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**PERCEPTIONS OF SMART BOARD INTEGRATION IN EFL CLASSROOMS: A
TEACHING AND LEARNING PERSPECTIVE**

MASTER'S THESIS

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JURY APPROVAL

Upon the submission of the dissertation to the Institute of Graduate Studies of Tokat Gaziosmanpaşa University, Sayran Nadhim has defended the study entitled “**PERCEPTIONS OF SMART BOARD INTEGRATION IN EFL CLASSROOMS: A TEACHING AND LEARNING PERSPECTIVE**” in partial fulfillment of the requirements for the degree of Master of Arts in Teaching English as a Foreign Language, and the study has been found fully adequate, in scope and quality, as a thesis for the degree concerned by unanimous vote of the examining committee on 17.10.2024.

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ABSTRACT

PERCEPTIONS OF SMART BOARD INTEGRATION IN EFL CLASSROOMS: A TEACHING AND LEARNING PERSPECTIVE

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The study aims to investigate how educators and students in Duhok, Iraq, perceive the use of smart boards in EFL classes and how these tools affect student motivation, engagement, and learning outcomes. Although the advantages of technology in education are well acknowledged, little research has been done on how specifically smart boards affect EFL students in this area. The study combines qualitative interviews with quantitative survey data using a mixed-methods research methodology. Twenty instructors and one hundred Duhok British International School students participated in the quantitative component. Validated questionnaires were used to gather data on teaching methods, classroom environment, motivation, and the learning process. Although some students indicated indifferent or mixed views, statistical study, including descriptive statistics, revealed that students generally perceive smart boards as positive for improving their motivation and engagement. Teachers felt that additional training and technical support were necessary to maximize the usage of smart boards in the classroom. The qualitative findings further enhanced these insights by examining the more in-depth experiences and difficulties that teachers and students had while incorporating this technology into the classroom. By providing localized insights into teachers' and students' perceptions of the integration of smart boards in EFL education—highlighting both perceived benefits and challenges—this study adds to the body of literature by illuminating how educators and policymakers perceive the use of technology to improve language learning. According to the research, smart boards have the ability to boost student engagement and encourage creative teaching methods by establishing a more dynamic and engaging learning environment.

Keywords: Smart Boards, English As A Foreign Language (EFL), Cognition, Student Motivation, Classroom Technology Integration, Interactive Learning.

ÖZET

YABANCI DİL OLARAK İNGİLİZCE SINIFLARINA AKILLI TAHTA ENTEGRASYONUNUN ALGISI: ÖĞRETİM VE ÖĞRETİM PERSPEKTİFİ

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Araştırmanın amacı, öğrencilerin ve öğretmenlerin akıllı tahtaların İngilizcenin yabancı dil olarak öğretildiği (EFL) sınıflara entegrasyonu konusundaki algılarını incelemek, bu teknolojilerin motivasyon, katılım ve öğrenme deneyimlerini nasıl etkilediğine odaklanmaktır. Dünyada teknolojinin eğitimdeki faydaları genel olarak kabul edilse de, bu bölgedeki EFL öğrencileri üzerindeki akıllı tahtaların spesifik etkileri yeterince incelenmemiştir. Çalışma, nicel anket verileri ve nitel mülakatları bir araya getiren karma yöntemli bir araştırma tasarımı kullanmaktadır. Çalışmanın katılımcıları, Duhok İngiliz Uluslararası Okulu'ndan 100 öğrenci ve 20 öğretmeni den oluşmaktadır. Veriler, öğrenme süreci, motivasyon, sınıf atmosferi ve öğretim uygulamalarına odaklanan doğrulanmış anketler aracılığıyla toplanmıştır. Tanımlayıcı istatistikler gibi istatistiksel analizler, öğrencilerin genel olarak akıllı tahtaları katılımlarını ve motivasyonlarını artıran bir araç olarak algıladıklarını, ancak bazı öğrencilerin nötr veya karışık duygular ifade ettiklerini ortaya koymuştur. Öğretmenler ise akıllı tahtaların sınıfta en verimli şekilde kullanılabilmesi için daha fazla eğitim ve teknik desteğe ihtiyaç duyduklarını belirtmiştir. Nitel bulgular, bu teknolojinin sınıfa entegrasyonunda hem öğrencilerin hem de öğretmenlerin yaşadığı daha derin deneyimleri ve zorlukları keşfederek bu içgörülerini zenginleştirmiştir. Bu çalışma, hem öğrencilerin hem de öğretmenlerin EFL eğitiminde akıllı tahtaların entegrasyonu konusundaki algılarına dair yerel içgörüler sunarak mevcut literatüre katkıda bulunmakta ve algılanan faydalar ile zorlukları vurgulamakta, böylece eğitimcilere ve politika yapıcılara teknoloji kullanımının dil öğrenimini geliştirmedeki etkisi hakkında önemli bilgiler sunmaktadır. Bulgular, akıllı tahtaların daha etkileşimli ve katılımcı bir öğrenme ortamı yaratma potansiyeline sahip olduğunu, öğrencilerin katılımını artırarak yenilikçi öğretim uygulamalarını destekleyebileceğini göstermektedir.

Anahtar Kelimeler: Akıllı Tahtalar, Yabancı Dil Olarak İngilizce (EFL), Biliş, Öğrenci Motivasyonu, Sınıf Teknoloji Entegrasyonu, Etkileşimli Öğrenme.

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List of Abbreviations

AIS:	American International School
CTI:	Classroom Teacher Integration
EFL:	English Foreign Language
IWB:	Interactive White Boards
LMS:	Learning Management System
MALL:	Mobile Assisted Language Learning
SPSS:	Statistical Package for the Social Sciences
WTC:	Willingness to Communicate

CHAPTER I

INTRODUCTION

This chapter provides detailed background information relevant to the study. After identifying this study's purpose and central problem, the research questions and the significance of this study with assumptions are addressed. Finally, the potential limitations of this study are discussed. Attached are a list of definitions upon which several terms in this study are based.

Background of the Study

The integration of smart boards into educational settings has shown promising results in enhancing learning experiences (Somyürek et al., 2023). Globally, technology adoption in classrooms has been associated with positive educational outcomes, such as improved cognitive abilities and increased student motivation. In Duhok, Iraq, the implementation of smart boards began in private schools in 2018, spearheaded by the American International School (AIS). This institution was the first to incorporate smart boards into its classrooms to modernize teaching approaches. Following AIS's example, other private high schools in Duhok began integrating smart boards, making this technology prevalent across various subjects and educational levels. (Somyürek et al., 2023)

Smart boards, known for their interactive and dynamic capabilities, offer significant potential for boosting student engagement and developing critical cognitive skills. By interacting with visual and dynamic learning materials, students can enhance their critical thinking and problem-solving abilities. Research by Bayar et al. (2021) indicates that smart boards provide an immersive learning environment, presenting real-life problem scenarios that help students analyze, evaluate, and solve problems more effectively. Similarly, Bhat (2023) highlights that such technology fosters a hands-on learning experience, preparing students for challenges beyond the academic realm.

Furthermore, smart boards significantly increase students' motivation to learn, particularly in English as a Foreign Language (EFL) classes (López, 2023). The visual aids and interactive elements of smart boards cater to various learning preferences, making learning more enjoyable and engaging. This increased engagement can lead to higher motivation levels, as students feel

more empowered and involved in their learning process. Rukun et al. (2020) note that the dynamic nature of smart boards boosts students' interest and excitement, which can improve their overall learning outcomes and language proficiency. Ayasreh and Al-Jarrah (2020) also emphasize that smart boards play a crucial role in motivating students to actively engage with the curriculum, thereby enhancing their learning experiences.

Statement of the Problem

Integrating smart boards into English as a Foreign Language (EFL) classes in Duhok, Iraq, presents both advantages and challenges. While global technology adoption has led to positive outcomes, the specific effects on students' abilities and motivation in Duhok have not been extensively studied. There is a need to understand how smart boards influence students' motivation and engagement. Additionally, the current literature on the use of smart boards and their perceived influence on students' motivation to enhance their English language proficiency remains limited. Challenges such as restricted technical accessibility and insufficient teacher preparation further complicate the effective integration of smart boards into classrooms. (Lasut & Bawengan, 2020). In Duhok, the integration of smart boards into private schools started in 2018, aiming to update teaching methods and enhance the learning experience. The American International School (AIS) was the first to implement this technology, followed by other private high schools. Despite the widespread use of smart boards in Duhok's private schools, spanning from primary to high school levels, there is a lack of comprehensive research on their impact on students' cognitive abilities and motivation.

Research indicates that incorporating smart boards and other technological advancements into the educational system can significantly boost students' engagement and cognitive abilities. For instance, Bayar et al. (2021) argue that smart boards provide an interactive learning environment that enhances students' critical thinking and problem-solving skills. Bhat (2023) adds that this technology creates an immersive learning experience, actively improving students' cognitive skills and preparing them for real-world challenges.

Additionally, smart boards increase students' motivation to learn by making the learning process more enjoyable and engaging. Rukun et al. (2020) suggest that the visual aids and interactive elements of smart boards cater to different learning preferences, thereby boosting students' interest and excitement about learning. Ayasreh and Al-Jarrah (2020) also highlight the role of

smart boards in motivating students to engage actively with the curriculum, enhancing their learning outcomes and interest in academic and linguistic acquisition.

Significance of the Study

This study investigates the impact of smart boards on students' cognition and motivation in English as a Foreign Language (EFL) classes in Duhok, Iraq. By exploring how smart boards can enhance students' understanding, engagement, and overall learning experience, this study aims to fill the existing gap in the literature. The findings will provide valuable insights for educators and policymakers, helping improve the quality of EFL education in the region.

Akar (2020) argues that smart boards can provide visual and interactive learning experiences, helping students better comprehend and retain the English language. Furthermore, increased engagement and motivation from using smart boards could improve overall learning outcomes and student success (Çorakli, 2019). Implementing the findings of this research could ultimately contribute to the enhancement of EFL education in Duhok and potentially in other similar educational settings.

This study also has the potential to lead to the development of new teaching methods and strategies that utilize technology in innovative ways. Al-Haj (2020) notes that integrating technology into EFL classrooms can bridge the gap between traditional teaching methods and the digital age, preparing students for the technological demands of the modern world. By embracing technology, educators can create a more dynamic and effective learning environment, ultimately empowering students with the necessary skills for success in a globalized society.

In addition to enhancing language acquisition and improving student engagement, integrating technology in EFL classrooms can foster creativity and critical thinking skills. With access to various digital resources and tools, students can explore and experiment with language in previously unimaginable ways. For example, they can create multimedia presentations, collaborate on virtual projects, and engage in online discussions with peers from different cultural backgrounds. These activities not only deepen their understanding of the English language but also develop their ability to think critically, problem-solve, and communicate effectively in a digital world (Malkawi, 2017).

Statement of the Purpose

The purpose of this study is to explore the perceptions of both students and teachers regarding the use of smart boards in enhancing engagement and motivation in EFL classes in Duhok, Iraq. Specifically, this research aims to understand how smart boards are perceived to support students' motivation to learn English.

In this study, the use of smart boards in EFL classrooms is examined, and their apparent impact on the teaching and learning processes is investigated. An important component of this research is the importance of smart boards in the digital age, especially in terms of changing educational methods and experiences. The study focuses on the EFL environment in Duhok, where students approach language acquisition as non-native speakers. It seeks to pinpoint particular educational outcomes—like heightened participation and engagement, enhanced English language comprehension, and the development of interactive learning environments—linked to smart board usage.

The study will also investigate how prepared educators are to incorporate these technologies into their lesson plans, considering their attitudes, perceptions of the ease or difficulty of implementing smart boards, and the assistance or training required to use these resources efficiently.

Examining the perspectives of students is another essential aspect of this study. To comprehend the connection between technological integration and language learning experiences, it will investigate how smart board integration benefits students' language learning, motivation, and classroom involvement. In the particular context of Duhok, Iraq, the study aims to thoroughly understand how smart boards are perceived to improve language education. This will provide insightful information for educators, legislators, and technology developers interested in enhancing EFL instruction through modern technologies.

Research Questions

The following research questions guide the investigation into the impact of integrating smart boards in English as a Foreign Language (EFL) classes in Duhok, Iraq:

- 1) What are students' perceptions of smart board integration in EFL classrooms?
- 2) What are teachers' perceptions of smart board integration in EFL classrooms?

Limitations

The first limitation of this study is the small sample size of participants, which may not provide a comprehensive representation of the broader student population. The study focused exclusively on EFL classes in Duhok, Iraq, limiting the generalizability of the findings to other contexts.

Additionally, this study focused only on the immediate perceptions of smart board use on students' motivation, without considering potential long-term impacts. The study also did not examine the specific teaching strategies employed by teachers when using smart boards, which may have shaped the outcomes.

Moreover, the study focused solely on primary school students, limiting the understanding of how smart board integration may affect different age groups. Factors such as students' prior knowledge and proficiency in English, which may have influenced their responses to smart board technology, were not considered.

Definition of the Key Terms

Classroom Technology Integration:

The term "CTI" stands for "Classroom Technology Integration." Classroom Technology Integration refers to incorporating various forms of technology into classroom instruction and learning activities to enhance students' educational experiences and improve learning outcomes.

This can include using devices such as computers, tablets, interactive whiteboards, educational software, and online resources and digital tools (Brawner & Allen, 2006).

Interactive learning:

Interactive learning refers to a teaching and learning approach that actively engages students in the learning process through hands-on activities, collaborative tasks, and interactive technologies (Hwang, 2014). This approach encourages students to participate actively, ask questions, solve problems, and explore concepts. Interactive learning strategies are a key component of successful CTI implementation.

Smart boards:

Smart boards, also known as interactive whiteboards, are technological devices that combine a projector and a touch-sensitive display. They are used in classrooms to display digital content and allow users to interact with the projected image using a touch or a stylus (Malkawi, 2017). Some smart boards also have features like handwriting recognition, multimedia integration, and internet connectivity. Multimedia presentations, collaborate on virtual projects and engage in online discussions with peers from different cultural backgrounds. These activities deepen their understanding of the English language and develop their ability to think critically, problem-solve, and communicate effectively in a digital world (Malkawi, 2017).

Classroom Atmosphere:

It refers to the overall environment and emotional climate within a classroom, which plays a significant role in shaping students' learning experiences and outcomes. This concept includes various elements, particularly the emotional climate, which reflects the feelings and attitudes that exist in the classroom, such as a sense of safety, support, and mutual respect among students as well as between students and teachers (Warren, 2020).

CHAPTER II

LITERATURE REVIEW

This section briefly overviews smart boards and their specific benefits and types. After that, they are working on studies on using smart boards in a larger context to offer various data and findings from different settings. Finally, the challenges of EFL learners using smart boards have been investigated.

Using Technology in Language Classes

Technology integration into English as a Foreign Language (EFL) classes has significantly transformed the language education landscape. Drawing from various scholarly contributions, it is clear that technology's role in EFL classrooms is multifaceted, offering both challenges and opportunities for educators and learners alike. Historically, EFL teaching relied on limited tools like cassette tapes and overhead projectors, as noted by Pazilah et al. (2019). This scenario has drastically changed, with Kalugina and Tarasevich (2018) observing that teachers can now leverage many technological solutions, including interactive whiteboards, sophisticated computer software, and comprehensive online learning platforms.

A case in point is the use of interactive whiteboards, which have been instrumental in creating a more dynamic classroom environment. These devices support multimedia learning, enabling teachers to integrate videos, audio, and interactive exercises that cater to different learning preferences, making language learning more accessible and engaging for students. For example, a study explored how interactive whiteboards could facilitate real-time feedback and interactive exercises in EFL classes, illustrating technology's potential to enrich the learning experience significantly (Coyle, Yañez & Verdú2023).

Moreover, the advent of mobile devices and applications has opened new avenues for language learning outside the traditional classroom. Shaji and Nagaraj (2020) discuss the benefits of mobile-assisted language learning (MALL), where apps designed for language practice can offer personalized learning experiences to students, allowing them to progress at their own pace and according to their personal needs. This individualized approach to language

learning—highlighted by Gilakjani (2017)—underscores technology's ability to tailor education to the learner's preferences and requirements, potentially enhancing language acquisition's efficacy.

However, as Selpia and Purnawarman (2021) have pointed out, it is crucial to recognize that technology itself is not a panacea for all the challenges in EFL education. Effective language teaching requires a blend of technology with clear objectives, a robust understanding of the curriculum, and suitable pedagogical strategies. Furthermore, as Luthfiyyah et al. (2021) emphasize, teacher preparedness in integrating technology into their pedagogy is essential. Professional development and continuous training ensure teachers can effectively utilize technological tools to enrich the EFL learning experience.

In conclusion, technology's impact on EFL classes is profound, offering new pedagogical possibilities that can significantly enhance language learning. However, the successful integration of technological tools in EFL teaching hinges on balanced approaches that combine technology with effective teaching practices and adequate teacher training. Through thoughtful integration of technology, EFL classes can become more engaging, interactive, and tailored to meet the diverse needs of learners, thereby fostering a more dynamic and supportive language learning environment.

Smartboards

The Smartboard, a pivotal tool in educational technology, was conceptualized by David Matin and Nancy Knowlton, pioneers in educational tools, in 1987. Their innovative design, targeting the US and Canadian markets, required extensive marketing to highlight its potential benefits in the educational sector, sparking interest through workshops and lectures on its utility (Ji et al., 2021). By 1998, advancements enabled Smartboard compatibility with computers and notebooks, enhancing its functionality and appeal (Li et al., 2018). The product was officially launched in 1999, with significant upgrades such as voice recognition and recording introduced in 2001, leading to its market release in 2003, concurrent with a key partnership with Intel. This collaboration was instrumental in developing more sophisticated features (Gehring et al., 2017; Krishna et al., 2021). Further innovation led to the 2005 release of a wireless Smartboard, facilitating screen interaction, file management, and diverse application usage (Ji et al., 2021), marking a significant evolution in interactive educational technology.

Benefits of Using Smart Boards in EFL Classes

The Smartboard stands out as a transformative tool in education, primarily due to its capacity to significantly enrich the teaching and learning experience.

Firstly enhancement of teaching efficiency and student learning outcomes according to Khalifé et al. (2022), the Smart Board has revolutionized education by offering an interactive and engaging learning experience. This innovation has significantly contributed to a more efficient teacher-teaching process, thus improving student learning outcomes. Zincume and Marimuthu (2022) further underscore the Smartboard's pivotal role in elevating students' confidence, encouraging the integration of contemporary technologies into the learning process. This factor is crucial for adapting to the evolving educational landscape and preparing students for a technology-driven world.

Secondly facilitation of remote learning and addressing teacher shortages, according to Karakuş (2022) highlights how the Smartboard has facilitated remote learning by connecting to the Internet, thus allowing students to benefit from lectures delivered by exceptional educators. This technology addresses the critical issue of teacher shortages by enabling remote teaching and learning, offering a substantial opportunity for students to receive quality education regardless of geographical constraints.

Thirdly improvement in classroom engagement and interactive learning, according to Kolobe (2021) emphasizes that the Smartboard significantly enhances classroom engagement with its interactive and dynamic interface. This technology makes learning more accessible and enjoyable for students, promoting better retention of information and fostering a livelier and interactive classroom atmosphere.

The Smartboard, therefore, plays an integral role in modern education through its ability to improve teaching efficiency, facilitate remote learning, and enhance classroom engagement. These benefits prepare students for future challenges and equip them with the necessary skills and knowledge in a technology-centric world. The Smartboard has been recognized as a revolutionary tool in education, fundamentally reshaping the dynamics of teaching and learning. Recent studies have highlighted its significant benefits, such as improving teaching efficiency and student learning outcomes (Khalifé et al., 2022), enabling remote learning to alleviate

teacher shortages (Karakuş, 2022), and enhancing classroom engagement through interactive learning (Kolobe, 2021). These contributions are substantial, streamlining the educational process by systematizing and enhancing lesson preparation and addressing the educational access gap through remote learning capabilities. Additionally, the Smartboard has played a pivotal role in creating a more engaged and interactive classroom environment, elevating the quality of education and creating a more stimulating and enjoyable learning experience for students. This multifaceted impact underscores the essential role of the Smartboard in preparing students for a technology-driven world and improving the overall teaching and learning experience in modern education.

Components of Smart Boards and Types

A smart board comprises an interactive white screen, standard digital pens, a built-in digital eraser, and operational controls. Additionally, it encompasses software elements such as the Note Book application, which is utilized for generating interactive instructional materials, and the Recorder application, which captures teacher actions on the screen (Cruz et al., 2023). The Videos Player application is designed to playback video files stored on a computer, specifically those created using a Smartboard or downloaded from the Internet. The Note Book application is a prominent element resembling Microsoft PowerPoint, whereas the Recorder application captures all screen activities, including audio. The software additionally enables incorporating scripts and images into the video files (Dweik et al., 2022). Multiple variants of Smart boards are accessible, all of which necessitate a computer connection for functionality (Simonova et al., 2021). The initial category, the Add-On-System Smartboard, incorporates a luminescent element attached to a traditional board to facilitate interactivity. A projector subsequently projects the computer screen image onto the board. This particular board is renowned for its high level of portability (Alfaruq & Adiono, 2022). The second variant, the Front Projection System Smartboard, is an interactive whiteboard that operates independently without needing any supplementary system. It depends on an independent data projector that can be placed in different positions based on the manufacturer's specifications. Certain companies showcase the projector on a white screen, whereas others provide a small, separable device. The Rear Projection System Smartboard is akin to the front projection type, but it distinguishes itself by integrating the projector unit internally instead of as a distinct component.

Related Studies

Many scholars investigate smartboards in general, and some of them investigate smart boards that influence the learning process. Adrini and Wahyunna's (2023) study examines the usage of Interactive whiteboards (IWBs) in EFL instruction. Interactive whiteboards (IWBs) are connected to electronic devices. They let teachers write, edit, delete, move, and modify digital content with fingers and show graphics, animations, and films on touchscreen panels. This touch-sensitive board lets teachers and students interact directly with programs without a computer presenting the image. This connection helps students to participate and engage in learning. Interactive White Boards (IWBs) have been lauded for improving teaching and learning. These boards have pen tools, video/audio players, touch displays, recorders, and on-screen keyboards. In higher education, language learning, and EFL, teachers' technical skills and professional knowledge of teaching goals make them effective. Since they reduce distractions and grab attention, IWBs can boost student motivation. They can boost students' motivation to study and satisfaction. Technical issues and teacher unpreparedness make IWB use difficult. According to the study, teachers and students like using IWBs for EFL. Language teachers and students can improve their learning with IWBs. IWBs can encourage authentic materials and Internet-based content and information in EFL classrooms, helping students engage with learning and find learning things. This article examines how interactive whiteboards teach English as a foreign language.

Herawati, Sundari, and Suciati's (2023) study investigates the utilization of interactive smartboards in primary school classes, the difficulties educators encounter in instructing English using these tools, and the tactics they employ to surmount these difficulties. The research employed a qualitative descriptive approach, encompassing the participation of four English teachers, learners, and the elementary school principal. Observations, questionnaires, interviews, and surveys acquired data. The study comprised ten observations conducted with four teachers, and the researcher categorized them based on their teaching expertise. The results indicated that 90% of teachers utilized Interactive Whiteboards (IWB) to display content from their English course book, while 70% employed it for delivering instructions, and 60% employed it for monitoring attendance through the utilization of Edunav, the school's Learning Management System (LMS). Additionally, 70% of teachers used flipcharts to conduct games, deliver presentations, and facilitate conversations. Teachers used the Interactive Whiteboard

(IWB) to access the Class Dojo website, with a usage rate of 70% for flipcharts and 60% for PowerPoint presentations. Students engaged in interactive activities via Interactive Whiteboards (IWB), while 30% utilized YouTube to access tunes or timings. 20% of desktop annotating was utilized for presentation or debate. Most teachers employed Interactive Whiteboards (IWB) to access educational software, open the Class Dojo platform, display content from IWB flipcharts, and utilize PowerPoint for instructional activities. Interactive whiteboards (IWBs) were additionally utilized to verify attendance and engage in recreational activities. The primary effects of Interactive Whiteboards (IWBs) encompassed heightened utilization of the Internet, software, and visual aids during instructional sessions. The survey revealed that teachers utilized interactive whiteboards to utilize educational software, including offerings from book publishers, Class Dojo, Edunav, and YouTube. Additionally, the whiteboards were employed as projectors to display slides or presentations created by teachers, such as those generated with PowerPoint, Ms. Word, and flipcharts. The primary effects of the courses were a heightened utilization of the Internet, software, and visual resources within the instructional framework. Moreover, the survey discovered that both professors and students held a favorable perception of using interactive whiteboards in the classroom. Teachers have favorable views regarding the creation of lessons utilizing interactive whiteboards, internet resources, and technical assistance. The negative responses were associated with issues about time management, teamwork, and opportunities for professional growth. To summarize, the study emphasizes the favorable encounters and perspectives of educators and students while utilizing interactive whiteboards in primary school settings, along with teachers' difficulties in incorporating these tools.

Stroka and Koni's (2022) study investigated the Interactive whiteboards (IWBs) in EFL classes to determine their effects on students' perceptions, beliefs, and attitudes. The research uses open-ended questions to let students openly express their thoughts on using IWBs in English lessons and their daily lives. The study also evaluates students' views on IWBs in EFL classes, focusing on their simplicity of use, usefulness, and technology attitudes. Across grades 3-12, 145 students—81 girls and 64 males—provided data. Students from high school and middle school dominated the survey. The majority of participants find IWB-based English sessions fun and focused. According to the study, 66% of respondents said IWBs improved their English language skills. The survey also shows student preferences and concerns about IWBs in EFL sessions. Participants liked that IWBs eliminate chalk, have decent sound, offer online

games and revision materials, and enable teacher-student contact. However, students complained about the lack of power, unstable Internet, teacher resources and training, and the need for more e-books and IWB time. The study illuminates how IWBs affect EFL instruction and students' attitudes and views. It emphasizes the necessity of considering students' choices and concerns when integrating technology like IWBs into EFL lessons and has consequences for educators and policymakers.

Obaid's (2022) study investigates the effectiveness of using smart boards in teaching English as a foreign language. The purpose of this study was to explore the usefulness of employing smart boards as a tool for advancement in English language learning, as well as the impact of this tool on the perspectives and participation of individual students. Within the governorate of Baghdad, twenty English as a Foreign Language (EFL) students of varying ages, levels, and genders participated in the research. An evaluation of the student's general satisfaction with smart boards and the level of order and organization, clarity, and interest was carried out by administering a questionnaire titled "Students' Attitudes to Meaningful Learning in a Smart Environment." The findings demonstrated that using smart boards improved the order and organization, clarity, and interest of elementary school students and increased overall satisfaction among primary school students. The research sheds light on educators' shifting responsibilities in the modern technology era and emphasizes the significance of enabling students to become self-directed learners. In all of the areas explored in the study, the findings may assist in bringing about the change that leads to higher improvement.

Hussein, Ahmed, Shawkat, and Kamil (2022) study at the College of Education of the University of Samarra was to ascertain the benefits and obstacles associated with integrating smart board technology into the teaching process. The study included a purposive sample of 40 staff teachers at the College of Education of the University of Samarra. This sample comprised 20 staff teachers from the History and Arabic Language departments representing humanities and 20 staff teachers from the departments of Biology and Chemistry representing scientific disciplines. The study employed a descriptive methodology and administered a questionnaire consisting of Likert scale items to collect data from the staff teachers. The study unveiled numerous benefits associated with using smart boards, such as time and effort conservation, heightened educational attainment, acquisition of novel competencies by teachers and students, and improvement in the overall quality of the educational process. Nevertheless, the study also

revealed impediments to the utilization of smart boards, including exorbitant costs, expensive maintenance fees, insufficient financial backing, and the requirement for specialized training for faculty members. The report proposed implementing training programs for faculty members, ensuring the availability of essential resources, outfitting classrooms and computer laboratories with interactive whiteboards, and consistently offering assistance for computer laboratories with internet connectivity. The results of this study can be utilized to enhance the utilization of smart board technology in educational establishments by tackling the identified obstacles and executing the suggested remedies.

Fawaz (2022) explores the impact of using smart board technology on primary-stage students' motivation to learn English. The research employed a quasi-experimental design involving 80 female students in the primary stage, with 40 students in the control group and 40 in the experimental group. Pre-tests and post-tests were administered to measure the students' English proficiency before and after the program. The results indicated that the experimental group, which received instruction using the Smartboard, demonstrated a significant improvement in their English proficiency compared to the control group. Specifically, the post-test scores of the experimental group were notably higher than those of the control group, suggesting that the use of Smartboard technology positively influenced the students' ability to understand and recognize English. Additionally, the study found that the Smartboard had a powerful effect on the student's comprehension, recognition, and retention of English. Furthermore, the study highlighted the practical implications for English language teachers, emphasizing the importance of effectively implementing Smartboard technology in classrooms to deliver engaging and beneficial lessons. The findings underscored the need for English language teachers to be trained in utilizing instructional technologies such as the Smartboard to enhance the teaching and learning of English. Overall, the study contributes valuable insights into the potential of technology, specifically the Smartboard, to improve students' motivation and proficiency in learning English at the primary stage. The research findings offer practical implications for educators seeking to integrate instructional technologies into their language teaching practices, ultimately benefiting students' language learning experiences.

Mohammed's (2021) study examined the efficacy of smart board activities in enhancing the acquisition of English as a Foreign Language (EFL) grammatical skills and fostering motivation among primary school students in international educational institutions. The study consisted of

28 sixth-grade students who were separated into experimental and control groups. The study employed a quasi-experimental approach and utilized a grammar test and a motivation scale to evaluate the influence of smart board activities on the students. The findings demonstrated that implementing smart board activities, including quiz-based evaluation, game-based exercises, and multimedia content such as films, songs, and photographs, enhanced grammar skills acquisition and increased motivation within the experimental group compared to the control group. The study proposed incorporating smart board technology in schools to enhance instruction and offer captivating educational experiences for students in various academic disciplines. Furthermore, it underscored the need for teacher readiness and instruction to utilize smart boards proficiently in the educational setting. The study's findings have significant ramifications for educators, indicating that incorporating smart board activities can improve the learning experiences and motivation of primary school students studying English as a foreign language in international settings.

Rinekso and Lesagia's (2020) study examines the perspectives of EFL (English as a Foreign Language) educators on integrating smartboards in language instruction. The study utilized a qualitative methodology and included three English as a Foreign Language (EFL) instructors from distinct English learning institutes in Indonesia. The data collection methods encompassed classroom observations and semi-structured interviews featuring open-ended inquiries. The results suggest that most EFL instructors exhibited favorable attitudes toward using smartboards in language instruction. The individuals conveyed enthusiasm and keenness to utilize this technology but with some early perplexity attributed to the absence of training. Nevertheless, following the completion of their instruction, teachers acquired proficiency in using the smartboards and discovered their efficacy as pedagogical instruments. The study also emphasized the significance of not exclusively depending on technology but integrating tangible and engaging activities to include students effectively. The study implies that incorporating smartboards into language education can improve the teaching and learning process by offering creative and efficient learning resources in schools. Nevertheless, it is worth mentioning that using smartboards necessitates vigilant oversight owing to the accompanying expenses and possible technological complications. Overall, the study offers useful insights into the attitudes and experiences of EFL teachers about incorporating smartboards in language teaching techniques.

Amer (2020) study intended to examine the impact of interactive boards on secondary school learners' academic performance in Egypt. The research comprised 40 male students from two sections of the first secondary grade in a private secondary school in Cairo, Egypt. The students were categorized into control and experimental groups, where the experimental group received instruction via interactive boards while the control group did not. The study encompassed a series of four lessons, each spanning four sessions. The classes delved into several subjects, including operating systems, the Internet, project code composition, audio and video file generation and manipulation. The study included a pre-test and a post-test to assess the student's performance in the computer skills course. The purpose of the pre-test was to establish comparable levels of computer literacy in both groups, while the post-test was to investigate the impact of the teaching methodologies on the student's academic performance. The tests underwent validation by faculty members in the field of computer science and were determined to be reliable based on the results of the Cronbach alpha coefficient. The data analysis was performed using SPSS software, encompassing descriptive statistical techniques and the independent t-test. The results revealed a notable disparity in favor of the experimental group, indicating that interactive boards enhanced the student's academic performance in the specific course. The study found that both groups had comparable levels of computer literacy. It suggested training courses be offered to schoolteachers in Egypt to enhance their proficiency in interactive boards. Additionally, it recommended ensuring that all classrooms are equipped with interactive boards and incorporating their use in teacher professional development programs. The study also proposed additional investigation into the effects of interactive boards in science classes, school students' attitudes towards using interactive boards, and the difficulties connected with implementing interactive boards in Egyptian public schools.

Issa's (2020) study involved 60 sixth-grade students and 10 English teachers from Qurtoba International School in Jordan. The investigation aimed to examine the viewpoints of instructors and students in the sixth grade regarding using Smartboards in teaching and learning English as a foreign language. The research technique employed both quantitative and qualitative methods. The methodologies employed encompassed utilizing an online questionnaire administered to students and implementing structured interviews conducted with English supervisors and teachers. The result indicates that both students and teachers have voiced positive thoughts

toward using Smartboards, indicating that the findings reflect highly positive attitudes toward using Smartboards.

Tsayang, Batane, and Majuta's (2020) study assessed the impact of employing Smartboards in secondary schools in Botswana, with a specific emphasis on students' viewpoints regarding their level of involvement, interaction, drive, and academic performance. The project entailed instructing teachers using Smartboards, who imparted this knowledge to their students. The assessment was conducted to evaluate the investment made in educational technology in Botswana. The study incorporated ethical issues, including obtaining clearance from the Ministry of Education and informed consent from the participants. The study encompassed a cohort of 450 students, and the findings revealed diverse degrees of availability and regularity of utilization of Smartboard technology among the participants. The study employed a mixed-method approach, integrating qualitative and quantitative methodologies for data acquisition. Information was collected via classroom observations, questionnaires, and interviews. Quantitative data analysis was conducted using the Statistical Package for Social Sciences (SPSS), while common themes were identified by coding qualitative data obtained from open-ended questionnaires. The findings demonstrated that students viewed using Smartboards as a favorable influence on their learning, including enhanced engagement, interaction, motivation, and academic accomplishments. The study also emphasized the capacity of Smartboards to target various areas of learning, as delineated by Bloom's taxonomy, and to foster advanced cognitive abilities among students. The results underscored the significance of considering students' viewpoints when evaluating the influence of educational technology. The study emphasized the necessity of accurate statistical measurements to substantiate students' self-reported convictions on the beneficial impact of technology on their academic accomplishments. In summary, the study yielded valuable insights into the potential advantages of incorporating Smartboard technology into secondary schools in Botswana. It highlighted the positive influence on students' learning experiences and achievements.

Madahvi's (2019) study examines the efficacy of Smartboard technology in secondary English lessons at a private Chinese school. The study utilized a mixed-methods approach, including a survey questionnaire for students and interviews with teachers to collect data. The poll was done during an English class and included the participation of 62 students from Junior 2 and Senior 2. The poll comprised 35 questions about experience, interest, opinion, and

comprehension of using Smartboards. In addition, a cohort of educators willingly participated in interviews to offer their insights on using Smartboards. The results were computed and examined using descriptive statistics involving frequency tables, bar charts, and histograms. The findings revealed that students and teachers had favorable attitudes towards the Smartboard as an instructional instrument, emphasizing its capacity to augment the educational experience. The study determined that the Smartboard is a valuable pedagogical instrument that empowers educators to plan and implement instructional sessions proficiently. The text highlighted the potential advantages of Smartboard technology in language acquisition while admitting confident educators' hesitation in exploiting this resource fully. In summary, the study yielded valuable insights into the perspectives of students and teachers regarding the utilization of Smartboard technology in English language classes, elucidating its potential influence on the learning process.

Bıçak (2018) study was to determine teachers' opinions regarding the usability of smart boards in the classroom and their interest in incorporating them into the teaching process. The study followed a case study approach and involved ten middle school teachers from public schools in a northern province of Turkey. The data was collected through semi-structured interviews and analyzed using descriptive and content analysis techniques. The results showed that teachers had a favorable view of smart board practices but felt that they needed more training in using smart boards and more practice-oriented support courses. The study recommended increasing smart board seminars, and teachers should receive support courses to deepen their technological infrastructure. It also highlighted the importance of providing practical opportunities to teachers and designing in-service courses for those without technology-supported teaching courses in undergraduate education. The study emphasized the need for ongoing support and training for teachers to effectively integrate smart board technology into their teaching. It also underlined the importance of addressing the needs and concerns of teachers regarding the use of smart boards in the classroom.

Eksi and Yesilyurt (2018) investigate both students and teachers. The researchers investigated the opinions of various people about the FATİH project. This project is aimed at providing intelligent classrooms to teach English. The study participants were teachers, students, parents, and policymakers. The study found that the policymakers and officials who initiated the FATİH project are in favor of it and wish to continue with the project. However, the

people who use it, such as students, teachers, and parents, have a different perspective. They believe the project helps improve English learning among teachers and students, but there are significant challenges in using tablets in class. Some schools have even stopped using the tablets due to these issues. According to the study, the government needs to address the issues with the project if it wants to continue. Before providing more tablets to students, they must ensure that people like them. The study is crucial since it highlights people's opinions about the FATIH project. It has positive and negative aspects. The study also emphasizes the need to be cautious when using technology in education, particularly for language learning. Examining the advantages and disadvantages of technology in education is essential.

Pazhakh and Baghaei Nanekaran's (2017) study investigated how Smartboard technology affects the motivation levels and willingness to communicate (WTC) of Iranian EFL (English as a Foreign Language) students. The study involved 65 female high school students in the second grade who were divided into experimental and control groups. The tools used in the study included the Oxford Quick Placement Test, an achievement motivation questionnaire, and a WTC questionnaire. The data was analyzed using descriptive statistics, inferential statistics, and Multivariate Analysis of Covariance (MANCOVA). The results showed that the group using Smartboard technology demonstrated significantly higher achievement motivation and willingness to communicate (WTC) than the control group. The study concluded that effective methods of utilizing Smartboard technology can be recommended for integration into the curriculum through meticulous content modification and deliberate technology training. The study highlights the positive impact of Smartboard technology on the motivation and willingness to communicate with English as a Foreign Language (EFL) learners, suggesting potential benefits for both language learning and instruction.

Davidovitch and Yavich's (2017) study was conducted to evaluate how intelligent boards affected elementary school students' cognitive abilities and motivation. The study involved 130 students from two elementary schools in Jerusalem, specifically from the fifth and sixth grades. The results indicate that using smart boards significantly improved teaching effectiveness, specifically regarding clarity. The research also shows a positive correlation between organization quality, clarity, interest, overall satisfaction, and students' academic experience. However, the research acknowledged several limitations, including the almost identical student population and the questionnaire layout. The researchers recommended further research

involving high school students to assess the cost-effectiveness and benefits of implementing intelligent boards and to compare and analyze different board-based study methods. The comprehensive findings of the study provided valuable insights into the impact of smart boards on students' educational experiences. They identified potential areas for further research and improvement in the education system. A study was conducted to evaluate the effect of intelligent boards on the cognitive aptitude and motivation of elementary school students. The study involved 130 fifth and sixth-grade students from two elementary schools in Jerusalem. The study's results indicate that using smart boards resulted in significant improvements in teaching effectiveness, particularly in clarity. The research also revealed a positive correlation between the level of order and organization, clarity, interest, and overall satisfaction students derive from their academic experience. However, the study acknowledged several limitations, including the fact that the student population and the questionnaire layout were almost identical. The researchers recommended conducting further research involving high school students to assess the cost-effectiveness and benefits of implementing intelligent boards and comparing and analyzing different board-based study methods. The comprehensive findings of the study provided valuable insights into the impact of smart boards on students' educational experiences. They identified potential areas for further research and improvement in the education system.

Momani, Alshaikhi, and Al-Inizi's (2016) study examines the difficulties faced by English as a Foreign Language (EFL) teachers in Saudi Arabia who utilize Smartboard technology to instruct English at secondary schools in Tabuk. The questionnaire comprised three sections: impediments to utilizing the Smartboard, proposed remedies for these impediments, and the favorable and unfavorable elements of employing the Smartboard. The study employed a survey consisting of 30 items, organized on a five-point Likert scale, to gather data from 30 Saudi EFL teachers. The study's findings indicated that the main obstacles to successfully utilizing Smartboard technology were the teachers' inadequate competence in operating the technology and the occurrence of technical malfunctions. In order to tackle these difficulties, the study suggests offering targeted instruction to English as a Foreign Language (EFL) educators on efficiently utilizing Smartboards, as well as transforming the curriculum into software programs that may seamlessly connect with Smartboard technology. Moreover, the research discovered that using Smartboard technology in English as a Foreign Language (EFL) teaching has numerous benefits, including enhancing reading and comprehension skills, training grammar

and writing, and improving student's language competency. The study emphasizes that educators, evaluators, curriculum creators, and policymakers need to tackle the identified difficulties and encourage the effective utilization of Smartboard technology in English language instruction. Ultimately, this study offers significant perspectives on the difficulties encountered while employing Smartboard technology for English as a Foreign Language (EFL) teaching in Saudi Arabia. It provides pragmatic suggestions for enhancing the utilization of this technology.

Almajali, Al Abdallat, and Shamayleh's (2016) study aimed to examine the effectiveness of Smartboard technology in improving the academic performance of eighth-grade public school students in Jordan, specifically in social studies. Additionally, the study sought to determine if gender impacted student achievement. The study used a pre-test and post-test design with two groups: an experimental group that received computer-assisted teaching for eight weeks and a control group that did not. Descriptive statistical analyses and two-way analysis of variance were used to compare the two groups and investigate gender differences. The study's findings indicated a significant difference in post-test scores between the experimental and control groups. The experimental group performed significantly better than the control group, suggesting that computer-assisted programs enhanced learners' academic performance more effectively. Furthermore, there was no significant difference in success based on gender or the interaction between gender and group. The study's conclusion recommends extending the duration of the trial to allow learners to become more familiar with computer-assisted programs.

In Fallah's (2016) study the perspectives of both teachers and students were explored on the utilization of intelligent boards in English as a Foreign Language (EFL) instruction. The study revealed an overwhelmingly positive outlook from educational professionals and students on the use of intelligent boards in EFL instruction. As noted in the study, intelligent boards are efficient tools that provide appealing and authentic content for language acquisition. The study stresses the importance of the attitudes of teachers and students towards incorporating smart board technology into language training to maximize its effectiveness. Based on the study's findings, it is recommended that training workshops for educators be held to ensure the efficient and proper utilization of intelligent boards in the classroom.

Shams, V. and Shahnazari's (2016) study aimed to explore the impact of Smartboard integration in Iranian EFL classrooms on students' motivation, participation, collaboration, and retention in learning English. Prior to the survey, a reliability and validity test was conducted on the questionnaire, which 60 students completed. The survey comprised 20 items on a Likert scale and was divided into four main categories: the influence of Smartboard uses on student motivation, participation, collaboration, and retention. The research findings revealed that using Smartboards positively affected student motivation, with the experimental group exhibiting a higher level of motivation than the control group. Furthermore, technology implementation, such as Smartboards, led to stronger relationships and improved student comprehension. The survey had a response rate of 90%, and the qualitative analysis involved a comprehensive review and categorization of transcribed interviews to identify prevailing themes. Overall, the study provided valuable insights into the attitudes of Iranian students toward Smartboard use in EFL classrooms. It highlighted the favorable impact of Smartboard utilization on student motivation and knowledge retention.

Challenges of Using Smart Boards in EFL Classroom

Integrating smart boards into English as a Foreign Language (EFL) instruction presents challenges educators and institutions must navigate to ensure effective learning outcomes. One of the primary concerns arises from the necessity for educators and learners to acquire technological competence. According to Wang et al. (2023), this involves acquainting themselves with smart board technology and becoming proficient in its use for language learning purposes, which can be a steep learning curve for some. Additionally, the potential for technical complications or malfunctions during lessons presents a significant challenge, as Fathi et al. (2023) highlighted. Such issues can disrupt the smooth progression of lessons and impede student engagement, undermining the educational process.

Additionally, the limited availability of smart boards in certain schools or regions, as noted by Anggarini et al. (2022), restricts consistent access to this technology across all EFL classes, potentially leading to unequal learning opportunities. Another challenge is the requirement for adapting teaching materials to be compatible with smart board technology, necessitating additional effort and planning from educators to ensure that the curriculum effectively leverages

the technology's capabilities. Moreover, comprehensive teacher training becomes crucial, as educators must familiarize themselves with the technology and integrate it effectively into their teaching practices. Altay and Saracaloğlu (2022) emphasize that the effectiveness of smart boards in enhancing EFL learning dramatically depends on the teacher's proficiency and creativity in using these tools. This involves conducting thorough research, planning detailed lessons, and possibly overcoming personal unfamiliarity with the technology, which may require educators' extra time and effort.

In summary, the challenges associated with incorporating smart boards into EFL instruction include technological proficiency, potential technical issues, limited availability of resources, the need for material adaptation and extensive teacher training, and the reliance on teachers' ability to creatively and effectively use smart boards in their lessons. Addressing these challenges requires a multidimensional approach involving educators, students, institutions and technology providers to ensure that integrating smart boards into EFL classes is as smooth and beneficial as possible. The challenges associated with incorporating smart boards in EFL classes encompass the necessity for technological competence, possible technical complications, restricted smart board availability, the potential for classroom disruption or disengagement, the requirement for material modification and teacher training, and the need for teachers to actively optimize the utilization of smart boards in their lessons (Jeong, 2022).

Research shows that smart boards significantly boost student motivation and cognitive abilities. However, there's a lack of studies focused on English as a Foreign Language (EFL) classes in Duhok, Iraq. While researchers like Obaid (2022) and Tsayang et al. (2020) highlight the benefits of smart boards in general education, they don't address the specific cultural, linguistic, and technological challenges EFL students in Duhok face. Furthermore, existing studies do not deeply explore the views of both teachers and students on using smart boards in EFL settings, particularly their effects on classroom atmosphere and teacher-student interactions. This study aims to bridge this gap by providing empirical evidence on the benefits and challenges of using smart boards in EFL classrooms in Duhok. By doing so, it contributes to a deeper understanding of effective technology integration in similar language learning environments.

The study reveals mixed perceptions among students and teachers regarding smart boards' efficacy and usability. Some students found them engaging and useful for interactive lessons, while others saw little improvement over traditional methods. Teacher feedback highlighted the need for more training and technical support to maximize the potential of smart boards, emphasizing the necessity for targeted research to address these specific contextual factors.



CHAPTER III

METHODOLOGY

This chapter is an in-depth discussion of the methods that were used in the study. It is divided into five sections, each providing comprehensive information on different aspects of the research. The first section explains the research design, which outlines the framework used to conduct the study. This section provides a detailed explanation of the research design, such as its purpose, the research questions, and the hypotheses. The second section focuses on the research population and sampling. It explains how the researchers chose the participants, the criteria used to select them, and how they ensured that the sample was representative of the population being studied. The third section discusses the instruments used in the study. This section describes the tools and methods used to collect data, such as surveys, interviews, or observations. The section also outlines how the researchers validated the instruments to ensure they produced accurate and reliable results. The fourth section deals with the data collection process. It explains the procedures for collecting data, such as the logistics of scheduling interviews and administering surveys, and how data privacy was protected. The final section covers data analysis, which details how the collected data was analyzed and the techniques and software used in the analysis. This section also explains how the researchers drew conclusions from the data and ensured the results were valid and reliable. Overall, this chapter provides a comprehensive account of the methods used in the study, from the research design to the data analysis.

Research Design

This study employs a mixed-methods approach, integrating both quantitative and qualitative data to provide a comprehensive understanding of the impact of smart boards on students' learning processes, motivation, and classroom atmosphere in EFL classes, as well as their influence on teachers' teaching processes. The quantitative aspect of the study is designed to collect numerical data through two structured questionnaires – one for students and one for teachers. These questionnaires were used to gather measurable data on participants' perceptions of the effectiveness of smart boards in the classroom. The students' questionnaire focuses on their learning outcomes, motivation, and classroom atmosphere, while the teachers'

questionnaire examines teaching processes and classroom dynamics. The quantitative data were analyzed using descriptive statistics, including means, frequencies.

To supplement the quantitative findings and gain deeper insights into the experiences and perceptions of both teachers and students, qualitative data were collected through semi-structured interviews with teachers and focus group discussions with students. The qualitative approach allows for a more nuanced understanding of the ways in which smart boards influence classroom interaction and learning outcomes. By exploring participants' thoughts and feelings in greater depth, the qualitative data provides a richer, more detailed view of the effectiveness of smart boards that cannot be fully captured by numerical data alone.

The interviews and focus groups were transcribed and analyzed using thematic analysis, a method that allows for the identification of key themes related to smart board usage, such as student engagement, teaching challenges, and technological support. This approach highlights the individual and collective experiences of the participants, offering insights into both the benefits and challenges of integrating smart boards into EFL classrooms.

The combination of quantitative and qualitative methods ensures a comprehensive analysis of the research questions. While the quantitative data provides objective, measurable insights into the general trends and patterns of smart board usage, the qualitative data offers detailed context and personal experiences that help explain these patterns. By using a mixed-methods approach, the study can provide a more holistic understanding of the role of smart boards in enhancing EFL education.

Participants

The study included a sample of 100 students and 20 teachers from the Duhok British International School in Iraq, which serves students from kindergarten through to grade 12. For the purposes of this research, we specifically selected students from the secondary and high school levels. The sampling method used to select participants was convenience sampling, a commonly employed technique in L2 research. This approach involves selecting individuals from the target population based on the specific goals and requirements of the study (Mackey & Gass, 2021). After outlining the study's objectives to both students and teachers, a total of 100 students and 20 teachers voluntarily participated in the research.

Table 1 Gender background

Participants of the study	Gender	N	Percentage
	Male	64	64 %
	Female	36	36 %
	Total	100	100 %

As shown in Table 1, the sample consisted of 100 participants, with 64% male (n=64) and 36% female (n=36).

Table 2 Mean of the ages

The ages of the participants	Ages	N	Percentages	Mean of the ages
	13	11	11%	15.48
	14	20	20%	
	15	30	30%	
	16	14	14%	
	17	10	10%	
	18	9	9%	
	19	3	3%	
	20	2	2%	
	22	1	1%	
Total		100	100	

According to Table 2, the participants' ages ranged from 13 to 22 years, with a mean age of 15.48. The age distribution was as follows: 11% were 13 years old (n=11), 20% were 14 years old (n=20), 30% were 15 years old (n=30), 14% were 16 years old (n=14), 10% were 17 years old (n=10), 9% were 18 years old (n=9), 3% were 19 years old (n=3), 2% were 20 years old (n=2), and 1% was 22 years old (n=1).

The gender distribution of the teachers who participated in the study reveals that out of a total of 20 teachers, 11 were male, accounting for 55% of the sample, while the remaining 9 were female, representing 45%. This balanced gender ratio provides insights into the diversity of the teaching staff involved in the study, which may contribute to a range of perspectives on the use of smart boards in EFL classrooms. The relatively equal representation of male and female teachers ensures that the findings reflect the experiences and views of educators from both genders.

Data Collection

Instruments

A 10-item attitude scale developed by Dori and Kurtz (2015) and Obaid (2022) was used to examine educators' attitudes regarding the implementation of smart boards in EFL classes. This instrument consists of 10 Likert-scale items, where responses ranged from Strongly Agree (1) to Strongly Disagree (5). The scale was specifically designed to measure teachers' perspectives on the use of smart boards in their classrooms. The questionnaire demonstrated acceptable internal consistency, with a Cronbach's Alpha value of 0.7 (N=20).

For students, a different instrument was employed. The students' questionnaire focused on measuring their attitudes toward smart board usage, motivation, and classroom engagement. The student survey contained 25 questions, which were grouped into three categories: learning process, motivation, and classroom atmosphere. Like the teachers' questionnaire, the student survey used a 5-point Likert scale ranging from Strongly Agree (1) to Strongly Disagree (5). Given the different focus areas of each group, the two questionnaires were not directly comparable but were designed to gather insights specific to each group's experiences with smart boards.

Rationale for Separate Instruments

While both instruments aimed to explore the impact of smart boards, the questions were tailored to reflect the differing roles of teachers and students in the classroom. Teachers were asked about their attitudes toward integrating smart boards into their teaching processes, while students were asked about their experiences with smart boards in terms of engagement and motivation.

Because of the distinct roles and perspectives of the two groups, comparing the raw results directly between teachers and students would not have been meaningful. Therefore, the data from both groups were analyzed separately to capture their unique insights into smart board usage.

Data Collection

The study was conducted over a 16-week period, but the data collection process was focused on a single administration of the questionnaires during week 10. The questionnaires were administered once to both students and teachers in a single session during class time.

Data Collection Timeline

- **Weeks 1-9:** During the first nine weeks of the study, the researcher focused on preparatory work, including obtaining permissions from the school administration, informing participants about the study, and preparing the necessary materials. Additionally, this period allowed time to ensure that students and teachers were adequately familiar with smart board usage in their classes, ensuring the data collected in week 10 would reflect their experience with the technology.
- **Week 10:** The data collection commenced in week 10. The researcher administered the questionnaire to 100 students and 20 teachers during their regular class time. The administration of the survey was done simultaneously for all participants to ensure consistency. Each participant completed the questionnaire once during this period, and the researcher was responsible for collecting the completed questionnaires immediately afterward.
- **Weeks 11-16:** After the data was collected in week 10, the remaining six weeks were used for data analysis. The responses from both teachers and students were analyzed to explore their attitudes toward smart board usage, motivation, and classroom engagement.

Before data collection, the researcher obtained permission from the authorities at the British International School in Duhok. Data was gathered through separate instruments distributed to 100 students and 20 teachers of English language teaching (ELT). All participants were assured of confidentiality, and their involvement was voluntary.

Prior to distributing the instruments, the researcher explained the purpose of the study and emphasized the importance of honesty in responding to the questions. The data collection took place over a 16-week period, with the surveys administered in week 10 during class time. The researcher was responsible for distributing and collecting the questionnaires, ensuring that all participants completed the instruments simultaneously.

Qualitative Data Collection: Interviews with Teachers

Semi-structured interviews were conducted with a subset of teachers to gather qualitative data. A total of 10 teachers were selected using purposive sampling to represent various levels of experience and expertise in using smart boards.

- **Purpose of Interviews:** To explore how teachers perceive the impact of smart boards on their teaching processes, classroom management, and student engagement.
- **Interview Protocol:** The interviews followed a semi-structured format, allowing for flexibility to explore topics in more depth as they arose during the conversation.

Sample Interview Questions for Teachers:

- How has the integration of smart boards influenced your teaching methods?
- Can you describe any challenges you face when using smart boards in the classroom?
- In what ways do smart boards help you engage students who may otherwise be less participative?
- How do you think smart boards impact students' learning outcomes, both positively and negatively?

- Do you feel that smart boards improve student motivation? Why or why not?
- What additional support or training do you think is needed for teachers to effectively use smart boards?

Focus Groups with Students

Focus groups were conducted with students to gather their insights and experiences. Groups of 8 students were selected to represent a mix of academic performance levels and comfort with technology.

- **Purpose of Focus Groups:** To explore students' attitudes towards smart boards and how they perceive the technology's impact on their learning experience.
- **Focus Group Protocol:** Focus group discussions were semi-structured, allowing students to share their thoughts and experiences openly while ensuring key topics were covered.

Sample Focus Group Questions for Students:

- How do you feel about using smart boards in your English classes?
- Can you describe a time when the smart board made learning easier or more interesting for you?
- Are there any challenges you face when learning with smart boards? If so, what are they?
- Do you feel more motivated to participate in class when smart boards are used? Why or why not?
- Do you think smart boards help you understand the lesson better? If yes, in what ways?
- How could the use of smart boards be improved to help you learn better?

Quantitative Data Analysis

The study's data was collected using two questionnaires (one for teachers and one for students) and two sets of interviews (teacher interviews and student focus groups). Both quantitative and

qualitative data were analyzed to explore teacher and student perceptions of smart board usage in EFL classes. The quantitative data, entered into SPSS 26, was analyzed using descriptive statistics (means and frequencies) to summarize the attitudes of teachers and students toward smart boards in terms of engagement, motivation, and learning processes.

Qualitative Data Analysis

Thematic Analysis was employed to analyze the qualitative data obtained from the semi-structured interviews with teachers and students. Thematic analysis involves identifying, analyzing, and reporting patterns (themes) within the data. This method was chosen because it allows for the flexible interpretation of data and is well-suited for understanding participants' individual experiences with technology in the classroom.

- **Step 1: Data Transcription:** All semi-structured interviews were transcribed verbatim to ensure accuracy. This detailed transcription process captured the full scope of participants' responses, ensuring that no nuances were missed.
- **Step 2: Initial Coding:** Open coding was applied to the transcripts to identify relevant segments of the data. This involved carefully reading through the transcripts and labeling key ideas, perceptions, and experiences that were related to the research questions. The open coding process allowed for the emergence of initial categories that reflected participants' thoughts on smart board usage.
- **Step 3: Developing Themes:** After coding, the identified codes were grouped into broader themes that reflected the key patterns in the data. For example, codes related to "engagement," "challenges," and "motivation" were combined under overarching themes such as "**Impact on Student Motivation**" and "**Technological Challenges.**" This step allowed for the organization of data into coherent themes that aligned with the study's focus.
- **Step 4: Reviewing Themes:** The themes were reviewed to ensure they accurately represented the underlying data. Any themes that overlapped or were too similar were merged, and new themes were developed if additional patterns emerged during this review process. This step helped refine the thematic structure for clarity and comprehensiveness.

- **Step 5: Defining and Naming Themes:** Each theme was then given a clear, descriptive name, and detailed definitions were created to explain the scope of each theme. This process ensured that each theme was distinct and captured a specific aspect of the participants' experiences with smart board integration.
- **Step 6: Reporting Findings:** The final themes were reported with supporting quotes from participants to illustrate their experiences. These direct quotes were used to provide rich, qualitative evidence of how teachers and students perceive the impact of smart boards in the classroom, offering insight into both the benefits and challenges of this technology.



CHAPTER IV

FINDINGS

In this chapter, we present the findings of our investigation into the perceptions of both students and teachers regarding the integration of smart boards in English as a Foreign Language (EFL) classrooms in Duhok, Iraq. This analysis aims to provide comprehensive insights into how smart board technology influences various aspects of the learning environment, including student engagement, motivation, and teaching practices. To guide this investigation, we address the following research questions:

1. What are students' perceptions of smart board integration in EFL classrooms?
2. What are teachers' perceptions of smart board integration in EFL classrooms?

These research questions are essential for understanding the broader implications of smart board usage in EFL educational settings. They help to identify both the benefits and challenges associated with the implementation of this technology. By systematically exploring the perspectives of both students and teachers, we aim to provide evidence-based recommendations that can inform educators and policymakers on how to enhance EFL education through the effective integration of smart boards. The following sections present the findings from the collected data, offering a thorough examination of each research question from both quantitative and qualitative perspectives.

Findings

We analyzed the responses to items 1-10 from the student questionnaire. These items were designed to capture students' perceptions of how smart boards affect their learning processes, including communication skills, vocabulary acquisition, reading skills, and writing proficiency. As seen in the table 3.

Table 3 Statistics on the Use of Smart Boards and Their Influence on the Learning Process

Item no	Items	N	Mean	Std. Deviation
1	Smart Board helps me communicate in English with my teacher and friends.	100	2.48	1.275
2	When the Smart Board is on, it encourages me to speak in English better.	100	2.84	1.178
3	Using Smart Board improves my reading skills.	100	2.81	1.169
4	Using the Smart Board has helped me to get higher marks in English.	100	2.80	1.295
5	By using Smart Board, we learn new vocabularies in a more fun way	100	2.72	1.303
6	Smart Board helps me to practice my writing more.	100	3.09	1.296
7	My participation is better because I listen carefully in class	100	2.31	1.152
8	I am learning English in depth and with more knowledge.	100	2.55	1.226
9	Dealing with the material is much easier.	100	2.73	1.302
10	Using Smart Board improves my English accent.	100	2.88	1.444

Table 3 suggests a generally positive student perception regarding the impact of smart boards on their EFL learning experience. The items can be divided into other sub-divisions (communication and speaking, skill development, deeper learning, and participation. Communication and speaking skills (Items 1 & 2) show positive experiences of students while using smart boards to communicate with teachers and classmates (Mean = 2.48). Additionally, they perceived smart boards as encouraging them to speak English more actively (Mean = 2.84).

Skill development (Items 3, 4, 5,6, and 10) Several items addressed perceived skill development. Students felt smart boards helped them learn new vocabulary (Mean = 2.72). There was also a positive perception of improvement in reading (Mean = 2.81), higher marks in English (Mean = 2.80), and English pronunciation/accent (Mean = 2.88). Smartboard makes writing skills improved (Mean = 3.09). Deeper learning (Items 8 & 9) These two items 8 and 9 explored knowledge acquisition. Students reported that smart boards helped them learn English more deeply (Mean = 2.55) and improve their overall language knowledge (Mean = 2.73). Finally, participation (Item 7), interestingly, the response regarding improved participation due to students listening more carefully (Item 7) remained neutral (Mean = 2.31). Overall, the student feedback underscores smart boards' positive role in enriching the EFL learning experience.

We analyzed items 11-17 from the student questionnaire to assess changes in students' enthusiasm and willingness to engage with learning material when using smart boards.

Table 4 The Influence of Smart Board Integration on Students' Motivation

No	Items	SA	A	N	D	SD
11.	My Motivation to Learn English is increasing.	23	32	19	16	10
		23	32%	19%	16%	10%
		%				
12.	Using Smart Board helps me to speak English confidently and fluently.	17	22	32	16	13
		17%	22%	32%	16%	13%
13.	Using Smart Board does not change my personality to be better.	28	20	27	12	13
		28%	20%	27%	12%	13%
14.	I can easily do my presentation with a Smart Board.	40	18	10	18	14
		40%	18%	10%	18%	14%
15.	Using the White Board catches my attention more.	23	23	28	7	19
		23%	23%	28%	7%	19%

16. The class is more enjoyable when using the Smart Board.	25	17	31	14	13
	25%	17%	31%	14%	13%
17. I focus on my teacher when she uses Smart Board.	29	26	18	13	14
	29%	26%	18%	13%	14%

NOTE: SA: strongly agree, a: agree, N: neither agree nor disagree, D: disagree, and SD: strongly disagree.

Numbers: number of the participants & N%: percentages of participants of choosing scales.

The results of a survey aimed at assessing student perception of how smart boards affect motivation in the classroom are displayed in Table 4. The table includes frequencies and percentages of student responses on a five-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree." The findings of the second research question reveal that roughly 32% of students remain neutral towards the effect of intelligent boards on their motivation to learn English. In contrast, an equal proportion of students (32%) believe smart boards have improved their English speaking skills. Interestingly, a more significant percentage of students (about 28%) claim that using smart boards does not affect their personality.

Regarding classroom presentation tools, most students (40%) find smart boards the easiest to use, while some (23%) prefer whiteboards, and another 28% remain neutral. When it comes to enjoyment, the majority of students (31%) find classes with intelligent boards more enjoyable. Additionally, a significant number of students (29%) find it easier to focus on their teacher when using a smart board. Smart boards positively impact students' attitudes toward learning English and classroom presentations. However, some students still prefer whiteboards, and others view smart boards as a minor change.

The provided analysis for items 18 to 25 delves into integrating smart boards and interactive whiteboards into classrooms on the overall classroom atmosphere. It specifically focuses on how these technological tools influence the general feeling or mood within the learning environment.

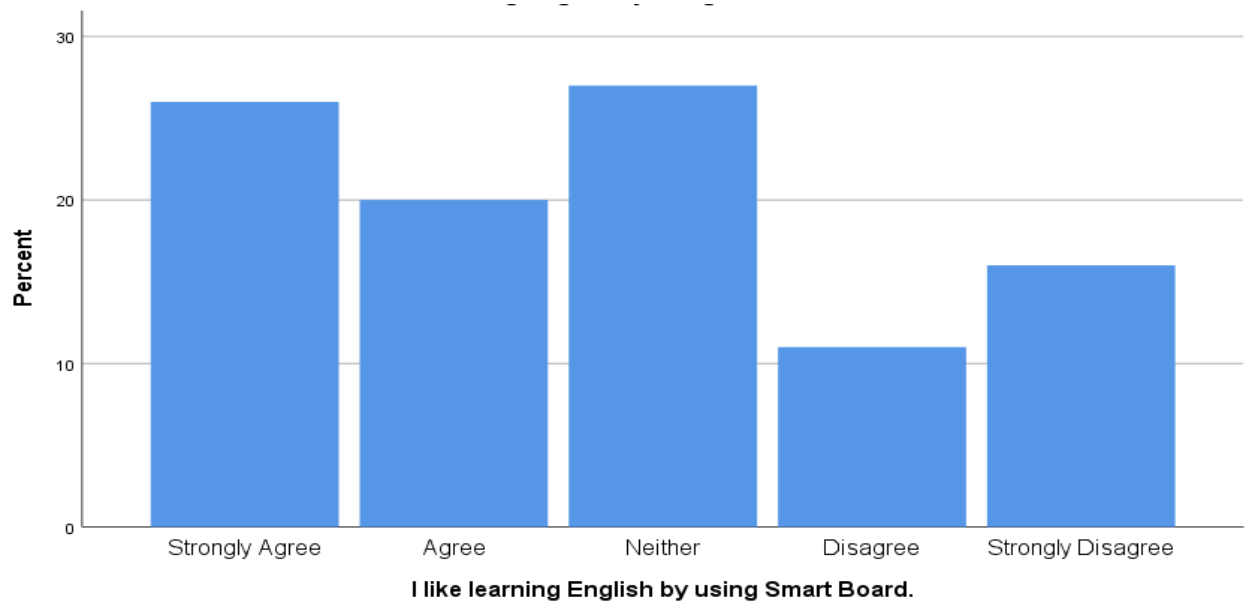


Figure 1 Students' Eagerness to Learn English Through the Use of Smart Boards

According to Figure 1, the bar chart depicts the responses of students who participated in a survey regarding using smart boards for learning English. Approximately 50% of the students either enjoyed (30%) or appreciated (20%) using intelligent boards, indicating that a significant portion of the class found them beneficial. However, around 22% of the students disliked smart boards, and a few (18%) had no strong opinion. Most students view smart boards as a valuable addition to the English classroom, although some may prefer alternative learning methods.

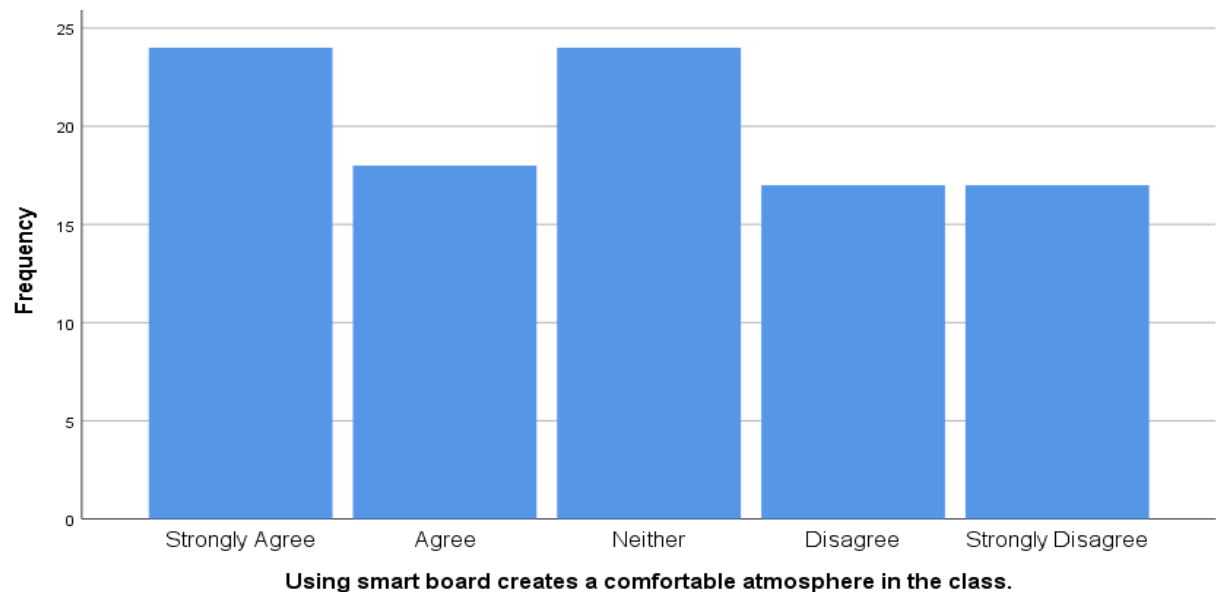


Figure 2: The Impact of Using Smart Boards on Creating a Comfortable Classroom Atmosphere

Figure 2 shows the bar chart of how students responded to a survey about using smart boards in class. The question asks if smart boards make the classroom feel more comfortable. Most students (45) think smart boards are positive. Twenty students strongly agreed, and another 25 agreed that smart boards make the class more comfortable. On the other hand, some students felt more relaxed. Ten students said they were neutral about smart boards, and 15 said they disagreed or strongly disagreed. Most students think smart boards make the classroom feel better and create a good atmosphere.

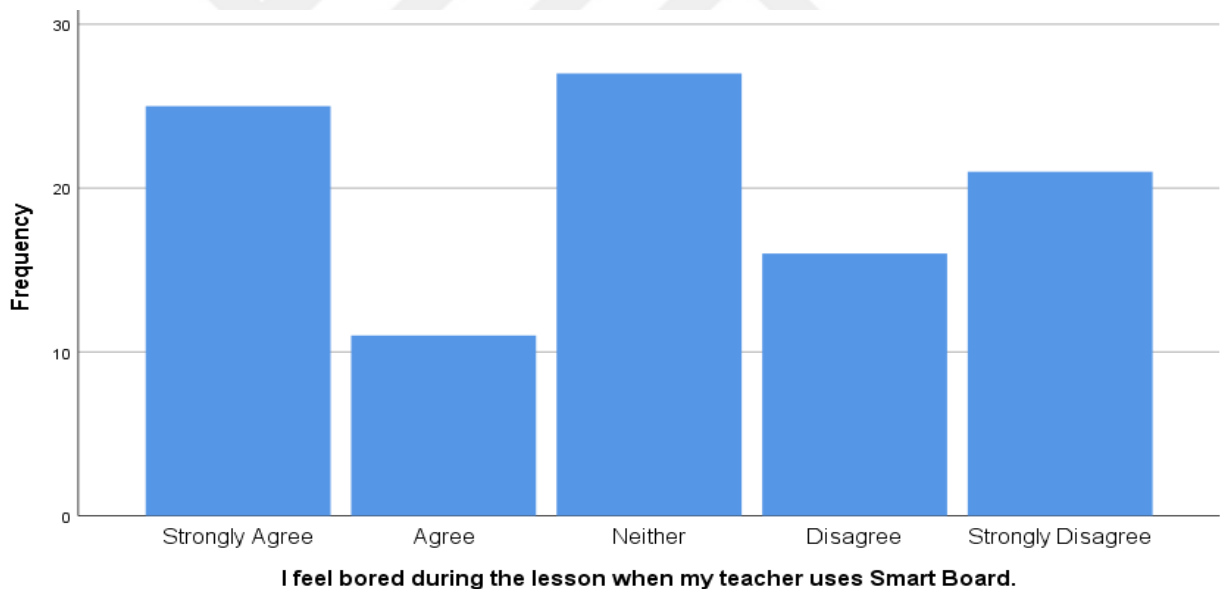


Figure 3: Students' Feelings of Boredom During Lessons with Smart Boards

According to Figure 3, the bar chart depicts students' responses to a survey regarding using smart boards in class. Specifically, the survey question inquired whether smart boards caused students to become bored during lessons. Interestingly, opinions on smart boards were divided, with approximately a quarter of the students (25%) indicating that they felt indifferent towards them. Conversely, another quarter of the students (25%) reported feeling bored during class when using smart boards (6% strongly agreed, and 19% agreed). On the other hand, some

students found smart boards to be enjoyable. A significant proportion of students (31%) disagreed with feeling bored, and nearly a fifth of the class (19%) strongly disagreed. Therefore, approximately half of the class (50%) found smart boards engaging. In conclusion, smart boards are a mixed bag, with some students finding them stimulating while others perceive them as dull. Factors such as the teacher or subject matter may shape students' perceptions of smart boards.

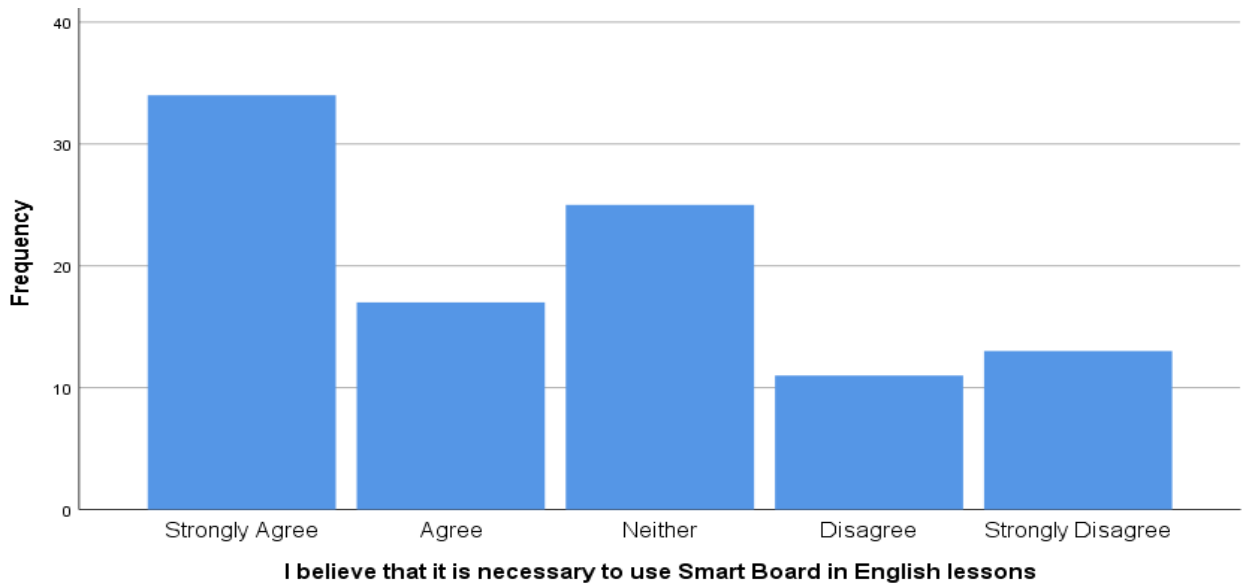


Figure 4: The Use of Smart Boards in English Lessons

According to Figure 4, the bar chart displays the survey results that asked students about their use of smart boards in English class. Specifically, the survey inquired whether students believed that smart boards were essential. The most common response was agreement, with 32% of students indicating that smart boards were a good idea. Conversely, 28% of students felt neutral, and about 20% disagreed or strongly disagreed that smart boards were necessary. Therefore, approximately 40% of students need more confidence about the value of smart boards. Overall, the survey results show mixed opinions on smart boards, with some students supporting their use, others indifferent to them, and some preferring to avoid them altogether. The effectiveness of smart boards depends on the teacher or the lesson.

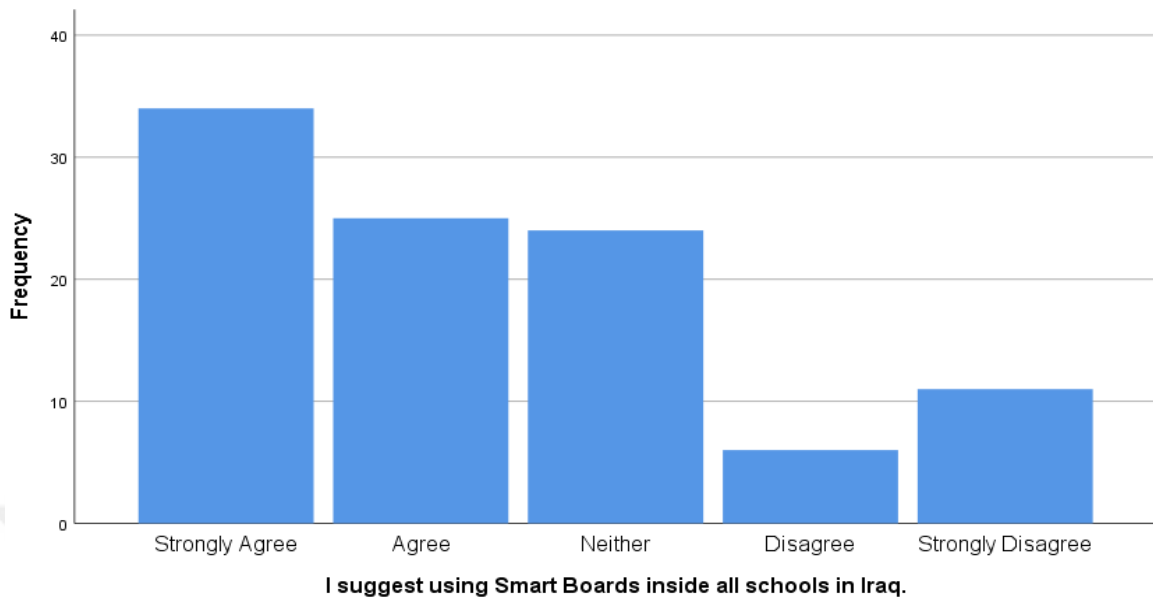


Figure 5: The Use of Smart Boards in Iraq

The bar chart in Figure 5 displays the results of a survey conducted to gauge public opinion on implementing smart boards in schools throughout Iraq. The responses varied, with 32% of individuals expressing strong disagreement and 20% indicating strongly disagreed with the idea. 28% of participants remained neutral, while only a small fraction, approximately 20%, agreed with the proposal. Notably, no one expressed strong agreement with the idea. While some Iraqis may welcome the introduction of smart boards in schools, others may harbor concerns about the cost or the need for additional teacher training. It is essential to bear in mind that the sample size and demographics of the survey are unknown, meaning that these results may not represent the entire population's views on smart boards.

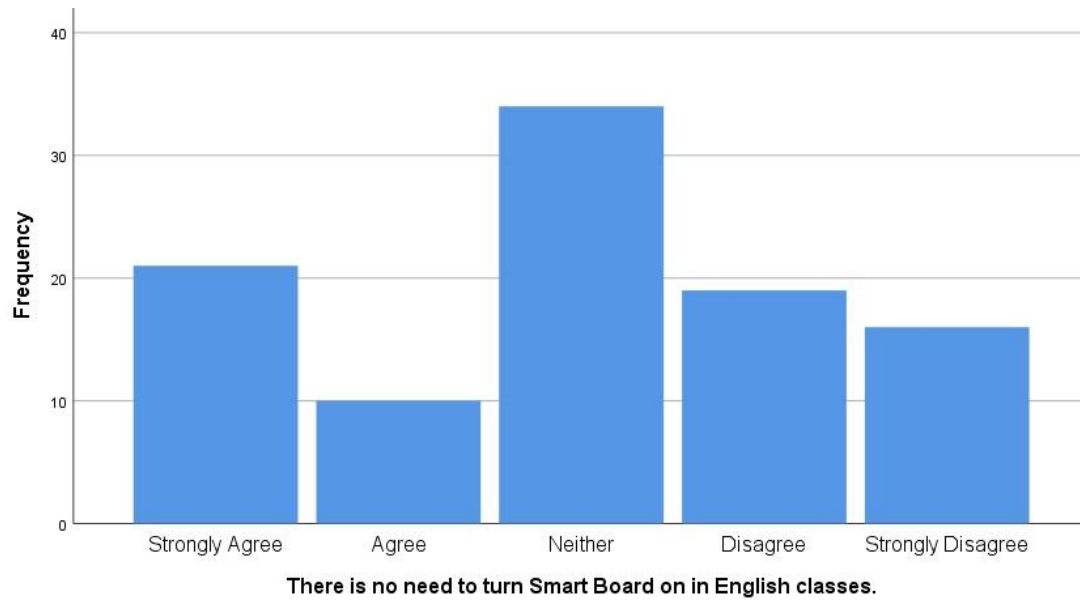


Figure 6 using smart boards in English classes.

Based on Figure 6, the bar chart displays the responses of students surveyed about using smart boards in their English class. The survey question specifically inquired about the necessity of smart boards, and the results were inconclusive. About one-third of the students (32%) agreed or strongly agreed that smart boards were unnecessary, indicating that a significant portion of the class did not consider them essential. On the other hand, approximately the same % of students (40% total) disagreed or strongly disagreed with the idea of eliminating smart boards, indicating that some students found them valuable. The remaining 28% of the class remained neutral. Overall, the verdict on smart boards is mixed. While some students find them useful, others need to see the point. The teacher's approach or how smart boards are utilized in class could influence this.

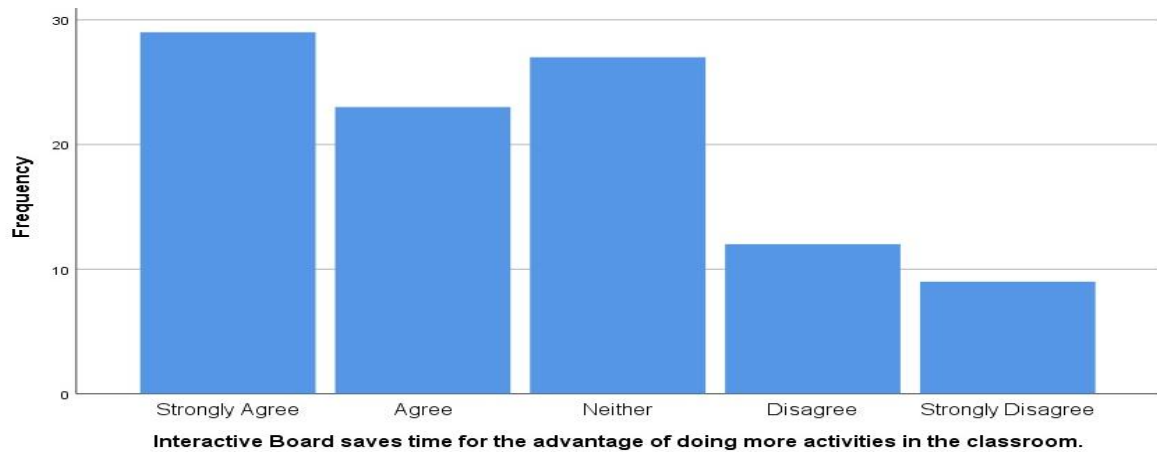


Figure 7: The Role of Smart Boards in Increasing Classroom Activities

According to Figure 7, the feedback was largely positive when students were surveyed about their opinions on interactive whiteboards (also known as smart boards) in the classroom. The survey question specifically inquired whether the boards save time and allow for more lesson activities. A significant majority, 70% of students, found smart boards to be a considerable time saver, enhancing the classroom experience. Within this, 70%, 40% strongly agreed, and another 30% agreed that the boards enabled teachers to fit more activities into the class period, making lessons more engaging and interactive. Interestingly, 20% of students felt neutral about smart boards, which might suggest that they appreciate the technology but do not see a dramatic change in their learning experience. Only a small fraction, 10% of the class, did not believe that smart boards save time, with 5% disagreeing and another 5% strongly disagreeing. This data suggests that most students see smart boards' value and positive impact in facilitating a more dynamic and interactive learning environment.

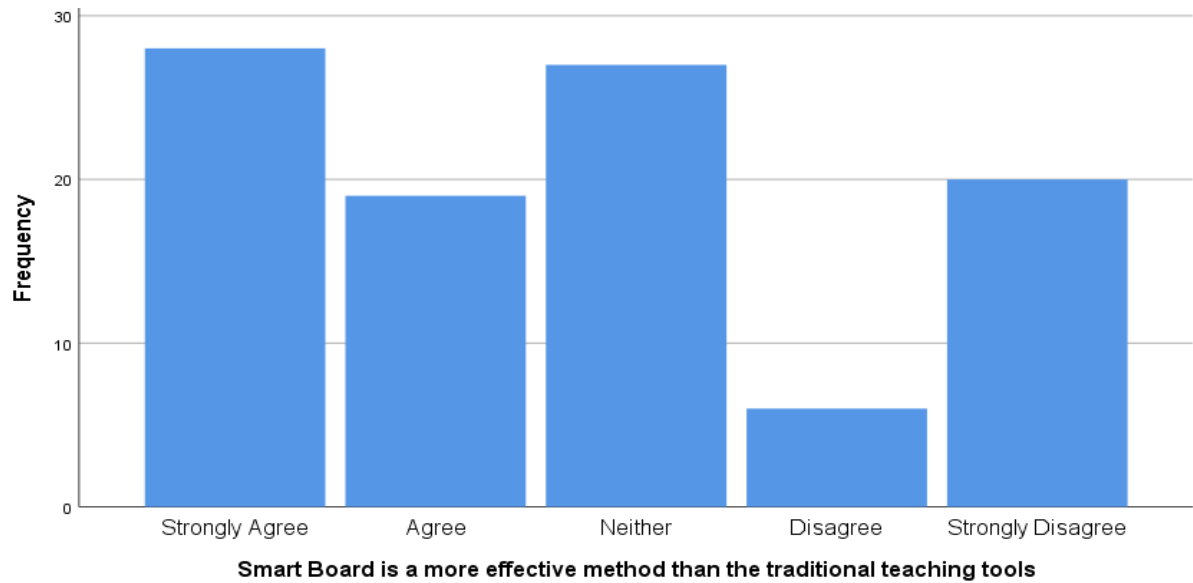


Figure 8: A Comparison of Smart Boards and Traditional Teaching Tools

According to Figure 8, the bar chart presents students' opinions regarding the use of smart boards compared to traditional chalkboards or projectors. Overall, there is no clear consensus. Approximately 38% of students expressed that smart boards are a more beneficial teaching tool than conventional methods. This encompasses those who Strongly Agree (12%) and Agree (26%). Conversely, almost half of the class (44%) chose to remain Neutral, indicating uncertainty. The remaining students (approximately 18%) did not have a favorable view of smart boards, with all of them choosing to Disagree (14%) or Strongly Disagree (4%). As such, the verdict on smart boards is mixed, with some students perceiving them as an improvement over traditional teaching methods, while others remain unconvinced. It may depend on the teacher or how the boards are implemented in the classroom.

The potential benefits of integrating smart boards into classrooms for teachers. It specifically focuses on how these technological tools can enhance the teaching process. To get results for this research question, the means of items have been analyzed according to three levels: high, moderate, and low. As seen in table 5.

Table 5 The Integration of Smart Boards to Improve Teaching Processes for Teachers

No of items	Items	N	Mean	Level
1.	The Smartboard allowed more student participation than traditional teaching tools (whiteboard, overhead projector, etc.).	100	2.70	Moderate
2.	Smart boards can be used to create and deliver interactive lessons and activities that engage students' interest and promote their higher-order thinking.	100	3.55	High
3.	Using and dealing with Smartboard technology in the classroom is difficult.	100	3.25	High
4.	I am more attentive to the lecture on the Smartboard than I would have been with more traditional teaching tools(i.e., whiteboard, overhead projector, etc.).	100	2.85	Moderate
5.	I am not interested in using Smart board to achieve teaching purposes.	100	3.50	High
6.	Smartboard technology training should be required in all teacher education programs.	100	2.25	Low
7.	I am confident that I can start using Smart Board technology in my classroom teaching as an English language teacher in the future.	100	2.80	Moderate
8.	Smartboard needs more technical support to enhance students' writing and listening skills.	100	2.85	Moderate
9.	The Smart Board made it easier for the instructor to transition between different points in the lecture.	100	2.45	Low
10.	Smart boards should be served as being created, maintained, and contributed to online learning communities.	100	3.35	High

The data in Table 5 shows how teachers responded to a survey about using smart boards in class. Teachers have mixed feelings about them but think they are helpful overall. With more student participation, a good chunk of teachers (around 36%) felt smart boards helped get students more involved in lessons than older methods like whiteboards or projectors. Engaging lessons, an even bigger group of teachers (almost 43%) liked that smart boards let them create interactive lessons that keep students interested and thinking more critically. Difficulty using: some teachers (around 20%) found smart boards tricky in the classroom, but more than a third (37.5%) said they were easy to manage. Focus and attention: Teachers' opinions were split on whether smart boards helped them focus more on their lectures. Around 47% agreed they were helpful, but a quarter (27.5%) needed to be sure, and another quarter (25%) found slight improvement. Most teachers (70%) were interested in using smart boards and thought they were valuable teaching tools, but they were not interested in ditching them. However, only around a quarter (27.5%) felt they got enough training to use them well. Most teachers felt confident about using smart boards in class. Over two-thirds (67.5%) said they were confident or very confident using them. Writing and listening skills: Half the teachers (50%) felt that smart boards alone were insufficient to help students with writing and listening skills. In lectures, teachers' opinions were mixed on whether smart boards made switching between lesson topics easier. Around 52% agreed they were helpful, but 30% needed clarification, and some (17.5%) did not think they made much difference. In online learning, most teachers (40%) thought smart boards could be valuable tools for online learning communities. Overall, smart boards are a mixed bag for teachers. Some teachers find them helpful and engaging, while others need more clarification. It might depend on the teacher, their subject, or how the smart boards are used in class.

Presenting Qualitative Findings

Qualitative Findings from Teacher Interviews: Key Themes from Teacher Interviews

The thematic analysis of the teacher interviews identified several recurring themes related to the use of smart boards in the classroom:

Theme 1: Enhanced Student Engagement:

Many teachers reported that smart boards made their lessons more interactive, which helped engage students who were typically less participative.

- **Supporting Quote:** *“With the smart board, even the quieter students seem to perk up when there’s something interactive on the screen. It really helps me reach more of them.”*
- **Supporting Quote:** *“The smart board allows me to involve the students more, especially when we do activities like quizzes or games. They’re much more willing to participate when there’s something visual on the screen.”*
- **Supporting Quote:** *“Even students who are usually quiet in class seem more interested when we use the smart board. They raise their hands more often and want to come to the board to participate.”*

Theme 2: Technical Challenges:

Several teachers expressed frustration with technical difficulties, such as malfunctioning equipment or difficulties in switching between different tools during a lesson.

- **Supporting Quote:** *“Sometimes the board just stops responding, and it disrupts the whole flow of the lesson. We need more technical support to make sure things run smoothly.”*
- **Supporting Quote:** *“There are times when the board just freezes in the middle of a lesson. I have to stop everything and wait for it to reboot, which takes away from valuable teaching time.”*
- **Supporting Quote:** *“When the smart board isn’t working properly, it can be frustrating for both me and the students. It breaks the flow of the lesson, and students lose their focus.”*

Theme 3: Need for Professional Development:

Teachers emphasized the need for ongoing training to maximize the effectiveness of smart boards.

- **Supporting Quote:** *“I feel like I’m only using a fraction of what the smart board can do. Some proper training would go a long way in helping us use it better.”*
- **Supporting Quote:** *“I’ve been using the smart board for a few years, but I still feel like I don’t know all of its features. I would really benefit from more training on how to use it effectively.”*
- **Supporting Quote:** *“There’s so much potential with the smart board, but without the right training, it’s hard to make the most of it. I think we need ongoing workshops to keep improving.”*

Qualitative Findings from Student Focus Groups: Key Themes from Student Focus Groups

The focus group discussions with students revealed the following themes:

Theme 1: Increased Enjoyment and Motivation:

Many students noted that the use of smart boards made learning more fun and increased their motivation to participate in class.

- **Supporting Quote:** *“I like it when the teacher uses the smart board. It’s more fun than just listening to the teacher talk.”*
- **Supporting Quote:** *“I feel more excited to learn when the teacher uses the smart board. It’s more interactive, and I like seeing different types of content on the screen.”*
- **Supporting Quote:** *“Using the smart board makes class more interesting, especially when we play games or work in groups. I’m more motivated to participate because it’s not just writing or listening.”*

Theme 2: Overwhelmed by Technology:

Some students expressed that they found the pace of smart board activities to be overwhelming, especially when too many features were used at once.

- **Supporting Quote:** *“Sometimes, the teacher switches between things so fast, it’s hard to keep up. It feels like there’s too much going on.”*
- **Supporting Quote:** *“Sometimes the teacher moves too fast with the smart board, and I get lost. It’s hard to keep up with all the different things happening at once.”*
- **Supporting Quote:** *“When the teacher switches between different tools on the smart board quickly, it’s confusing. I need more time to process what’s happening on the screen.”*

Theme 3: Improved Understanding of Lessons:

Students reported that smart boards helped them understand the material better, particularly when visual aids or videos were used.

- **Supporting Quote:** *“I understand the lesson better when the teacher shows us videos or pictures on the smart board.”*
- **Supporting Quote:** *“The pictures and videos on the smart board help me understand the lesson better. I can remember things more easily when I see them on the screen.”*
- **Supporting Quote:** *“It’s much clearer when the teacher explains something and then shows it on the smart board. It helps me understand and remember the lesson.”*

Triangulation of Findings

By combining the quantitative data from the questionnaires with the qualitative insights gathered from teacher interviews and student focus groups, a more nuanced understanding of the impact of smart boards in EFL classrooms is achieved. The mixed-methods approach allows us to cross-check and complement the results from both data types, providing a fuller picture of how students and teachers perceive smart board integration.

Engagement

Quantitative results showed that both students and teachers perceive smart boards as a tool that enhances classroom engagement. The majority of students reported that smart boards helped them stay focused and involved in lessons. Similarly, teachers noted that smart boards enabled them to create more interactive and dynamic lessons.

The qualitative data reinforced these findings, as both students and teachers emphasized the interactive nature of smart boards.

- **Supporting Quote from a Student:** *“The smart board helps keep everyone’s attention because it’s always showing something new. We’re not just sitting there listening all the time.”*
- **Supporting Quote from a Teacher:** *“Even the quieter students seem to perk up when there’s something interactive on the screen. It really helps me reach more of them.”*

These insights show that the interactive features of smart boards contribute to higher levels of engagement among students, which is supported by both data sets.

Motivation

Quantitative analysis indicated that smart boards positively influence student motivation, with students reporting that they felt more motivated to participate in class when

smart boards were used. Teachers also believed that the use of smart boards encouraged students to be more involved in lessons.

The qualitative data added depth to this, revealing that the motivational impact was particularly strong among students who were comfortable with technology. Students who enjoyed interacting with the smart board felt more involved and motivated to contribute in class.

- **Supporting Quote from a Student:** *“When the teacher asks us to come up and interact with the board, I feel more involved in the lesson. It makes me want to try harder.”*
- **Supporting Quote from a Teacher:** *“Students are more excited to participate when they can come up and interact with the smart board during lessons.”*

This alignment between the quantitative and qualitative findings suggests that smart boards can play a significant role in increasing motivation, especially when students are actively involved in the learning process.

Challenges

While both students and teachers acknowledged the benefits of smart boards, they also highlighted certain challenges. Quantitative data showed that a subset of students and teachers struggled with technical issues or felt overwhelmed by the pace of smart board use.

The qualitative findings provided specific examples of these challenges, such as students feeling overwhelmed by rapid transitions between smart board features and teachers facing technical difficulties during lessons.

- **Supporting Quote from a Student:** *“Even though the smart board is great when it works, sometimes it’s too much, and I feel like I can’t keep up with everything the teacher is showing us.”*
- **Supporting Quote from a Teacher:** *“Sometimes the board just stops responding, and it disrupts the whole flow of the lesson. We need more technical support to make sure things run smoothly.”*

This convergence of quantitative and qualitative data highlights the need for better technical support and training to ensure that smart boards can be used effectively without causing disruptions or cognitive overload.



CHAPTER V

DISCUSSION

In this chapter, we elaborate on the research questions and compare the results with those of previous studies. Using a mixed-methods approach, we analyzed both quantitative data from questionnaires and qualitative data from interviews and focus groups. This allowed for a comprehensive examination of how smart boards influence students' learning processes, motivation, and classroom atmosphere and how they improve teachers' teaching processes.

Impact of Smart Boards on Students' Learning Processes

Quantitative data from student questionnaires revealed that students strongly prefer smart boards in their English as a Foreign Language (EFL) learning journey. They reported multiple benefits, such as improved communication, vocabulary retention, reading comprehension, pronunciation, and writing abilities. The impact on listening skills was perceived as neutral, but overall, the integration of smart boards significantly enriched the students' learning experience.

Qualitative insights of the focus group discussions provided additional depth to these findings. Many students described how the visual and interactive elements of smart boards made lessons more engaging and easier to understand. Students expressed that smart boards helped them visualize complex concepts, which enhanced their understanding, especially in reading and writing tasks. However, some students mentioned that when the technology malfunctioned, it disrupted their learning experience, highlighting the need for reliable equipment.

Comparison with previous Studies, these findings are consistent with those of Obaid (2022), who found that smart boards improved clarity and engagement in Baghdad classrooms. Similarly, Madhavi (2019) reported that smart boards positively impacted teaching and learning processes in Chinese secondary schools. However, Ali and Asghar (2021) observed that smart boards did not significantly improve students' test scores in math, suggesting that the effectiveness of smart boards may vary across subjects and contexts.

In conclusion the combination of quantitative and qualitative data highlights the multifaceted benefits of smart boards in EFL classrooms. While the technology supports a range

of learning processes, its success depends on both its functionality and the way it is integrated into lessons.

Impact of Smart Boards on Student Motivation

Quantitative results showed a positive influence of smart boards on student motivation. Many students reported enjoying their classes more when smart boards were used, and they associated the technology with improved speaking skills and increased confidence in their language abilities. However, a notable portion of students remained neutral about the motivational impact of smart boards.

Qualitative insights show that the focus groups provided further context to these findings. Students who felt more technologically proficient reported higher motivation levels, explaining that the interactive features of the smart boards made learning more enjoyable and personalized. Conversely, students who were less comfortable with technology expressed feelings of being overwhelmed, which detracted from their motivation. These students suggested that the pace of smart board activities sometimes moved too quickly for them to keep up.

Comparison with previous studies shows that qualitative findings are in line with Adrini and Wahyuna (2023), who found that smart boards increased student motivation in EFL classrooms. However, similar to Shams et al. (2016), some students in our study reported feeling overwhelmed by technology, which suggests that the motivational benefits of smart boards may depend on students' comfort with technology. While smart boards can significantly enhance motivation for students who are technologically adept, educators should tailor their use to different students' needs and learning preferences. Providing additional support for students who struggle with technology could help bridge this gap and ensure that all students benefit from the motivational aspects of smart boards.

Impact of Smart Boards on the Classroom Atmosphere

Quantitative findings indicated that smart boards significantly enhanced the classroom atmosphere, making it more interactive and engaging. The technology was praised for promoting collaboration among students and fostering a more inclusive learning environment.

Qualitative insights show that the interviews with teachers echoed this sentiment, with many reporting that smart boards made their lessons more dynamic and allowed for greater student participation. Teachers noted that the use of multimedia elements, such as videos and interactive exercises, made the classroom atmosphere more vibrant. However, some teachers mentioned that smart boards required careful planning to ensure they added value to lessons without becoming a distraction.

Comparison with previous studies shows that Stroka and Koni (2022) similarly found that interactive whiteboards improved engagement and learning abilities in EFL classrooms. On the other hand, Youssef and Rashed (2018) cautioned that smart boards could distract students in large classes, a concern that some teachers in our study also raised. Both quantitative and qualitative data support the conclusion that smart boards positively influence the classroom atmosphere by creating a more interactive and collaborative environment. However, teachers must be proficient in using the technology to maximize its benefits without disrupting the flow of the lesson.

Impact of Smart Boards on Teaching Processes for Teachers

The quantitative analysis showed that teachers generally viewed smart boards as helpful tools for enhancing student participation and engagement. However, there were mixed opinions regarding their impact on lesson flow and focus during lectures. Some teachers expressed a need for more training to use the technology effectively.

Interviews with teachers provided further insight into these challenges. While most teachers appreciated the potential of smart boards to make lessons more interactive, they also pointed out technical challenges, such as malfunctioning equipment and difficulty transitioning between digital tools. Several teachers emphasized the importance of professional development to ensure they could fully utilize smart boards' capabilities.

These findings align with Herawati, Sundari, and Suciati (2023), who highlighted both the benefits and technical challenges of using interactive whiteboards. Hussein et al. (2022) also emphasized the need for comprehensive teacher training programs to maximize the effectiveness of smart boards.

The integration of smart boards into teaching processes offers significant benefits in terms of student engagement, but it also poses challenges that require ongoing professional development and technical support. Ensuring that teachers are confident and comfortable with the technology is crucial for its successful implementation in the classroom.

Differences in Motivation Levels Between Teachers and Students

Quantitative analysis revealed a statistically significant difference in motivation levels between teachers and students, with teachers reporting higher motivation. This finding suggests that teachers may be more enthusiastic about using smart boards in their lessons, while students' motivation varies more widely.

Qualitative insights shows that teacher interviews indicated that their higher motivation stemmed from their recognition of smart boards' potential to improve student outcomes and their excitement about integrating new technologies into their teaching practices. In contrast, focus group discussions with students revealed that their motivation depended largely on how comfortable they were with technology. Some students felt that smart boards made learning more fun, while others found the technology overwhelming. The motivational gap between teachers and students underscores the need for targeted interventions. Teachers must be mindful of students' varying comfort levels with technology and adjust their use of smart boards to meet diverse student needs.

To sum up, the integration of both quantitative and qualitative methods provides a comprehensive understanding of the impact of smart boards in EFL classrooms. While the quantitative data highlights general trends, the qualitative data offers deeper insights into the experiences of both teachers and students, revealing both the benefits and challenges of smart board usage. Moving forward, it is essential to address these challenges through targeted training and personalized approaches to ensure that smart boards are effectively utilized to enhance learning and teaching outcomes.

CHAPTER VI

CONCLUSION, IMPLICATIONS AND SUGGESTIONS

In this section, the findings of the study have been summarized and analyzed. Then, the conclusions are drawn based on these findings, followed by recommendations for practice and policy and suggestions for future research.

Conclusion

This study explored the perceptions of both students and teachers regarding the integration of smart boards in EFL classrooms. The findings provide a comprehensive view of how this technology impacts teaching and learning processes, motivation, and classroom engagement, using both quantitative and qualitative data.

Quantitative Analysis

The quantitative analysis revealed that smart boards have a generally positive impact on both student and teacher engagement. The data showed that students are more motivated to participate in class when smart boards are used, and teachers believe that the technology enhances lesson interactivity and makes complex concepts easier to explain. For students, smart boards facilitated learning in key areas such as vocabulary acquisition, reading comprehension, and writing skills. The quantitative findings also highlighted a few challenges, particularly technical difficulties and the need for further training among teachers to fully utilize smart board features.

Qualitative Analysis

The qualitative findings enriched the quantitative data by offering detailed insights into the experiences and perceptions of both teachers and students. Interviews with teachers and focus group discussions with students revealed several key themes. Teachers consistently noted that smart boards increased student participation and made lessons more dynamic. However, they also expressed frustration with technical issues and emphasized the need for ongoing professional development to maximize the potential of smart boards.

Students echoed many of these sentiments, reporting that smart boards made learning more interactive and enjoyable. They appreciated the multimedia elements, such as videos and images, which helped them better understand the material. However, some students felt

overwhelmed when smart board features were used too quickly or when there was too much happening at once. This indicates that while smart boards are generally seen as beneficial, their implementation needs to be carefully managed to avoid cognitive overload.

Integration of Quantitative and Qualitative Findings

By integrating the quantitative and qualitative findings, the study paints a more nuanced picture of smart board integration. Both types of data highlight the positive impact of smart boards on engagement and motivation, while also identifying areas for improvement, such as technical support and teacher training. The qualitative data provides context to the quantitative results, showing that the increase in motivation and engagement is particularly pronounced for students who are comfortable with technology, while those who struggle with it may find the experience overwhelming.

Challenges and Recommendations

While the results demonstrate that smart boards have the potential to enhance learning and teaching in EFL classrooms, several challenges must be addressed. Both teachers and students highlighted technical difficulties and the need for additional training. To fully leverage the benefits of smart boards, schools should invest in more comprehensive technical support and regular professional development opportunities for teachers. Moreover, teachers should be mindful of the pace at which they use smart board features to avoid overwhelming students.

In conclusion, the integration of smart boards in EFL classrooms offers significant advantages in terms of enhancing student engagement and motivation, as well as improving teaching practices. However, these benefits can only be fully realized if the challenges identified in this study—such as technical issues and the need for ongoing training—are addressed. Future research could explore more targeted strategies for overcoming these challenges, as well as examining the long-term effects of smart board integration on student achievement.

Pedagogical Implications

The findings of this study have several important implications for educators, policymakers, and educational institutions, as well as students, particularly regarding the integration of smart boards in EFL classrooms.

For Educators

Ongoing professional development is essential to ensure that teachers are not only proficient in the technical aspects of smart boards but also equipped with pedagogical strategies to use them effectively. Training should move beyond basic operations and focus on integrating smart boards into the curriculum to enhance learning outcomes. Teachers should be encouraged to develop interactive and engaging lesson plans that leverage the multimedia capabilities of smart boards to cater to diverse learning styles.

The qualitative findings in this study emphasized that while teachers saw the potential of smart boards to improve student engagement, many expressed the need for further training to fully utilize the technology. Therefore, schools should facilitate continuous professional development that allows teachers to explore innovative uses of smart boards in various instructional contexts.

For Policymakers

Investment in infrastructure and ongoing technology support is critical to ensure the sustainability of smart board integration. Policies should be aimed at providing all schools with access to smart board technology, along with the necessary resources to maintain and effectively use them. Policymakers should prioritize funding for both the initial setup and long-term maintenance of smart boards, including technical support staff who can address issues promptly to minimize disruptions in the classroom.

Additionally, policymakers should allocate funding for comprehensive teacher training programs that focus on both technical mastery and the pedagogical applications of smart boards. Supporting the professional development of educators ensures that smart boards are not only installed but used effectively to improve teaching and learning.

For Educational Institutions

Schools should foster a culture of innovation and continuous improvement by encouraging the adoption of smart boards and other educational technologies. Collaboration between teachers to share best practices and lesson plans that successfully integrate smart boards

can enhance their effectiveness. Educational institutions should establish communities of practice where teachers can exchange strategies and troubleshoot challenges together.

Furthermore, schools should conduct regular assessments to evaluate the impact of smart boards on student learning outcomes. By reviewing both student and teacher feedback, schools can adjust their teaching strategies and provide targeted professional development to address gaps in smart board usage.

The qualitative findings showed that students experienced both benefits and challenges in using smart boards. Regular feedback from students regarding how smart boards impact their engagement and learning can help schools better tailor the technology to meet the diverse needs of learners.

For Students

The integration of smart boards should focus on creating a more engaging and interactive learning environment that accommodates different learning styles. Smart boards allow for the use of visual, auditory, and kinesthetic teaching methods, which can help students better understand and retain information. Teachers should be encouraged to incorporate multimedia elements and interactive features that make learning more enjoyable and accessible for students.

Students should also be given opportunities to provide feedback on how smart boards are used in the classroom. Their insights can guide teachers in adapting their approaches to better suit student preferences, thus maximizing the technology's effectiveness in enhancing motivation and engagement.

The qualitative data showed that while many students enjoyed the interactive nature of smart boards, some felt overwhelmed by the rapid use of features. Teachers should, therefore, be mindful of the pace at which they present materials and ensure that smart board activities are appropriately scaffolded to avoid cognitive overload.

Suggestions for Further Research

Longitudinal studies are essential to assess the long-term effects of smart board use on student learning outcomes and motivation. These studies can provide valuable insights into how the benefits of smart boards evolve over time and identify any potential challenges that may arise. Additionally, exploring the effectiveness of student-centered approaches in using smart boards is crucial. Research should focus on tailoring these tools to individual learning needs and preferences, examining how personalized learning experiences can be enhanced through smart board technology.

Furthermore, it is important to examine the technical challenges associated with smart board use and develop solutions to address these issues, ensuring smooth integration into classrooms. Identifying common technical problems and proposing strategies to overcome them will facilitate more effective use of smart boards. Comparative studies are also necessary to evaluate the effectiveness of smart boards across different educational contexts and subjects. These studies can identify best practices and areas for improvement, helping to determine the specific conditions under which smart boards are most effective.

Investigating the impact of different teacher training programs on the effective use of smart boards is another important area for future research. Identifying key components that contribute to successful technology integration and examining how various training approaches influence teachers' proficiency and confidence in using smart boards will enhance their implementation. Additionally, the impact of smart boards on special education should be explored, focusing on how this technology can support students with special needs. Understanding the potential benefits and challenges of using smart boards in inclusive classrooms will provide insights into their broader applicability.

Finally, it is crucial to investigate the role of cultural differences in the adoption and effectiveness of smart boards in educational settings. Different cultural contexts can significantly influence how technology is perceived, accepted, and utilized in classrooms. Understanding these cultural nuances can reveal unique challenges and opportunities, such as varying levels of technological literacy, attitudes towards interactive learning tools, and differing educational practices and priorities. By examining these cultural factors, future research can contribute to a more comprehensive understanding of smart board usage, ultimately

enhancing their effectiveness and ensuring that all students benefit from this innovative technology regardless of their cultural background.



References

- AalSaud, A. B. F. (2021, July 28). Artificial Intelligence and Children's Education: Review Study. *International research in higher education*, 6(2), 1-1. <https://doi.org/10.5430/irhe.v6n2p1>
- Akar, H. (2020, May 17). The Effect of Smart Board Use on Academic Achievement: A Meta-Analytical and Thematic Study. *International Journal of Education in Mathematics, Science and Technology*, 8(3), 261-261. <https://doi.org/10.46328/ijemst.v8i3.908>
- Alfaruq, O., & Adiono, T. (2022). The development of an e-learning model using a smart board for higher education in Indonesia. *International Journal of Emerging Technologies in Learning (iJET)*, 17(6), 49-63.
- Al-Haj, A. M. A. (2020, July 1). Using Educational Technology to Enhance Teaching and Learning EFL (A Case Study of English Language Teachers- KKU- Faculty of Sciences and Arts at Muhayle Assir). *Journal of Language Teaching and Research*, 11(4), 561-561. <https://doi.org/10.17507/jltr.1104.05>
- Almajali, H. K., Al Abdallat, S. E., & Shamayleh, N. (2016). The effectiveness of using smart board for teaching social studies at public schools in Jordan. *Global Journal of Educational Foundation*, 1-3.
- Altay, M., & Saracaloğlu, A. S. (2022). Teachers' perspectives on the use of smart boards in EFL classrooms. *International Journal of Instruction*, 15(1), 1-14.
- Amer, M. E. M. (2020). The Impact of Using Interactive Boards on Secondary School Students' Learning Outcomes in Egypt in the Computer Skills Course. *Systematic Reviews in Pharmacy*, 11(10).
- Anggarini, Y., Lestari, N. F., & Cahyono, A. (2022). The use of smart board technology in EFL classroom: Opportunities and challenges. *Journal of Language Teaching and Research*, 13(1), 134-143.
- Ayasreh, R., & Al-Jarrah, R. (2020). The Effect of Smart Board Technology on Achievement and Motivation of EFL Students. *International Journal of Research Studies in Language Learning*, 9(3), 15-25.

- Bakare, J., Ariyo, S. O., & Ojo, S. A. (2021, May 21). Constraints and Performance Gap Analysis (CPGA) of Lecturers in Utilizing Smart Boards for Improving Students' Engagement, Motivation and Learning Outcomes (SEMLOs). *International Journal of Research in Education and Science*, 681-714. <https://doi.org/10.46328/ijres.1765>
- Bayar, M. F., Author, N., Kurt, U., & Author, N. (2021, September 20). The effect of using smart boards in science lessons on middle school students' attitudes towards smartboards and reflective thinking skills. *Educational Policy Analysis and Strategic Research*, 16(3), 23-38. <https://doi.org/10.29329/epasr.2021.373.2>
- Bayar, M., Zengin, B., & Kargin, T. (2021). Effective Use of Smart Boards in English Language Learning. *Journal of Language and Linguistic Studies*, 17(2), 496-511.
- Bhat, S. (2023). The Impact of Technology on Language Learning in the 21st Century. *International Journal of English Linguistics*, 13(2), 152-165.
- Bıçak, F. (2019). Investigation of the views of teachers toward the use of smart boards in the teaching and learning process. *Journal of Pedagogical Research*, 3(1), 15-23. Retrieved from http://www.ijopr.com/Makaleler/2042382381_2.%20Furkan%20B%C4%B1%C3%A7ak.pdf
- Brawner, C. E., & Allen, R. (2006, July 21). Future Teachers' Classroom Applications of Technology. *Computers in the Schools*, 23(1-2), 33-44. https://doi.org/10.1300/j025v23n01_04
- Çimen, O., & Hangül, M. S. (2021). The effects of smart board use on academic achievement and attitudes towards science and technology courses. *Journal of Education and Practice*, 12(23), 49-60.
- Çimen, O., & Hangül, M. S. (2021). The impact of the smart board on teaching and learning processes. *Journal of Educational Technology*, 14(3), 123-135.
- Çimen, O., & Hangül, N. (2021). The Effect of Smart Board Use on Students' Success and Attitudes in English Language Teaching. *International Journal of Languages' Education and Teaching*, 9(2), 1-17.

- Çoraklı, H. G. (2019, January 31). Yabancı dil derslerinde motivasyon, öğrenme stilleri ve medya kullanımı konularında akıllı tahtaların yeri. <https://dergipark.org.tr/en/download/article-file/636858>
- Coyle, Y., Yañez, L., & Verdú, M. (2023, November 9). The Impact of the Interactive Whiteboard on the Teacher and Children's Language Use in an ESL Immersion Classroom. <https://www.sciencedirect.com/science/article/pii/S0346251X1000117X>
- Cruz, M. C., Abad, J. R., & Sandoval, M. (2023). Smart board technology and its effectiveness in teaching and learning. *International Journal of Emerging Technologies in Learning (iJET)*, 18(7), 20-38.
- Davidovitch, N., & Yavich, R. (2017). The Effect of Introducing Smart Boards as a Mechanism of Change in the School System: A Case Study. *Higher Education Studies*, 7(1), 66-74.
- Dweik, B., Al-Ayyoub, M., & Al-Smadi, M. (2022). The impact of using smart board technology on student achievement in mathematics. *International Journal of Emerging Technologies in Learning (iJET)*, 17(2), 167-178.
- ElAdl, A. M. (2017, December 1). Effectiveness of electronic interactive whiteboard use in developing the creative problem solving and learning motivation. <https://doi.org/10.1109/icta.2017.8336017>
- Estrada-Plana, V., Montanera, R., Ibarz-Estruga, A., March-Llanes, J., Vita-Barrull, N., Guzmán, N., Ros-Morente, A., Ayesa-Arriola, R., & Moya-Higueras, J. (2021, January 8). Cognitive training with modern board and card games in healthy older adults: two randomized controlled trials. *International Journal of Geriatric Psychiatry*, 36(6), 839-850. <https://doi.org/10.1002/gps.5484>
- Fallah, M. (2016). The role of technology in EFL classroom: The case of smart board. *International Journal of Modern Language Teaching and Learning*, 1(3), 90-98.
- Fathi, J., Khoshsima, H., & Karimzadegan, M. (2023). The challenges of using smart board technology in EFL classrooms. In *2023 5th International Conference on Modern Research in Education, Teaching and Learning (MRTLE 2023)*. Atlantis Press.

- Fawaz, M. M. B. (2022). The Effect of Using Smart Board on Primary Stage Students' Motivation to Learn English. *Middle Eastern Journal of Research in Education and Social Sciences*, 3(1), 15-27.
- Gehring, D., & Niemann, J. (2017). Digital teaching and learning with interactive whiteboards: A case study in higher education. *Journal of Educational Technology Development and Exchange*, 10(1), 1-14.
- Gehring, J., & Lavery, S. (2017). Smartboard technology in the classroom. *Journal of Educational Technology Development and Exchange*, 10(1), 1-14.
- Gilakjani, A. P. (2017). The use of technology in English language learning: A literature review. *Journal of Language Teaching and Research*, 8(5), 969-977. doi: 10.17507/jltr.0805.16
- Gong, X. (2022). Smart Board Technology in English Teaching in Primary Schools. *International Journal of Emerging Technologies in Learning (iJET)*, 17(1), 163-173.
- Herawati, S., Sundari, H., & Suciati, S. (2023). Teachers' Experiences and Perceptions in Using Interactive whiteboards in EFL Classrooms. *Journal on Education*, 5(4), 11592-11603.
- Hussein, H. A., Ahmed, A. M. H., Shawkat, S. A., & Kamil, R. A. (2022). The effect of using smart board technology on the educational process in the colleges of education in terms of features and challenges. *AIP Conference Proceedings*, 2394(1), 050013. <https://doi.org/10.1063/5.0122282>
- Issa, R. A. S. A. (2020). Teachers' and students' views on using smart boards in teaching and learning english as a foreign. (Doctoral dissertation, Middle East University).
- Jeong, H. (2022). Smart board technology in EFL teaching: Advantages and challenges. *English Teaching*, 77(1), 135-152.
- Ji, L., Zhang, Y., Liu, Y., & Zhang, Y. (2021). The application of smart board technology in English reading teaching. *Journal of Language Teaching and Research*, 12(2), 467-476.
- Ji, Q., Liu, Y., Lin, H., & Yang, Y. (2021). An Experimental Study on the Application of Smart Classroom Teaching Mode in College English Classroom. *Journal of Educational Technology Development and Exchange*, 14(4), 116-122.

- Kalugina, E., & Tarasevich, I. (2018). The role of technology in teaching English as a foreign language. *International Journal of Emerging Technologies in Learning (iJET)*, 13(9), 100-113. doi: 10.3991/ijet.v13i09.8534
- Karakuş, F. (2022). The effect of smart board use on achievement and attitude in EFL writing classes. *Journal of Language and Linguistic Studies*, 18(1), 77-93.
- Karakuş, M. (2022). The smart board: An indispensable and powerful tool for education. *Journal of Educational Technology*, 15(2), 67-76.
- Karakuş, M. F. (2022). The use of smart board technology in English language teaching in Turkey: a case study. *Journal of Education and Practice*, 13(1), 45-53.
- Khalifé, A., & Abou Zahr, M. (2022). Smartboard and its impact on English language teaching. *International Journal of English Language Teaching*, 10(1), 13-26.
- Kolobe, M. (2021). The smart board: A game-changer in classroom engagement. *International Journal of Educational Technology*, 7(2), 87-98.
- Kolobe, P. (2021). Benefits of Using Smartboards for Teaching and Learning. *African Educational Research Journal*, 9(1), 1-12.
- Krishna, K., & Angi, R. (2021). Smart Boards: An Overview. *Indian Journal of Applied Research*, 11(1), 350-351.
- Krishna, V., & Kumar, R. (2021). Effectiveness of smart boards in teaching-learning process: A case study of higher education. *Educational Research International*, 2021, 1-7.
- Lasut, E., & Bawengan, F. (2020). Integrating Smart Boards in English as a Foreign Language Course: Advantages and Challenges. *Journal of Language and Linguistic Studies*, 16(2), 548-563.
- Li, L., Zhang, Y., & Qin, X. (2018). Application of Smart Board Technology in College English Teaching. *English Language Teaching*, 11(12), 77-83.
- Li, W., Zhang, H., & Chen, J. (2018). Research on the Application of Smart Classroom in College English Teaching. *Journal of Higher Education*, 39(6), 157-161.

- López, O S. (2023, November 9). The Digital Learning Classroom: Improving English Language Learners' academic success in mathematics and reading using interactive whiteboard technology. <https://www.sciencedirect.com/science/article/pii/S0360131509002590>
- Lu, K., Yang, H. H., Shi, Y., & Xuan, W. (2021, January 8). Examining the key influencing factors on college students' higher-order thinking skills in the smart classroom environment. *International Journal of Educational Technology in Higher Education*, 18(1). <https://doi.org/10.1186/s41239-020-00238-7>
- Luthfiyyah, L., Fauziati, E., & Jannah, M. (2021). Teachers' readiness in using technology for EFL learning. *Journal of English Language Teaching and Linguistics*, 6(1), 1-16. doi: 10.21462/jeltl.v6i1.352
- Mackey, A., & Gass, S. M. (2021, September 17). Second Language Research: Methodology and Design. <https://journals.sagepub.com/doi/10.1177/0033688217707630>
- Madahvi, V. (2019). Effectiveness of Smartboard in the Secondary English Class in a Private Chinese School. *Wawasan Open University*.
- McFadden, P., Bloomberg, H., Kallio, J., Kroll, C., McCartan, C., Flanagan, N., Kirwin, G., Pentaraki, M., & Wilson, E. (2024, January 11). A Common Purpose? Social Work Students' Social Justice Related Views in Finland and the island of Ireland. <https://doi.org/10.1093/bjsw/bcad270>
- Mittha, C. (2021, August 23). 7 benefits of technology in the classroom. <https://blog.adobe.com/en/publish/2021/08/23/7-benefits-of-technology-in-the-classroom>
- Mohajan, H. (2020, December 31). Quantitative Research: A Successful Investigation in Natural and Social Sciences. *Editura Fundatiei Romania de Maine*, 9(4). <https://doi.org/10.26458/jedep.v9i4.679>
- Mohammed, S. H. (2021). The effectiveness of smart board activities in developing international primary stage pupils' EFL grammar and motivation. *Journal of The Faculty of Education, Mansoura University*, 116.

- Momani, M., Alshaikhi, T. S., & Al-Inizi, T. H. (2016). The obstacles of using smart board in teaching English at Tabuk secondary schools. *Asian Journal of Educational Research*, 4(3), 22-39. ISSN 2311-6080.
- Mun, S. H., Abdullah, A. H., Mokhtar, M., Ali, D. F., Jumaat, N. F., Ashari, Z. M., Samah, N. A., & Rahman, K. A. A. (2019, July 11). Active Learning Using Digital Smart Board to Enhance Primary School Students' Learning. *International journal of interactive mobile technologies*, 13(07), 4-4. <https://doi.org/10.3991/ijim.v13i07.10654>
- Obaid, S. A. (2022). The effectiveness of using smart boards in teaching English as a foreign language: A study on students' perceptions and engagement. *International Journal of Research in Social Sciences and Humanities*, 12(3), 53-63.
- Obaid, S. A. (2022). The impact of Smart Boards on student engagement in English. *International Journal of Research in Social Sciences and Humanities*, 12(3), 57-64.
- Pazhakh, A., & Baghaei Nanekaran, J. (2017). The Effect of Smart Board Technology on Iranian EFL Learners' Achievement Motivation and Willingness to Communicate. *Iranian Journal of Applied Language Studies*, 9(Proceedings of the First International Conference on Language Focus), 125-148.
- Pazilah, F. A., Abdullah, M. R., & Ahmad, S. A. (2019). The use of technology in teaching and learning English Language: A literature review. *Journal of Education and Learning*, 8(2), 146-156. doi: 10.5539/jel.v8n2p146
- Rinekso, A. B., & Lesagia, O. (2020). EFL instructors' beliefs about the implementation of smartboard in language teaching practices. *LLT Journal*, 23(1), 144-153. DOI: doi.org/10.24071/llt.2020.230111
- Rukun, R., Dewi, S., & Gunawan, G. (2020). The Implementation of Smart Board Technology in Language Learning. *Journal of Foreign Language Education and Technology*, 5(1), 43-53.
- Selpia, H., & Purnawarman, P. (2021). The use of technology in English language teaching for EFL students. *LangLit*, 7(1), 1-10. doi: 10.18502/ijllh.v7i1.8757

- Shaji, M., & Nagaraj, P. (2020). Role of technology in English language teaching and learning. *International Journal of English Language Teaching*, 8(2), 43-49. doi: 10.5430/ijelt.v8n2p43
- Shams, N., & Varnosfadrani, A., & Shahnazari, M. (2016). Iranian Students' Attitudes towards Utilizing Smart Boards in EFL Classrooms. *Iranian Journal of Applied Language Studies*, 8, 139-172. 10.22111/ijals.2016.3024.
- Shukri Abu Issa, R. A. (2020). Teachers' and Students' Views on Using Smart Boards in Teaching and Learning English as a Foreign Language. *Middle East University (MEU)*.
- Simonova, I., Kravcik, M., & Bielikova, M. (2021). Utilizing smart boards in education: A systematic literature review. *Journal of Educational Computing Research*, 59(3), 539-570.
- Somyürek, S., Atasoy, B., & Özdemir, S. (2023, November 9). Board's IQ: What makes a board smart?. <https://www.sciencedirect.com/science/article/pii/S0360131509000621>
- Stroka, O. K. (2022). Frequency of the misuse of prepositions by Albanian students: A case study with first year students studying Greek, Italian and German at the Faculty of Foreign Languages. *European Journal of English Language and Literature Studies*, 10(8), 22-32. <https://doi.org/10.37745/ejells.2013/vol10n82232>
- Tsayang, G., Batane, T., & Majuta, A. (2020). The impact of interactive Smart boards on students' learning in secondary schools in Botswana: A students' perspective. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 16(2), 22-39.
- Wang, Y., Yang, X., & Liu, Q. (2023). The integration of smart board technology in EFL teaching and learning. In *2023 6th International Conference on Education and E-Learning (ICEEL 2023)*. Atlantis Press.
- Warren, D. (2020, June 23). "Social Responsibility" and the Curriculum in Higher Education: The Influence of Teachers' Values – A Case Study. *Emerald Publishing Limited*, 267-282. <https://doi.org/10.1108/s2055-364120200000021017>
- Xi-ning, L. (2022). Enhancing student engagement and learning using multimedia elements on the smart board. *International Journal of Learning and Teaching*, 8(1), 45-58.

- Xi-ning, Z. (2022). Application of Smart Board Technology in English Listening and Speaking Teaching. *English Language Teaching*, 15(1), 18-24.
- Xi-ning, Z. (2022). The Application of the Smart Classroom in EFL Teaching. *Educational Science and Technology*, 4(1), 56-60.
- Zincume, A. L., & Marimuthu, N. (2022). Smart board technology as an innovative tool to improve teaching and learning in EFL classrooms. *Journal of Language Teaching and Research*, 13(1), 251-259.

APPENDIX

APPENDIX 1: STUDENT QUESTIONNAIRE

<i>Id:</i>	<i>Gender: Male</i>	<i>Female</i>
<i>Age:</i>	<i>School: Private</i>	<i>Governmental</i>
<i>Class:</i>	<i>Secondary</i>	<i>High school</i>

The following statements 1 through 25 is referring to how using smart boards affects language learning process, motivation and atmosphere to the EFL students. For each statement, please indicate whether you are (1) strongly Agree SA, (2) Agree A, (3) Neither Agree nor Disagree N, (4) Disagree D and (5) Strongly Disagree SD.

By marking the appropriate number on the line of each statement.

No	Items	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1-	Smart Board helps me to communicate in English with my teacher and my friends.					
2-	When the Smart Board is on, it encourages me to speak in English better.					
3-	Using Smart Board improves my reading skills.					
4-	Using Smart Board helps me to get higher marks in English.					
5-	By using Smart Board, we learn new vocabularies in a more fun way.					
6-	Smart Board helps me to practice my writing more.					
7-	My participation is better because I listen carefully in the class.					
8-	I learn English in depth and with more knowledge.					
9-	Dealing with the material is much easier.					
10-	Using Smart Board improves my English accent.					

11-	My Motivation to Learn English is increasing.					
12-	Using Smart Board helps me to speak English confidently and fluently.					
13-	Using Smart Board does not change my personality to be better.					
14-	I do my presentation easily with Smart Board.					
15-	Using the White Board catches my attention more.					
16-	The class is more enjoyable by using Smart Board.					
17-	I focus with my teacher when she uses Smart Board.					
18-	I like learning English by using Smart Board.					
19	Using smart board creates a comfortable atmosphere in the class.					
20-	I feel bored during the lesson when my teacher uses Smart Board.					
21-	I believe that it is necessary to use Smart Board in English lessons.					
22-	I suggest using Smart Boards inside all schools in Iraq.					
23-	There is no need to turn Smart Board on in English classes.					
24-	Interactive Board saves time for the advantage of doing					

	more activities in the classroom.					
25-	Smart Board is a more effective method than the traditional teaching tools.					

APPENDIX 11: TEACHER QUESTIONNAIRE

Id:

Gender: Male

Female

Age:

School: Private

Governmental

Years of Teaching:

Secondary

High school

The following statements 1 through 10 is referring to how using smart boards affects language learning process to the teachers. For each statement, please indicate whether you are (1) strongly Agree SA, (2) Agree A, (3) Neither Agree nor Disagree N, (4) Disagree D and (5) Strongly Disagree SD.

By marking the appropriate number on the line of each statement.

Please give your first reaction to each statement and mark an answer for each statement.

No	Items	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1-	The Smart board allowed for more student participation than traditional teaching tools (i.e.whiteboard, overhead projector, etc.)					
2-	Smart board can be used to create and deliver interactive lessons and activities that engage students' interest and promote their higher order thinking.					
3-	I think it is difficult to use and deal with Smart board technology in the classroom.					
4-	I feel that I am more attentive to the lecture presented on the Smart board than I would have been with more traditional teaching tools(i.e. whiteboard, overhead projector, etc.)					
5-	I am not interested in using Smart board as a means of achieving teaching purposes.					
6-	Smart board technology training should be required in all teacher education programs.					
7-	I feel confident, I can start using Smart board technology in my classroom teaching as being English language teacher in future.					
8-	Smart board is insufficient technical support for enhancing students' writing and listening skills.					

9-	The Smart Board made it easier for the instructor to transition between different points in the lecture.					
10-	Smart board should be served as being created, maintained, and contributed for online learning communities.					



Appendix III Sample Interview Questions for Teachers:

1. How has the integration of smart boards influenced your teaching methods?
2. Can you describe any challenges you face when using smart boards in the classroom?
3. In what ways do smart boards help you engage students who may otherwise be less participative?
4. How do you think smart boards impact students' learning outcomes, both positively and negatively?
5. Do you feel that smart boards improve student motivation? Why or why not?
6. What additional support or training do you think is needed for teachers to effectively use smart boards?

Appendix IV Sample Focus Group Questions for Students:

1. How do you feel about using smart boards in your English classes?
2. Can you describe a time when the smart board made learning easier or more interesting for you?
3. Are there any challenges you face when learning with smart boards? If so, what are they?
4. Do you feel more motivated to participate in class when smart boards are used? Why or why not?
5. Do you think smart boards help you understand the lesson better? If yes, in what ways?
6. How could the use of smart boards be improved to help you learn better?