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THE TECHNOLOGY GAP IN ARABIC LANGUAGE LEARNING ACROSS SCHOOLS IN BRUNEI DARUSSALAM.

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ABSTRACT : Arabic schools have been integral to Brunei's education system for over seven decades, beginning with the first public Arabic religious school in 1941. However, students in these schools continue to face challenges in developing communication skills, particularly in the digital era, as highlighted by Titah (2016). This research aims to explore gaps in teaching and learning with technology in Brunei's Arabic schools. Focus group discussions (FGDs) were conducted with teachers, students, and parents to gather insights. The data were analyzed using open, axial, and selective coding, with constant comparative methods (CCM) to identify key themes. Findings reveal significant challenges, including difficulties in accessing and effectively using technology, lack of student- teacher engagement, and insufficient integration of technology into the curriculum. These results highlight the need for a collaborative technology model (CTM) that unites various technological tools into a cohesive platform. Such a model could improve Arabic communication skills— speaking, writing, reading, and listening—across all proficiency levels, helping students thrive in the digital age.

KEYWORDS: *Arabic communication skills, Qualitative need analysis, Collaborative Technology Model (CTM).*

I.   INTRODUCTION

For centuries, the Arabic language has played a significant role within the educational and cultural framework of Brunei Darussalam. As a Muslim country, Brunei lays tremendous value on Islamic education, making the ability of communication skills in Arabic language essential for an in-depth understanding of the religion. The establishment of the first Arabic schools in Brunei in 1941 marked a significant milestone, initiated by The Brunei State Assembly Council. The council acknowledged the necessity to promote religious education among the youth and disseminate Islamic knowledge throughout the Bruneian Muslim community (Haji Maila, A.H.A et al,2019). Today, there are a total of seven Arabic schools in Brunei, where the education of the Arabic schools begins in Year 5 and is offered until pre-university level (KHEU, 2023). Over the years, Arabic schools in Brunei have worked to improve their curriculum frameworks to ensure a harmonic balance between general and Islamic studies. The main goal is to improve the educational quality across both domains. Despite the effort, students face significant challenges in achieving proficiency, particularly in terms of vocabulary development (Ahmad, S. S. H., 2019). According to the research conducted by Muhammad, Daud, and others, there is a lack of utilization of Arabic words in teaching, with 75% of teachers resorting to using the Malay language instead (Subari et al., 2023). In addition, the reliance on traditional textbooks and notes as the main source of materials limits students' exposure to diverse learning resources that can be obtained from the internet and other digital platforms (Zainuddin et al., 2021).

Due to the demands of Educational 5.0, both educators and students have expressed the need for innovative approaches to second language acquisition (Moheildin Ahmed, M. O. H. A. M. E. D., 2020; Wahyuni, S. et al, 2023). Students today require modern techniques to acquire values and knowledge of the past (Nicholas, A. J., 2020). Addressing the technological gap in Arabic language learning is the first step toward redefining the learning experience in a way that is engaging, efficient and representative of the contemporary world (Fikri, A. et al, 2021). Therefore, this paper aims to investigate the underlying causes of the technology gap and analyze its impact on the Arabic language learning process. By bridging this gap, the findings may provide strategic approaches for the integration of contemporary learning methodologies to enhance Arabic language learning that aligns with the demands of the 21st century.

II.   LITERATURE REVIEW

Today's contemporary educational setting is heavily dependent on technology, which has revolutionized the methods through which students gain new knowledge (Cabeleiro et al., 2020; Bhat, 2023). This transformation is evident in the diverse array of online resources, educational apps, virtual learning environments, interactive digital displays, and other advanced solutions available. Educational Technology, or often known as EdTech, encompasses the use of various technological tools and resources to support and enhance instructional facilitation and learning experiences (Hennelly et al., 2022). According to the Global EdTech market report, the estimated value of the global EdTech market was USD 142.37 billion in 2023, and it is projected to increase at a CAGR of 13.4% from 2024 to 2030. The data on EdTech indicates a growing demand for the incorporation of technological tools in education. Numerous research studies have demonstrated that educational technology has enhanced lifelong learning abilities (Haleem et al., 2022), student engagement, motivation, and the retention of information across diverse learning settings (Higgins et al., 2019; Haleem et al, 2022; Lei et al., 2022; Timotheou et al., 2022). The emergence of EdTech has brought about substantial changes in the way language learning is approached, with digital tools demonstrating great effectiveness in improving students' overall learning experiences and academic results (Mohammed, 2020; Hammad Al-Rashidi et al., 2024). The Arabic language is widely studied around the world due to its significant economic, cultural, and geopolitical importance (Haskouri, 2023). However, it is well known for being a difficult language to learn because of its complex grammar, distinct alphabet, and diverse sound system (Al-Busaidi, 2015). To address these challenges, several scholars have investigated the potential of technology in facilitating Arabic language acquisition.

Some of the most popular technologies utilized in second language learning include modern multimedia, augmented reality, artificial intelligence, gamification, and advanced educational options like educational games, adaptive learning systems, and educational platforms (Timchenko et al. 2020). A study conducted by Alakrash and Razak (2021) found that the implementation of digital tools in language learning environments has the potential to enhance proficiency across all four language competencies: reading, writing, listening, and speaking. The researchers observed that students enhanced their communication abilities and contributed to the educational process's effectiveness in these instructional settings. Similarly, another study by Smith et al. (2021) explored the impact of EdTech on language acquisition and observed that students who incorporated technology into their learning exhibited greater levels of enthusiasm and involvement in comparison to those who did not utilize technology. Despite many scholars emphasizing the advantages of integrating technology into the teaching and learning of Arabic language, there remains a considerable research gap regarding its application among elementary students in Brunei's Arabic schools (Subari et al., 2023). The discrepancy is especially significant within the framework of Brunei's Vision 2035, which seeks to improve the education system by promoting ongoing learning and preparing students to fulfill future requirements (Wawasan Brunei 2035). This initiative aligns with the Titah delivered by His Majesty the Sultan of Brunei in 2016 (Titah, 2016), which emphasizes the importance of improving the acquisition of Arabic language in students attending Arabic schools. Therefore, there is a need to explore innovative technological approaches to enhance the teaching of Arabic language for students in Brunei's Arabic schools. However, before exploring the potential use of technologies, it is crucial to address the existing technology gap in these schools (Ahmed, M. M. E., 2020).

III.   CONCEPTUAL FRAMEWORK

Based on the literature review, the conceptual framework for this research consists of three main components: Arabic language learning, Collaborative Technological Model, and Arabic schools in Brunei. The Arabic learning component refers to acquiring and developing proficiency in Arabic as a second language. There are 4 components of Arabic communication skills which are listening skills, reading skills, speaking skills and writing skills. The Collaborative Technological Model refers to a teaching and learning approach that incorporates the use of technology, pedagogy, and content to enhance language learning. The effectiveness of the learning process is controlled by the duration of the teaching and learning, the type of knowledge is being present, and the amount of the knowledge transmitted. This connects directly to the pedagogy aspect of the Collaborative Technological Model, which focuses on the instructional strategies and methods used to facilitate language learning. The Arabic schools refers to the teachers and students involved in the Arabic language learning process at all school level in Brunei Darussalam, however, the research mainly focuses on the student's perspective. The content used in this model is the Arabic language curriculum used by the Arabic schools in Brunei. Under the student, there are three aspects that are taken into consideration: The student's learning styles, their learning preferences (age interest and emotional factors), and their exposure to technology. The learning styles are considered for the learning pedagogy, while the age interested are considered to deliver the learning content using technology and gamification. The conceptual framework of this study is as shown in Figure 1.
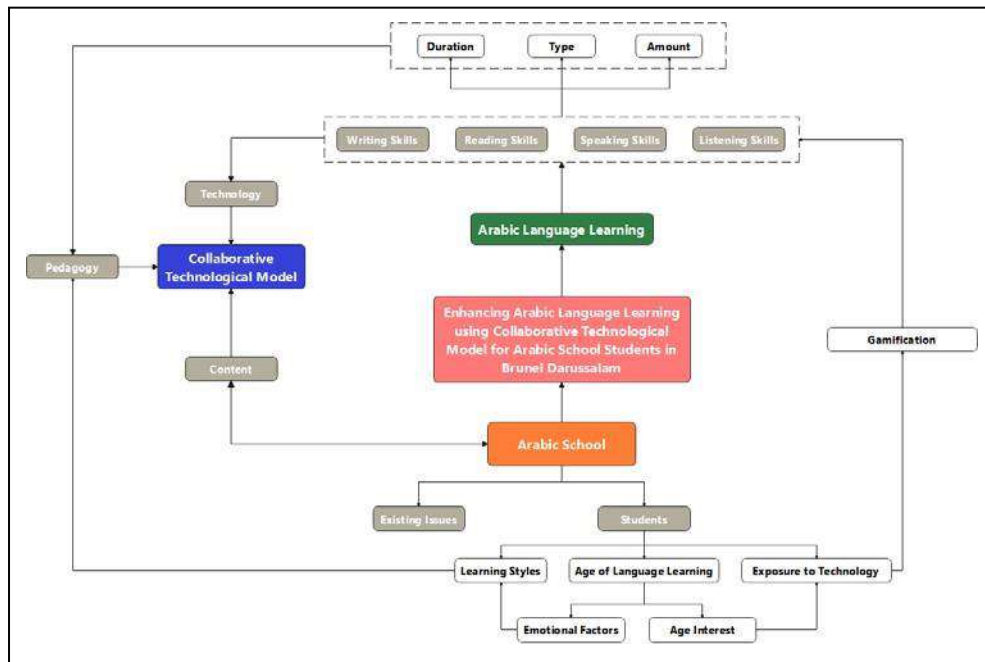
Figure 1: The conceptual Framework of this study

IV. RESEARCH OBJECTIVE AND RESEARCH QUESTION

The research objective for this study is to determine the existence of gaps in teaching and learning using technology, therefore the research question for this study: What is the current gap in teaching and learning using technology?

V. SIGNIFICANT OF STUDY

The significant of this study lies in its potential to address the current challenges faced in Arabic language learning among the students in Brunei Darussalam. The integration of technology may enhance the learning experience of Arabic school students (Efthimiadou & Sansoniou, 2020). By utilizing technology, students are exposed to a more interesting learning experience and interactive learning materials. Additionally, this study aims to contribute to the existing literature on Arabic language education by providing insights into the effectiveness of the technology in enhancing Arabic language learning in a specific context such as Brunei Darussalam (Lim et al., 2022). Additionally, the findings of this study can provide valuable insights for other researchers in Brunei Darussalam on how to effectively integrate technology into teaching practices to enhance Arabic language learning outcomes.

VI. RESEARCH METHODOLOGY

The research project employed qualitative methods to gather comprehensive insights and perspectives from teachers, students, and parents on the current status of Arabic language teaching and learning in Brunei Darussalam's Arabic schools. The study utilized purposive sampling to include a diverse range of participants. Focus group discussion (FGDs) was conducted with representatives from all 7 different Arab schools in Brunei Darussalam. The data obtained from the focus group discussions were analyzed using systematic analysis techniques such as open coding, axial coding, and selective coding along with constant comparative method to explore similarities and differences in responses. Triangulation was then used for enhancing the validity and reliability of results by integrating multiple data gathering methods (Perez et al., 2024). Qualitative analysis revealed key themes related to challenges faced by students in accessing technology effectively, lack of engagement between students and teachers, as well as the need for more comprehensive integration of technology into the curriculum.

VII. FINDINGS

The results of the FGD sessions can be shown in the tables below. Table 1.1 summarizes the challenges teachers face when integrating technology into Arabic language teaching, such as resource limitations, underutilization of available technology, and the consequences these have on teaching efficiency and student engagement. It also reflects strategies that some teachers are using, like voice recordings and Padlet, to overcome these barriers and facilitate teaching various communication skills.

Table 1.1: Technology gap in learning Arabic from teachers' perspective

Open Coding	Axial Coding	Categories	Selective Coding
- Using power point to teach - Online platform for test and quizzes	Technology commonly used during teaching	Issue faced by teacher	
- No internet - Lack of appropriate equipment (technology) to teach - Only projector available - Need to use own equipment/devices during teaching - Language lab not fully utilized	Problems encountered during teaching	Issue faced by teacher	
- Lack of time to prepare teaching materials for class activities - Lack of engagement during learning if without the use of technology			
- Using teacher's voice recording - Students listen and answer the questions	**Teaching listening skills using technology**	**Technology approach to teach the four communication skills**	
- No specific technology utilizes - Uses traditional method; using books	**Teaching reading skills using technology**		
- No technology use - Usually implement class group activities.	**Teaching speaking skills using technology**		
- Used Padlet app to do discussion and quizzes	**Teaching writing skills using technology**		

Table 7.2 illustrates that while students show an affinity for technology-enhanced learning experiences, they encounter significant gaps due to limited resources and traditional learning methods. There is a clear preference among students for more interactive and technologically supported activities that align with their preferred learning styles, indicating that the need for more robust integration of technology in the Arabic language learning process.

Table 1.2: Technology gap in learning Arabic from students' perspective

Open Coding	Axial Coding	Categories	Selective Coding
- Answering quizzes using online platforms	Technology commonly used during learning		
- Only uses books to learn - Rarely use language labs - Lack of interaction during learning process when using traditional learning method - Teachers rarely conduct class activities, mostly learn using books. - Must share learning devices due to lack of equipment available	Problems encountered during learning	Issue faced by students	Technology gap in learning Arabic from students' perspective
- Enjoy learning Arabic during class activities with technology - Primary students preferred to use animation in learning materials - Enjoy game type of learning activities - Prefer to have activities during learning	Students' comment on teaching	Preferred learning style	

Table 1.3 indicates that parents perceive a technology gap in their children's Arabic education and face challenges in supporting learning at home, especially when the home environment does not support Arabic language practice. They suggest that having a dedicated online platform could bridge this gap by providing consistent, curriculum-aligned resources to support their children's Arabic language learning outside of school.

Table 1.3: Technology gap in learning Arabic from parents' perspective

Open Coding	Axial Coding	Categories	Selective Coding
- Learning dependent on current traditional materials: Books, internet (open source).	Arabic learning at home	Issue faced by parents	Technology gap in learning Arabic from parents' perspective
- Lack of practice as some parents / household does not speak Arabic. - Open-source learning materials may not be like curriculums in schools.	Problems encountered		
- The need to have a platform where their children can learn Arabic online.	Parent suggestion	Suggestion to improve Arabic language leraning at home	

VIII. Discussion

The results of the findings indicate a technology gap in Arabic language learning from the perspectives of teachers, students, and parents. This shows that there is a clear demand for the integration of modern, interactive technologies in the classroom and for at-home learning. This integration can potentially address issues as highlighted by both teachers and students. Therefore, this underscores the necessity for the development of technology-enhanced solutions that align with the needs and preferences of the students while overcoming current logistical challenges.

IX. Conclusion

In conclusion, this research aims to determine the existence of gaps in teaching and learning using technology in Arabic schools in Brunei Darussalam. The study highlights the challenges students and teachers face in accessing and effectively utilizing technology for teaching and learning Arabic language. These gaps may hinder students' language learning process, resulting in lack of fluency and proficiency in Arabic language. Therefore, there is a need to explore innovative technological solutions to enhance the Arabic language learning among the students in Brunei's Arabic schools.

X. Future Recommendation

The result of this study shows the need to explore innovative technological solutions to enhance the Arabic language learning, therefore future suggestion includes the necessity for the development of a collaborative technology model (CTM) that integrates various technological elements into a cohesive solution/platform. Such a model could enhance students' Arabic communication skills (speaking, writing, reading, and listening) across all proficiency levels (beginner, intermediate, and advanced) and language skills, ultimately enabling them to success in the digital age.

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