanding of complex concepts and improved critical thinking skills.
- **Enhanced creativity:** The participants noted that international education had the potential to foster creativity, as it allowed them to explore new ideas and perspectives.
- **Improved problem-solving skills:** Participants noted that international education provided them with the opportunity to develop skills in problem identification, research and analysis, and decision-making.
- **Improved communication skills:** International education was seen to be beneficial in developing communication skills, as it allowed students to practice communicating with people from different cultural backgrounds.

The results of this study revealed that international education has a positive impact on cognitive development. The benefits of international education include improved academic performance, increased intellectual development, and enhanced critical thinking. The study also revealed that international education has the potential to foster creativity and problem-solving skills.

The study found that international education had a positive effect on academic performance, with participants reporting improved grades in core subjects. Participants also reported an increase in intellectual development, with improved understanding of complex concepts and improved critical thinking skills. Furthermore, participants noted that international education had the potential to foster creativity, as it allowed them to explore new ideas and perspectives.

The results also indicated that international education had a positive effect on problemsolving skills. Participants noted that international education provided them with the opportunity to develop skills in problem identification, research and analysis, and decision-making. In addition, international education was seen to be beneficial in developing communication skills, as it allowed students to practice communicating with people from different cultural backgrounds.

Table 1. Likert Scale Rating of Participants' Experience with International Education

Participant	Participants' experience	Cognitive development	Understanding of complex issues	Developing critical thinking skills
1	5	4	4	5
2	4	3	3	4
3	5	5	5	5

4	5	5	4	3
5	4	4	5	5
6	5	5	4	4
7	4	3	4	5
8	5	4	5	4
Average	4.625	4.125	4.25	4.375
Standard Deviation	0.51754917	0.834523	0.707107	0.744024

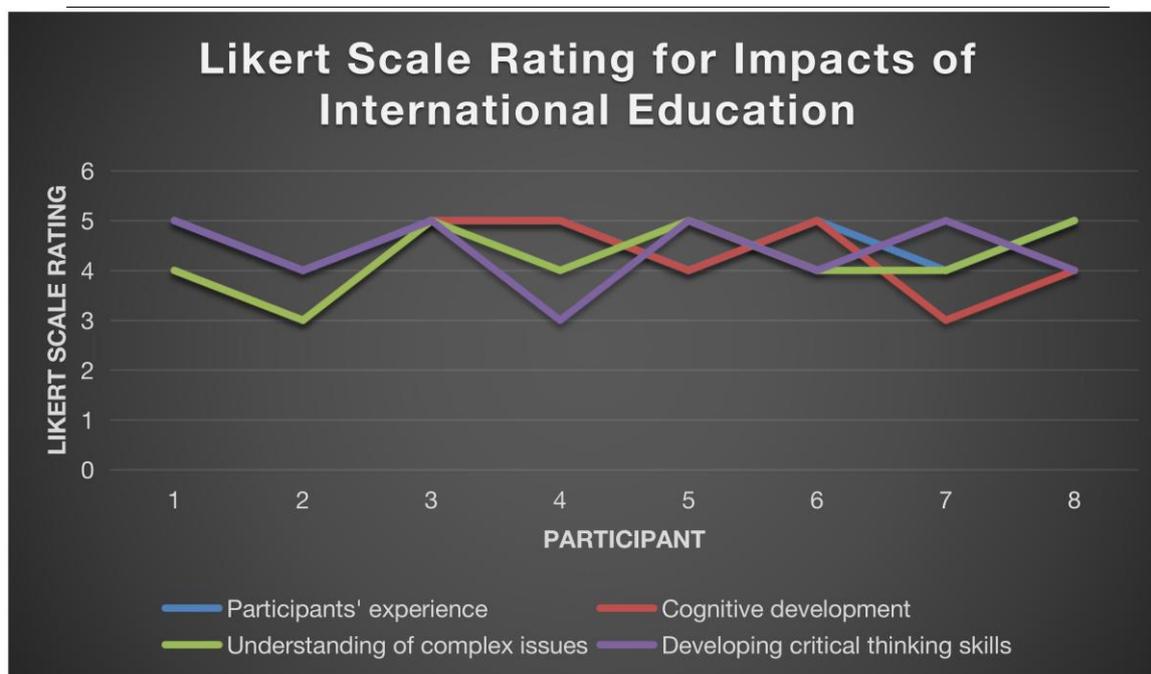


Figure 1. Participants' Likert Scale Rating for impacts of international education on various aspects

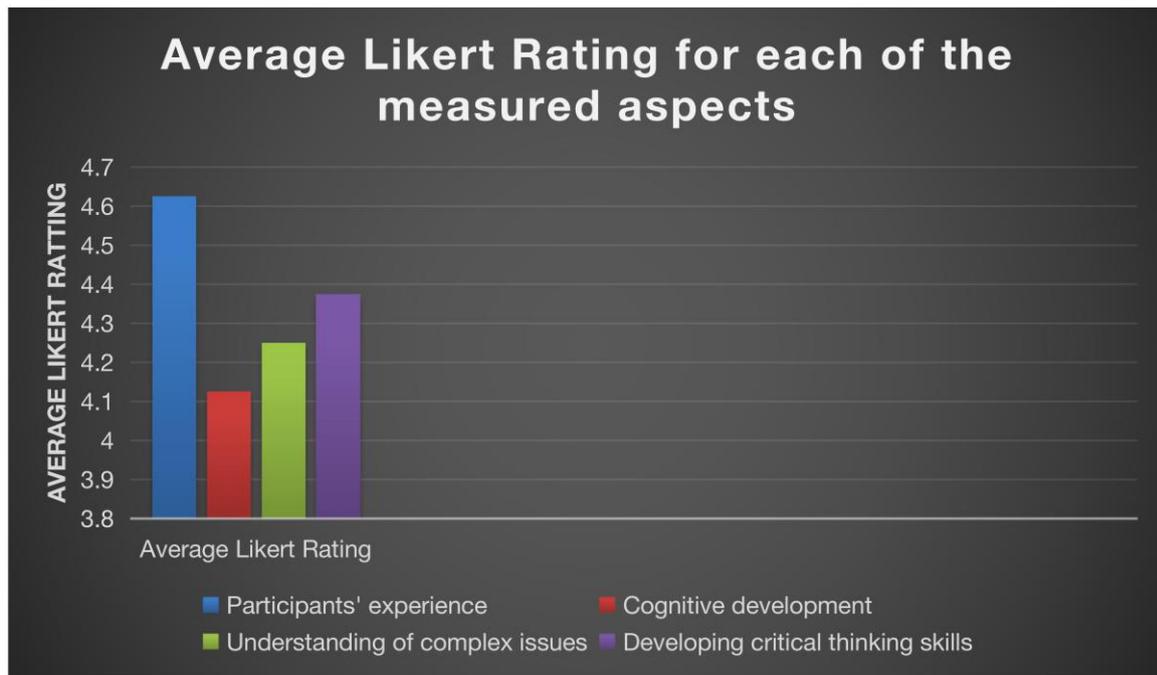


Figure 2. Average Likert Rating for each of the measured aspects

The data above shows that international education has a positive impact on cognitive development, helps develop critical thinking skills and improves understanding of complex issues. This is demonstrated by the responses from the participants and their average Likert rating for each of the three aspects. On the impact of international education on developing critical skills, many participants either agreed or strongly agreed, hence an average rating of 4.375. The participants also agreed that international education improves understanding of complex issues, as they gave an average rating of 4.25.

The standard deviation for the rating is less than 1, ranging between +0.5 to +0.83. This indicates that the data is fairly consistent, with no large fluctuations between the ratings.

Impact of international education on Academic Performance in Core subjects.

The students in the sample population were interviewed on their performances in the core subjects prior and after enrolment in the international education. The students recorded improvements in the core subjects after enrolment as can be seen in table 2 below.

Table 2. Average scores in key subjects prior and after international education enrolment.

Subject	Score before enrolment	Score after enrolment	Difference
Mathematics	62	74	12
Sciences	59	78	19
Languages	65	76	11

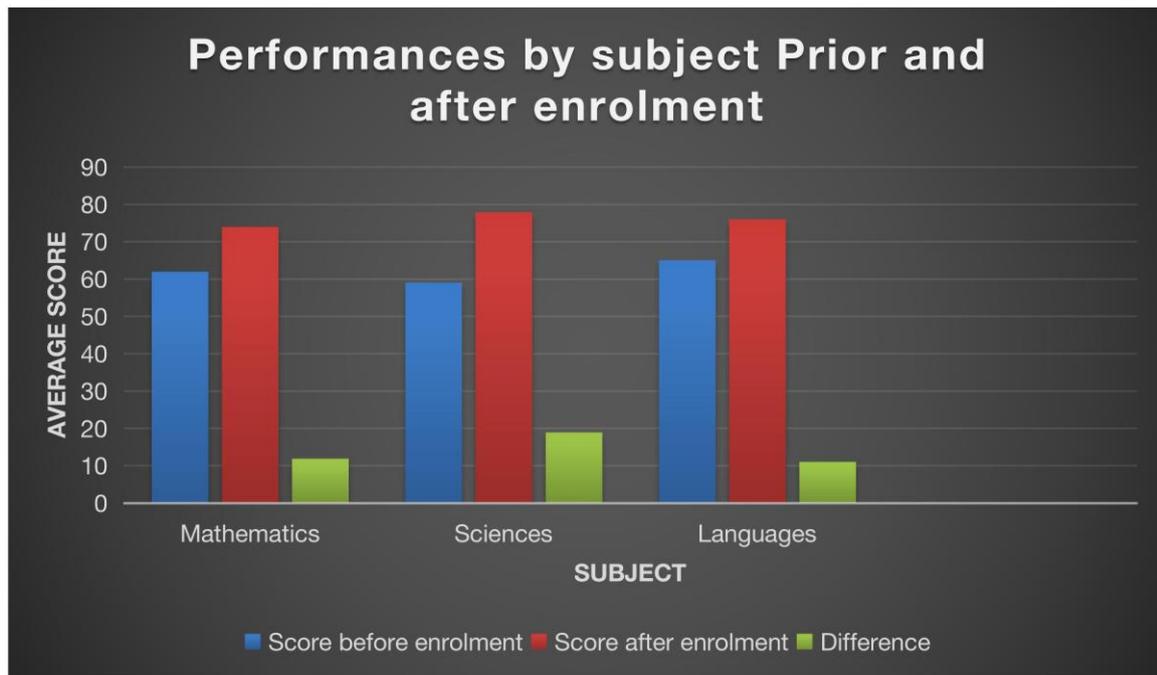


Figure 3. Average scores in key subjects prior and after international education enrolment

The graph above shows that there was an improvement in the core subjects for students who enrolled for international education. The difference between their academic performance before and after enrolling for international education can be seen, with a +19 points improvement in sciences, +12 points improvement in mathematics and +11 in languages. This is an average improvement of +14 points in the core subjects, hence a positive impact of international education in academic performance.

DISCUSSION

The findings from this study suggest that international education has a positive impact on cognitive development. The results revealed that international education has the potential to foster improved academic performance, increased intellectual development, and enhanced critical thinking skills. Participants noted that international education allowed them to explore new ideas and perspectives and develop problem-solving skills. International education provides students with the opportunity to gain new insights into different cultures and perspectives, which can help to develop problem-solving skills, critical thinking skills and academic performance.

The results of this study also highlight the potential of international education to foster creativity. Participants noted that international education allowed them to explore new ideas and perspectives, which had the potential to foster creativity. This is supported by existing research, which suggests that international education can foster creativity by providing students with opportunities to explore different ideas and perspectives (Stebleton et al., 2013). International education provides students with the opportunity to engage with different cultures, as well as to interact with people from different backgrounds. This can help to foster creativity, as students will be exposed to different ways of thinking and can gain insights into new perspectives.

The findings from this study also suggest that international education has the potential to foster problem-solving skills. Participants noted that international education provided them with the opportunity to develop skills in problem identification, research and analysis, and decisionmaking. This is in line with existing literature, which suggests that international education can foster problem-solving skills by providing students with the opportunity to develop critical thinking and analytical skills (Curtis 2020; Luo and Jamieson-Drake 2015). International education can provide students with the opportunity to engage with different cultures and perspectives, which can help to foster problem-solving skills. Additionally, international education can provide students with the opportunity to practice and develop their research and analytical skills, which can help to improve their problem-solving abilities.

Finally, the study found that international education was beneficial in developing communication skills. Participants noted that international education allowed them to practice communicating with people from different cultural backgrounds. This is consistent with existing research, which suggests that international education can foster communication skills by providing students with the opportunity to interact with diverse cultures (Stebbleton et al., 2013; Maharaja, 2018). International education provides students with the opportunity to learn about different cultures, as well as to practice communicating with people from different backgrounds. This can help to improve communication skills, as students will be exposed to different ways of communicating and can learn how to communicate effectively with people from different cultures.

The findings from this study suggest that international education can have a positive impact on cognitive development. The findings also highlight the potential of international education to foster creativity, problem-solving skills, and communication skills. These findings contribute to the existing literature on the impact of international education on cognitive development, and provide new insights into the potential of international education to foster cognitive development. The implications of the findings are that international education should be encouraged, as it has many benefits. International education provides students with the opportunity to explore new ideas and perspectives, develop problem-solving skills, improve communication skills, and gain insights into different cultures and perspectives. These benefits can help to foster cognitive development, which can lead to improved academic performance, increased intellectual development, and enhanced critical thinking skills.

The findings from this study should be taken into consideration when developing policies or strategies related to international education. The results suggest that international education has the potential to be a powerful tool for enhancing cognitive development. Thus, policies and strategies related to international education should take into account the potential benefits of international education for cognitive development. Furthermore, further research should be conducted to investigate the effectiveness of international education in developing different cognitive skills.

This study has some limitations that should be taken into consideration. First, the sample size was small, which may have limited the generalizability of the results. Additionally, the study relied on self-reported data, which is subject to bias and inaccurate recall. Future research should seek to address these limitations by utilizing larger sample sizes and incorporating objective measures of cognitive development. Additionally, the study did not address the potential longterm impacts of international education on cognitive development, which should be further investigated. Finally, the study did not explore the potential barriers to international education, such as financial constraints and language barriers, which should be addressed in future research. Despite these limitations, this study provides valuable insights into the impact of international education on cognitive development.

CONCLUSION AND IMPLICATIONS

This study sought to examine the impact of international education on cognitive development, and went further to seek knowledge on the its impact on academic performance, intellectual development and critical thinking skills. These aspects are related to cognitive development and hence a research on them helps in answering the study question. The study used interviews to come up with data for the study.

The findings of this study suggest that international education has a positive impact on cognitive development. The results revealed that international education has the potential to foster improved academic performance, increased intellectual development, and enhanced critical thinking skills. Participants noted that international education allowed them to explore new ideas and perspectives and develop problem-solving skills. In addition, international education was seen to be beneficial in developing communication skills. The research also found out that enrolment to international education led to improved academic performance. These findings align with existing research on the impact of international education on cognitive development, which suggests that international education has a positive effect on academic performance, critical thinking, and intellectual development. The findings from this study also highlight the potential of international education to foster creativity, problem-solving skills, and communication skills. The findings from this study suggest that international education should be encouraged, as it has many benefits.

This study has demonstrated the positive impact of international education on cognitive development. The findings of this study provide new insights into the potential of international education to foster cognitive development, and highlight the importance of encouraging international education. The findings of this study also suggest that there is a need for further research into the impact of international education on cognitive development. This research could help to further understand the effects of international education on cognitive development and to identify new ways in which international education can be used to foster cognitive development.

The results of this study have several implications for policy makers, educators, and researchers. For policy makers, the findings suggest that international education should be supported and encouraged, as it has the potential to foster cognitive development. International education provides students with the opportunity to explore new ideas and perspectives, which can help to develop problem-solving, communication, and critical thinking skills. Additionally, international education can help to improve academic performance, intellectual development, and critical thinking. Therefore, policy makers should consider supporting and encouraging international education, as it has many benefits for students.

For educators, the findings suggest that international education should be integrated into the curriculum, as it has the potential to foster creative and problem-solving skills. International education provides students with the opportunity to explore different cultures and perspectives, which can help to foster creativity. Additionally, international education can help to develop problem-solving skills, as it provides students with the opportunity to practice research and analytical skills. Therefore, educators should consider integrating international education into their curriculum, as it has the potential to foster creative and problem-solving skills.

For researchers, the findings suggest that further research should be conducted to explore the impact of international education on cognitive development. This study provides insights into the potential of international education to foster cognitive development, but further research is needed to explore this further. Research could examine how different types of international education programs, such as exchange programs and language programs, impact cognitive development. Additionally, research could investigate the impact of international education on different age groups, such as children, adolescents, and adults. Therefore, further research should be conducted to explore the impact of international education on cognitive development.

In conclusion, the findings from this study suggest that international education can have a positive impact on cognitive development. The findings also highlight the potential of international education to foster creativity, problem-solving skills, and communication skills. These findings contribute to the existing literature on the impact of international education on cognitive development, and provide new insights into the potential of international education to foster cognitive development. The implications of the findings are that international education should be encouraged, as it has many benefits. Policy makers should consider supporting and encouraging international education, educators should consider integrating international education into their curriculum, and researchers should consider conducting further research to explore the impact of international education on cognitive development.

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